

Product Manual 2023

Specialized in the research and production of
passive microwave RF components.



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About Us:

Chengdu Hzbeat Electronic Technology Co, Ltd (Abbreviated as Hzbeat) is a high-tech firm specialized in manufacturing RF products. We are driven by our commitment to shaping the future of technology, enabling a world of limitless possibilities. Our team of visionary engineers, scientists, and industry experts collaborate tirelessly to develop groundbreaking solutions that empower industries worldwide.

Hzbeat's RF products cover the frequency ranging from 20MHz to 200GHz. Our products are widely used in applications such as wireless communication base station, repeater, RF circuit, T/R module, radar, GPS, disaster control unit, satellite TV, etc. For years, Hzbeat has been servicing some of the most well-known communication giants, as well as some of the national key projects.

Hzbeat is focused on providing customers with high quality, cost effective, specialized, and customized products. We are committed to advancing the industry, one innovation at a time. Together with our partners and customers, we are creating transformative technologies of tomorrow.





Directory

Directory

Company Product

Microstrip products

Drop-in products

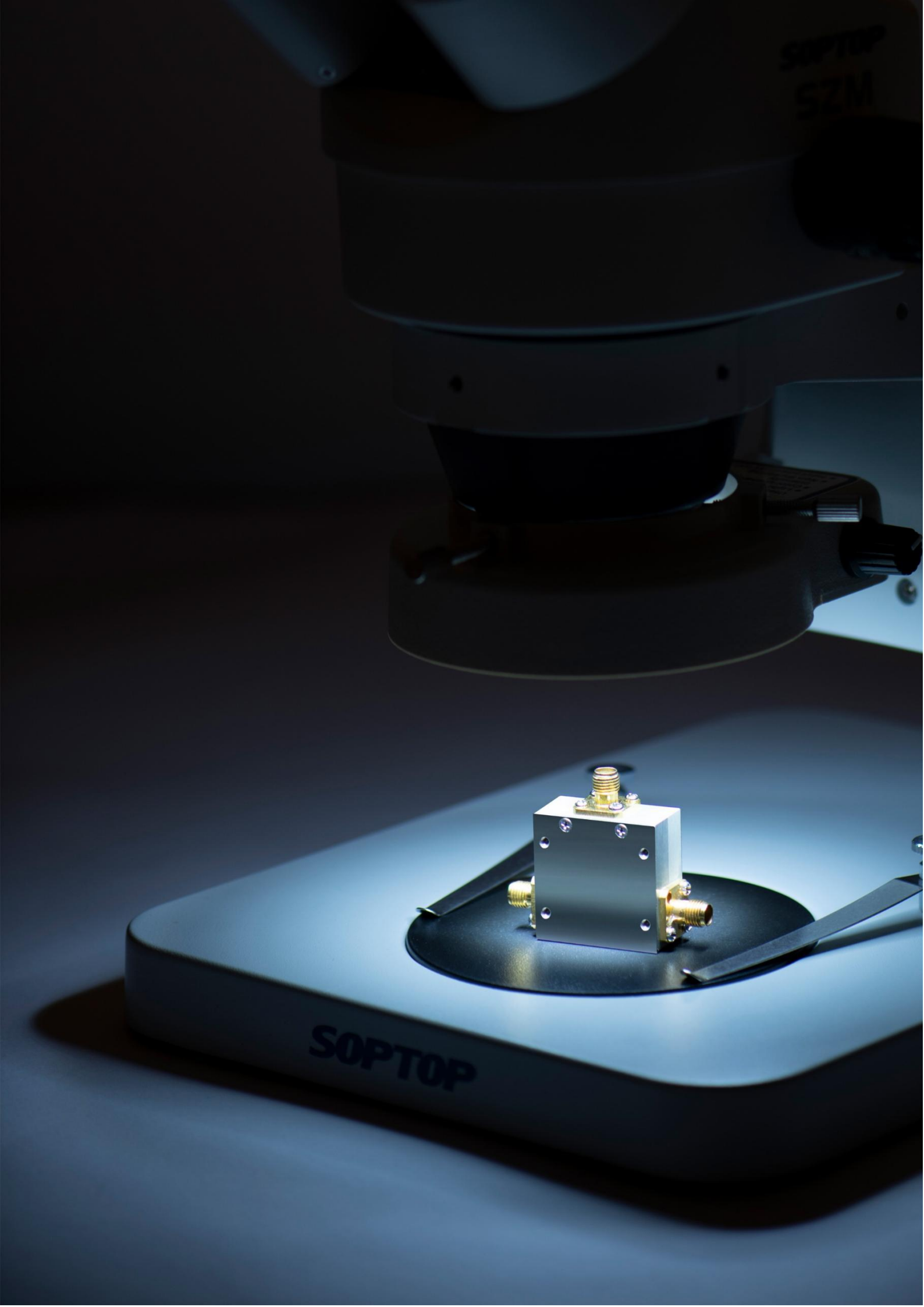
Coaxial products

Waveguide products

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Company

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Company Product

Microstrip products

Drop-in products

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1.1 Production Environment

1.1.1 Substrate Processing



Our company takes the lead in adopting advanced processing methods in the industry to ensure efficient production of high-precision and highly consistent ferrite substrates.

1.1.2 Production facility



We utilize high-temperature and low-temperature test chambers, sintering furnaces, advanced automated production processes, and sophisticated testing methods to ensure the high precision, reliability, and consistency of our products.

1.1.3 Assembly and Testing



We have a highly skilled workforce, well-established production processes, advanced assembly and testing methods, and a robust quality assurance management system in place. This enables us to meet the demands of efficient and large-scale production with high efficiency and batch consistency.

1.1.4 Product Testing



During the production process, the product undergoes adhesive strength tensile testing to assess the reliability of the circuit, as well as X-ray inspection to analyze the void ratio of the product. Electrical performance testing is conducted under extreme high temperature, room temperature, and extreme low temperature conditions. Additionally, temperature shock experiments are performed to evaluate the overall reliability of the product. These tests ensure that the product meets the specified requirements outlined in the specification sheet before it is released from the factory.

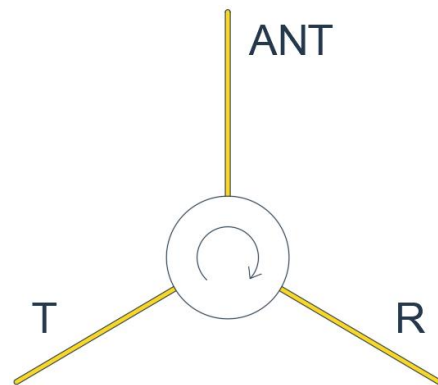
1.2 Product Overview

1.2.1 Product Working Principle

Circulators and isolators are passive electronic components, and they are the only non-reciprocal products among all electronic components. They exhibit the property of unidirectional signal transmission in the circuit, allowing signals to flow in one direction while preventing signal flow in the reverse direction.

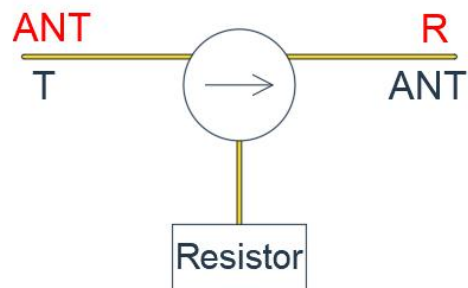
RF Circulator

As shown in the diagram, circulators have three ports, and their working principle involves unidirectional signal transmission in the order of $T \rightarrow \text{ANT} \rightarrow R$. Signals will travel according to the specified direction, with minimal loss when transmitting from $T \rightarrow \text{ANT}$, but higher reverse loss when transmitting from $\text{ANT} \rightarrow T$. Similarly, during signal reception, there is minimal loss when transmitting from $\text{ANT} \rightarrow R$ and higher reverse loss when transmitting from $R \rightarrow \text{ANT}$. The direction of the product can be customized for clockwise and counterclockwise operation. Circulators are commonly used in T/R components.



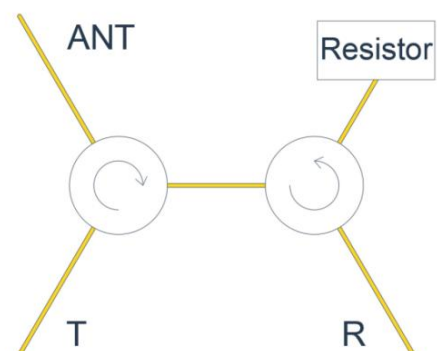
RF Isolator

As shown in the diagram, the working principle of an isolator is based on the circulator's three-port structure with the addition of a resistor at one port, converting it into two ports. When transmitting from $T \rightarrow \text{ANT}$, there is minimal signal loss, while most of the signal returning from ANT is absorbed by the resistor, achieving the function of protecting the power amplifier. Similarly, it can be used for signal reception only. Isolators are commonly used in single-transmit or single-receive components.

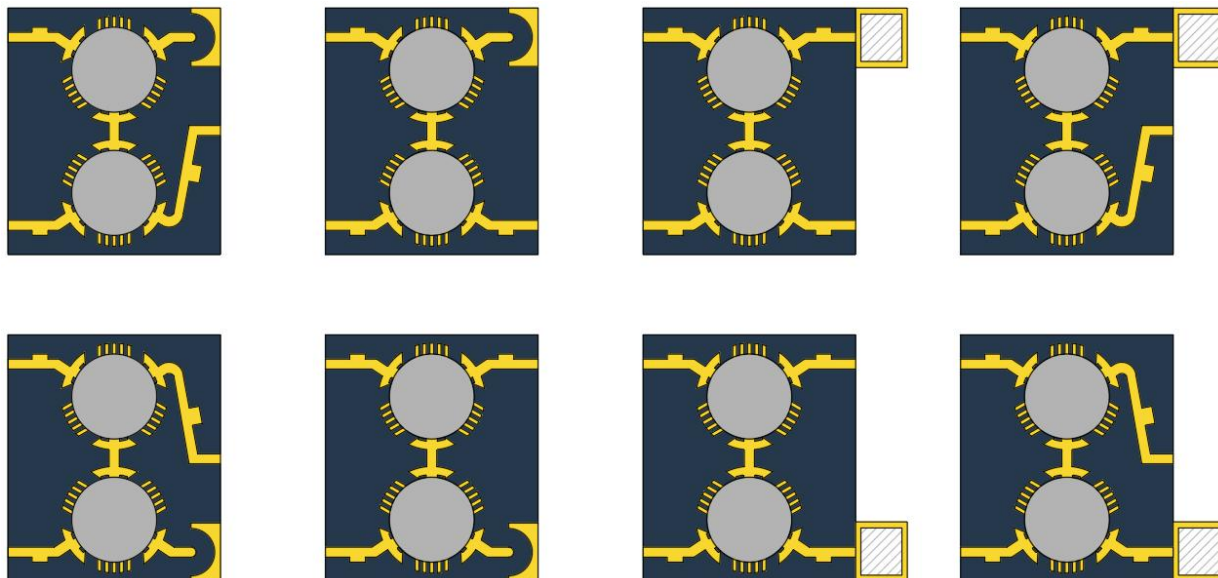


RF Dual-Junction Circulator

As shown in the diagram, the working principle of the Dual-Junction Circulator involves integrating a circulator and an isolator into one unit. This design is an upgraded version of the circulator, and the signal path remains as $T \rightarrow \text{ANT} \rightarrow R$. The purpose of this integration is to address the issue of signal reflection when the signal is received at R from ANT. In the Dual-Junction Circulator, the signal reflected from R is directed back to the resistor for absorption, preventing the reflected signal from reaching the T port. This achieves both the unidirectional signal transmission function of the circulator and the protection of the power amplifier.

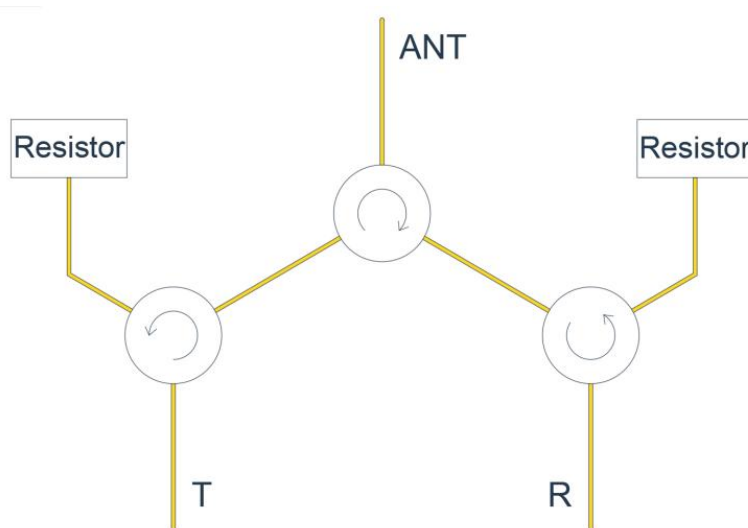


The customizable option of choosing between center-mounted or internally/externally loaded ports should be evaluated based on specific application requirements and constraints. Factors such as size, integration, flexibility, and performance should be taken into consideration to determine the most suitable design approach:



RF Triple-Junction Circulator

As shown in the diagram, the working principle of the Triple-Junction Circulator is an extension of the Dual-Junction Circulator. It integrates an isolator between $T \rightarrow ANT$ and adds a higher reverse loss and an additional resistor between $R \rightarrow T$. This design significantly reduces the likelihood of damaging the power amplifier. The Triple-Junction Circulator can be customized based on specific frequency range, power, and size requirements.



1.2.2 Product differentiation

Through the two charts below, you can get a rough understanding of the differences in size, power, and Electrical performance of different product types. It also demonstrates the frequency range that different types of products are suitable to cover.

Criteria	Microstrip	Drop-in	Coaxial	Waveguide
Volume Size	Smaller	Medium	Larger	Largest
Power Handling	Lower	Medium	Medium	Highest
Electrical Performance	Lower	Higher	Higher	Highest

*Note: The comparison of Electrical performance is based on the same frequency range and frequency conditions.

Product Type	Frequency Range Representation
Microstrip	S, C, X, Ku, K, Ka
Drop-in	VHF, UHF, L, S, C, X, Ku
Coaxial	VHF, UHF, L, S, C, X, Ku
Waveguide	C, X, Ku, K, Ka, V, W

*Note: that the evaluations in the table are still based on general comparisons, and the specific circumstances and performance may vary depending on design requirements, materials used, and other factors.

1.2.3 Microstrip Circulators and Isolator

The relative advantages of microstrip circulators and isolators are small size, light weight, small spatial discontinuity when integrated with microstrip circuits, and easy 50Ω bridge connection (high connection reliability). Its relative disadvantages are low power capacity and poor immunity to electromagnetic interference.

1.2.4 Drop-in/Coaxial Circulators and Isolator

The relative advantages of Drop-in/coaxial isolator and circulator are small size, light weight and easy installation.

1.2.5 Waveguide circulators and isolator

The relative advantages of waveguide devices are low loss, high power handling capacity, and high operating frequency. However, their relative disadvantage is the larger size due to flange-related issues of the waveguide interface.

1.3 Manufacturing process

1.3.1 Microstrip components

- ◆ The circuit substrate and backplane are soldered. The solder is solder paste, or solder lug.
- ◆ The bonding process is adopted between the circuit substrate, support medium, compensation sheet, and permanent magnet.

1.3.2 Drop-in/Coaxial components

- ◆ The Drop-in circuit is beryllium bronze plated with gold or copper and silver.
- ◆ The resistance and cavity adopt welding process, the solder is solder paste, and the welding temperature is 205 °C.
- ◆ The bonding process is adopted between the ferrite substrate, support medium, compensation sheet, permanent magnet and magnetic circuit, and the adhesive is X98-11 acetal drying glue, and the curing temperature is 150 °C.
- ◆ The coating layer of the product shell is: industrial pure iron copper plating nickel plating.
- ◆ The coaxial product has connectors added on top of the Drop-in product.

1.3.3 Waveguide components

- ◆ The cavity adopts duralumin conductive oxidation treatment.
- ◆ The screw connection process is adopted between the cavities.
- ◆ The bonding process is adopted between ferrite substrate, support medium, compensation sheet, permanent magnet and cavity.

1.4 Failure Mode

1.4.1 Poor solderability of input and output terminals

When the microstrip circuit surface treatment process problems, resulting in solder at the input and output end is not wet, affect the welding quality.

Drop-in circuits of Drop-in devices are fabricated by machining beryllium bronze or brass and then electroplating. When the surface of the Drop-in oxidizes or gets scratched, it can lead to poor wetting of solder at the input and output terminals, affecting the quality of soldering.

1.4.2 Open circuit in a resistor

Isolators are manually soldered by joining the Drop-in circuit and resistors together. During abnormal production processes or under stress from temperature and mechanical factors, cracks or fractures may occur at the solder joints or leads of the resistors, resulting in an open circuit and abnormal Electrical performance of the isolator.

1.4.3 Cracks in ferrite substrate

The microwave ferrite substrates used in microstrip devices are made of polycrystalline ferrite materials, which are brittle and have poor toughness. Under abnormal production processes and stress during use (such as temperature and mechanical stress), shallow surface cracks or through-cracks may appear on the substrate surface. When these cracks propagate to the surface thin-film circuit, it can result in abnormal Electrical performance.

1.4.4 Other failures

- Coating corrosion.
- Hard scratches caused by improper testing.
- Cracks in the Drop-in due to bending.

1.5 Storage Conditions

Long-term storage conditions:

- Temperature: 15 °C ~ 25 °C
- Relative humidity: 25%~60%
- No acidic, alkaline or other harmful gases.
- There should be no strong magnetic field or ferromagnetic substances near the product.
- The safe distance that should be maintained between products is
 - Devices above X-band: ≥5 mm; between - X-band and C-band devices: ≥10mm;
 - Devices with frequencies below the C-band: ≥15mm

1.6 Instructions for Use

1.6.1 Component selection recommendations and installation requirements

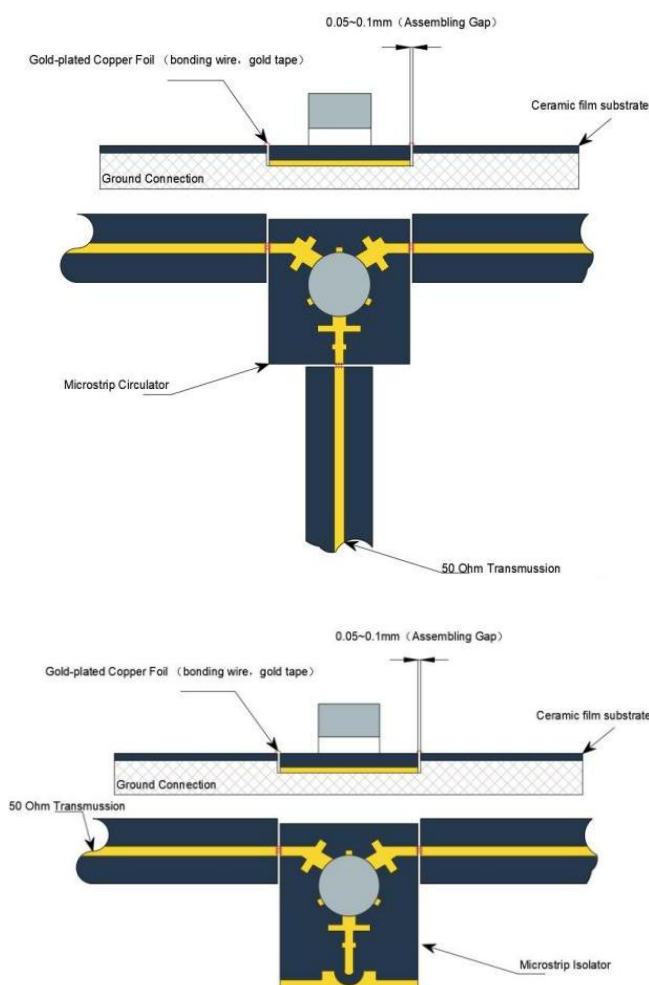
Microstrip circulator/isolator

The following principles can be used when selecting microstrip circulators and isolators:

- Microwave circuit in the form of microstrip transmission, microstrip structure, circulator with line structure and isolator can be selected.
- When decoupling and matching between circuits, microstrip isolators can be selected; When playing duplex and circulating roles in the circuit, a microstrip circulator can be used.
- Select the corresponding microstrip circulator and isolator product model according to the frequency range, installation size, and transmission direction used.
- When the working frequency of the two sizes of microstrip circulator and isolator can meet the requirements of use, the larger product generally has a higher power capacity.
- Copper tape can be manually soldered for interconnections or connected using wire bonding with gold tape/wire.
- When using manually soldered interconnections with gold-plated copper tape, the copper tape should be shaped as an Ω bridge, and the solder should not wet the formed portion of the copper tape.

Before soldering, the temperature of the ferrite surface of the isolator should be maintained between 60-100°C.

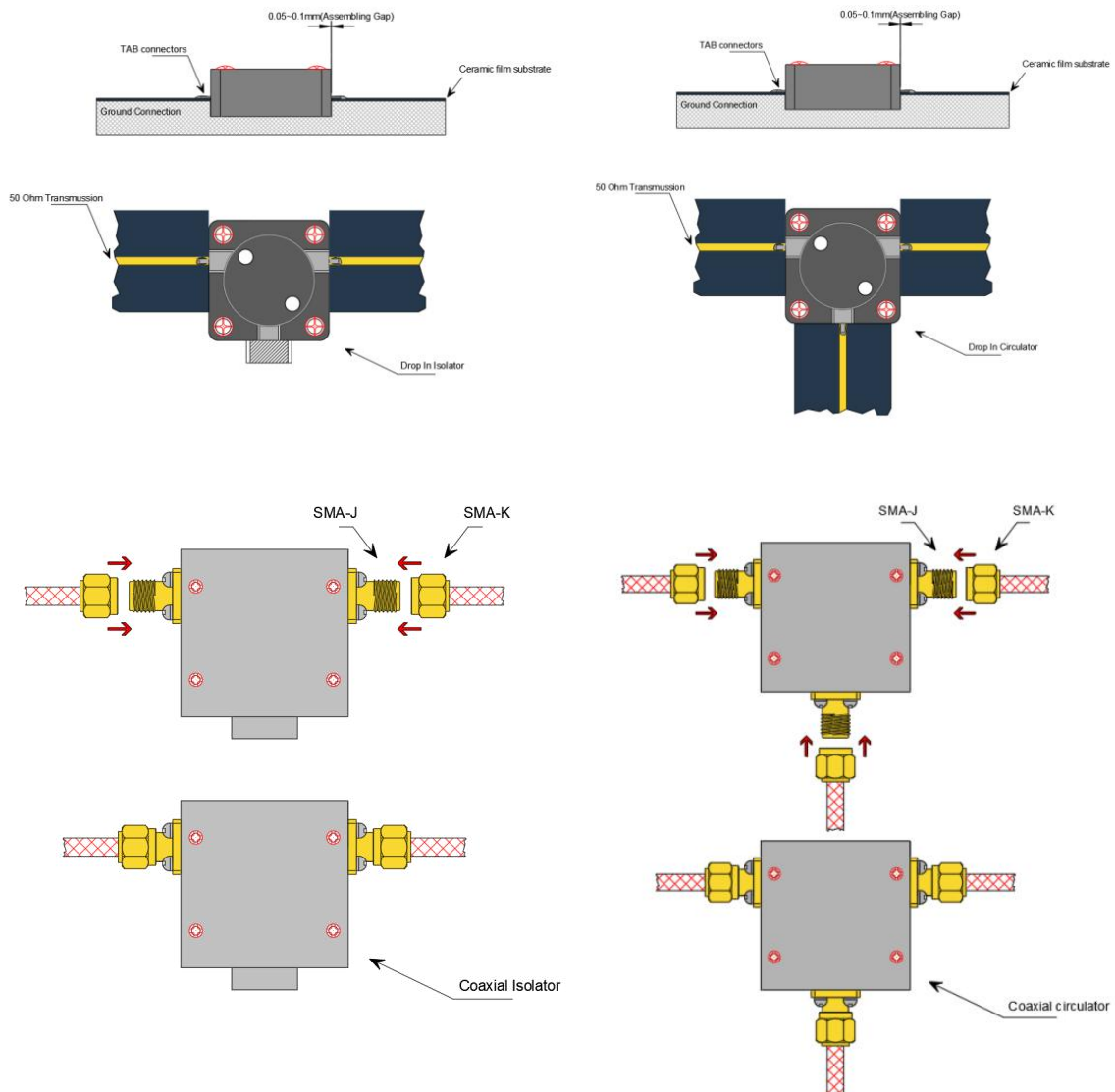
- When using gold tape/wire bonding for interconnections, the width of the gold tape should be smaller than the width of the microstrip circuit.



Drop-in/Coaxial circulators and isolators

In order to help users better understand and reasonably select Drop-in/coaxial isolator and circulator, there are the following suggestions:

- Microwave circuit in the form of microstrip transmission, isolator and circulator with line structure can be selected; Microwave circuits in the form of coaxial transmission can be selected, and isolators and circulators with coaxial structure can be selected.
- When decoupling, impedance matching and isolating reflected signals between circuits, isolators can be used; When playing a duplex and circulating role in the circuit, a circulator can be used.
- According to the frequency range, installation size, transmission direction to select the corresponding Drop-in/coaxial isolator, circulator product model, if there is no corresponding product, users can customize according to their own requirements.
- When the working frequency of the two sizes of Drop-in/coaxial isolator and circulator can meet the requirements of use, the larger product generally has a large Electrical parameter design margin.



Waveguide circulators/isolators

In order to help users better understand and reasonably select waveguide devices, there are the following suggestions:

- Microwave circuit in the form of waveguide transmission, waveguide device can be selected.
- When decoupling, impedance matching and isolating reflected signals between circuits, isolators can be used; When playing duplex and circulating roles in the circuit, a circulator can be used; When matching the circuit, the load can be selected; When changing the signal path in the waveguide transmission system, a switch can be used; When making power distribution, a power divider can be selected; When the microwave signal transmission is completed when the antenna rotation is completed, the rotary joint can be selected.
- According to the frequency range, power capacity, installation size, transmission direction, function of the use of the corresponding waveguide device product model, if there is no corresponding product, users can customize according to their own requirements.
- When the working frequency of waveguide circulators and isolators of both sizes can meet the requirements of use, products with larger volumes generally have a large design margin of Electrical parameters.
- Connecting Waveguide Flanges using Screw Fastening Method.

Surface-Mounted Technology Circulator/Isolators

- The devices should be mounted on the NON magnetic carrier or base.
- RoHS compliant.
- For Pb-free reflow profile with peak temperature 250°C @ 40second.
- Humidity 5 to 95% non-condensing.
- Configuration of land pattern on PCB.

1.6.2 Cleaning

Prior to connecting microstrip circuits, it is recommended to clean them and clean the solder joints after interconnecting with gold-plated copper tape. Use neutral solvents such as alcohol or acetone to clean the flux, ensuring that the cleaning agent does not penetrate the adhesive area between the permanent magnet, dielectric substrate, and circuit substrate, as this could affect the bonding strength. If users have specific requirements, special adhesives can be used, and the product can be cleaned using neutral solvents like alcohol, acetone, or deionized water. Ultrasonic cleaning can be employed, ensuring the temperature does not exceed 60°C, and the cleaning process should not exceed 30 minutes. After cleaning with deionized water, use a heating drying method with a temperature not exceeding 100°C.

Prior to connecting Drop-in circuits, it is recommended to clean them and clean the solder joints after interconnecting the Drop-in. Use neutral solvents such as alcohol or acetone to clean the flux, ensuring that the cleaning agent does not penetrate the adhesive area inside the product, as this could affect the bonding strength.

1.6.3 Product model naming introduction

- Company abbreviation: H-HzBeat
- Structural characteristic: M-Microstrip / D-Drop-In / C-Coaxial / W-Waveguide
- Product name: C-Circulator / I-Isolator / D-Dual-Junction Circulator / T-Triple-Junction Circulator
- Circuit shape: T-T-shape / Y-Y-shape / H-H-shape / U-Unconventional shape

- Connector & Direction:

- (1) M-Microstrip:

- Gold wire bonding: A-Clockwise / B-Counter Clockwise
 - Lap welding: C-Clockwise / D-Counter Clockwise

- (2) Drop-In: C-Clockwise / D-Counter Clockwise

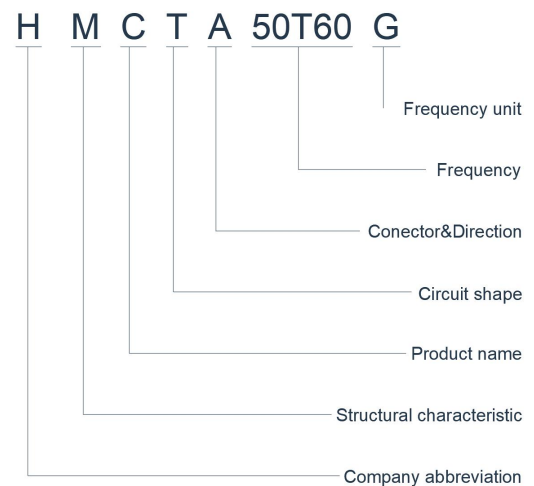
- (3) Coaxial: A-Clockwise / B-Counter Clockwise

- (4) Waveguide: A-Clockwise / B-Counter Clockwise

- (5) Surface Mount Technology: E-Clockwise / F-Counter Clockwise

- Frequency: Start frequency point to end frequency point

- Frequency unit: G-GHz M-MHz

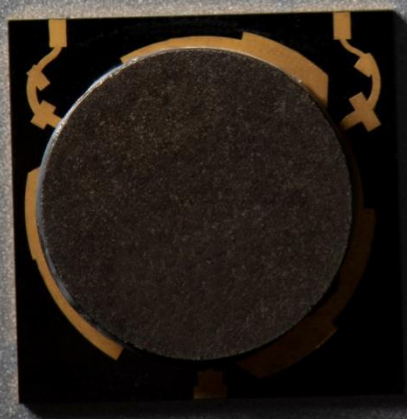


1.6.4 The safe distance from ferromagnetic materials around the device

- Devices with frequencies above the X-band: $\geq 5\text{mm}$.
- X-band and C-band devices: $\geq 10\text{mm}$.
- Sub-C-band frequency devices: $\geq 15\text{mm}$.
- For devices operating at frequencies above the X-band ($\geq 5\text{mm}$), specific requirements for interconnection and cleaning should be followed. Please refer to the manufacturer's guidelines or consult an expert for the recommended practices.
- For devices operating in the X-band and C-band ($\geq 10\text{mm}$), specific requirements for interconnection and cleaning should be followed. Please refer to the manufacturer's guidelines or consult an expert for the recommended practices.
- For devices operating at frequencies below the C-band ($\geq 15\text{mm}$), specific requirements for interconnection and cleaning should be followed. Please refer to the manufacturer's guidelines or consult an expert for the recommended practices.



20-50





Microstrip

Directory

Company Product

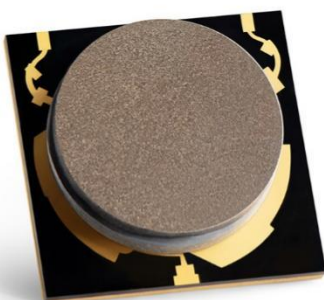
Microstrip products

Drop-in products

Coaxial products

Waveguide products

- Frequency range: 2GHz-40GHz
- The relative advantages of microstrip circulators and isolators are small size, light weight, small spatial discontinuity when integrated with microstrip circuits, and easy 50Ω bridge connection (high connection reliability). Its relative disadvantages are low power capacity and poor immunity to electromagnetic interference.



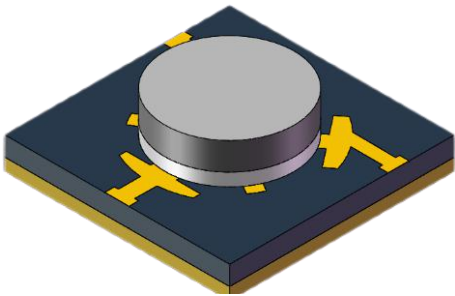
2.1 Microstrip Circulator

2.1.1 Typical Microstrip Circulator

2.7~4.0GHz

Product Overview

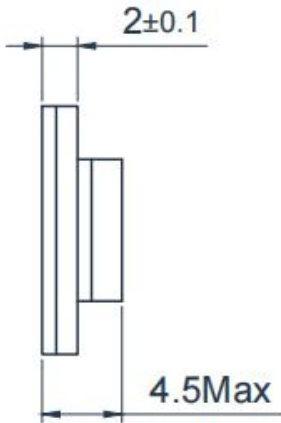
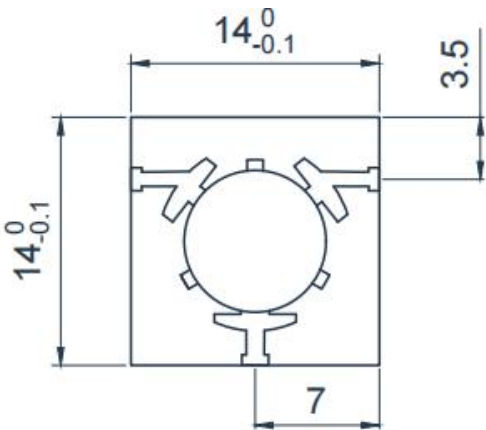
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are S-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA27T35G	2.7~3.5	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB27T35G	2.7~3.5	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise
HMCTA28T36G	2.8~3.6	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB28T36G	2.8~3.6	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise
HMCTA29T32G	2.9~3.2	FULL	0.5	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB29T32G	2.9~3.2	FULL	0.5	18	1.3	-55~+85℃	20/10	Counter Clockwise
HMCTA30T40G	3.0~4.0	FULL	0.5	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB30T40G	3.0~4.0	FULL	0.5	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance

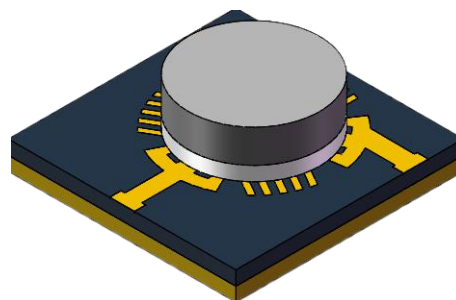


Unit:mm

3.5~5.0GHz

Product Overview

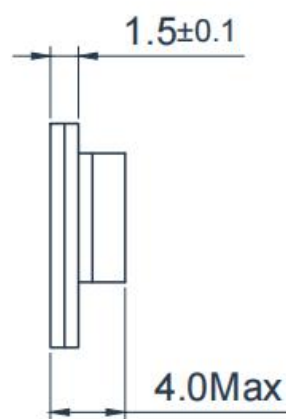
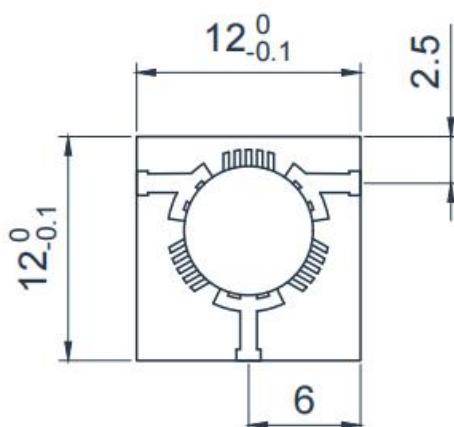
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are S/C-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA35T45G	3.5~4.5	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB35T45G	3.5~4.5	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise
HMCTA37T39G	3.7~3.9	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB37T39G	3.7~3.9	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA40T50G	4.0~5.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB40T50G	4.0~5.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise

Product Appearance

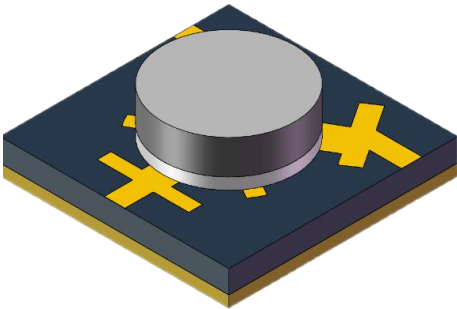


Unit:mm

4.8~8.0GHz

Product Overview

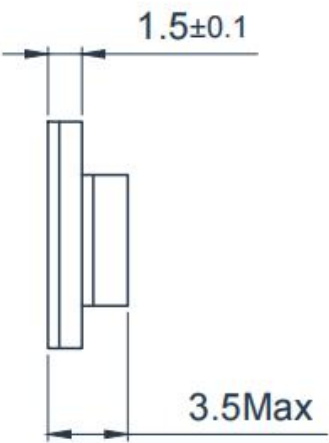
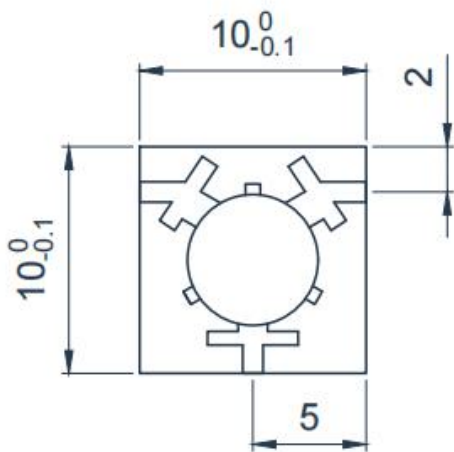
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are C-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA48T54G	4.8~5.4	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB48T54G	4.8~5.4	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA50T80G	5.0~8.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTA50T80G	5.0~8.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance

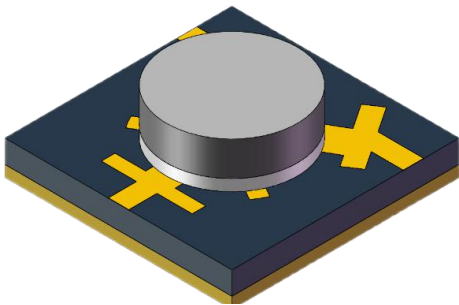


Unit:mm

5.0~6.0GHz

Product Overview

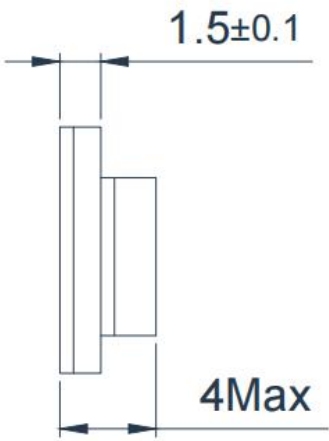
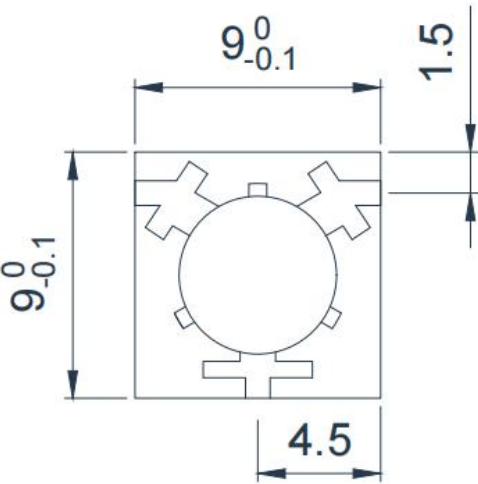
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are C-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA50T60G	5.0~6.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB50T60G	5.0~6.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise

Product Appearance

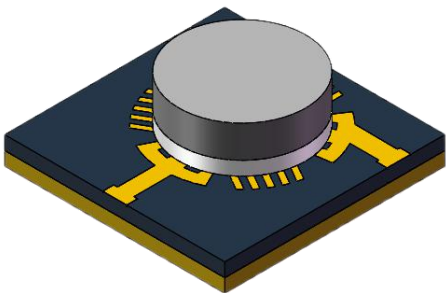


Unit:mm

7.0~9.5GHz

Product Overview

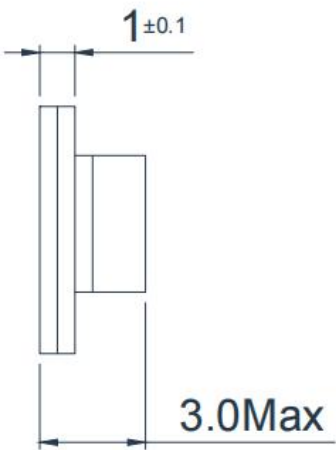
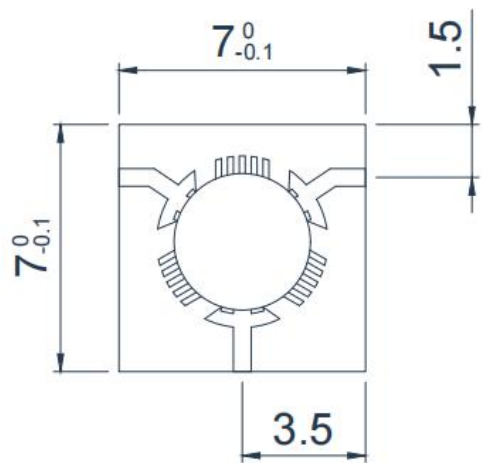
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are C/X-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA70T95G	7.0~9.5	FULL	0.6	17	1.35	-55~+85℃	20/10	Clockwise
HMCTB70T95G	7.0~9.5	FULL	0.6	17	1.35	-55~+85℃	20/10	Counter Clockwise
HMCTA75T95G	7.5~9.5	FULL	0.5	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB75T95G	7.5~9.5	FULL	0.5	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance

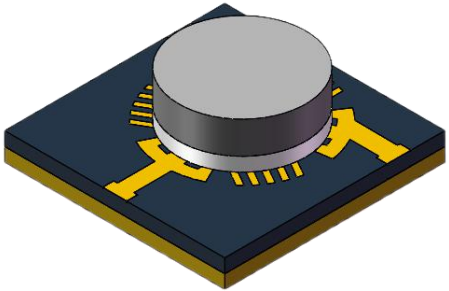


Unit:mm

8.0~18.0GHz

Product Overview

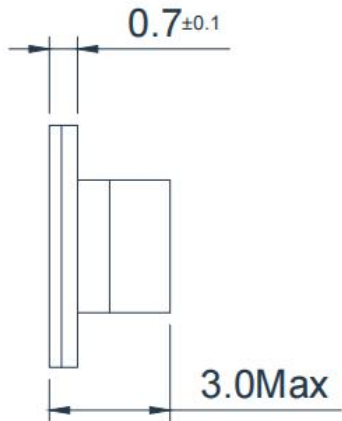
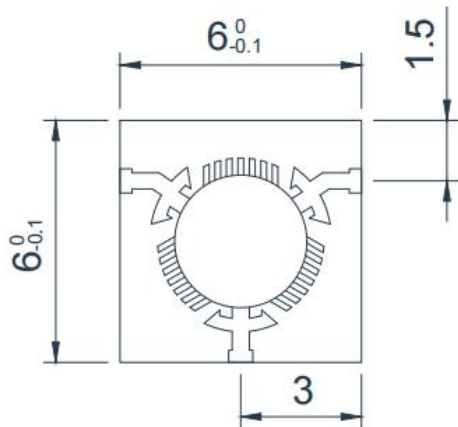
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are X/Ku -band microstrip circulators. Customization of frequency bands, dimensions and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA80T120G	8.0~12.0	FULL	0.6	16	1.35	-55~+85℃	20/10	Clockwise
HMCTB80T120G	8.0~12.0	FULL	0.6	16	1.35	-55~+85℃	20/10	Counter Clockwise
HMCTA85T105G	8.5~10.5	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB85T105G	8.5~10.5	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA90T120G	9.0~12.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB90T120G	9.0~12.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA110T130G	11.0~13.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB110T130G	11.0~13.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA120T150G	12.0~15.0	FULL	0.5	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB120T150G	12.0~15.0	FULL	0.5	18	1.3	-55~+85℃	20/10	Counter Clockwise
HMCTA120T180G	12.0~18.0	FULL	0.7	16	1.4	-55~+85℃	20/10	Clockwise
HMCTB120T180G	12.0~18.0	FULL	0.7	16	1.4	-55~+85℃	20/10	Counter Clockwise

Product Appearance

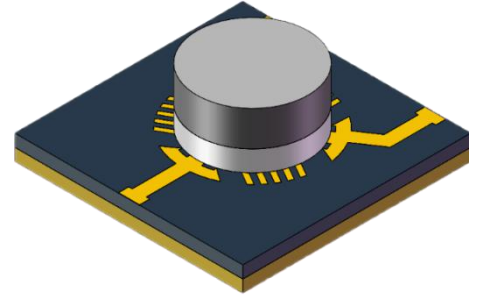


Unit:mm

8.0~18.0GHz

Product Overview

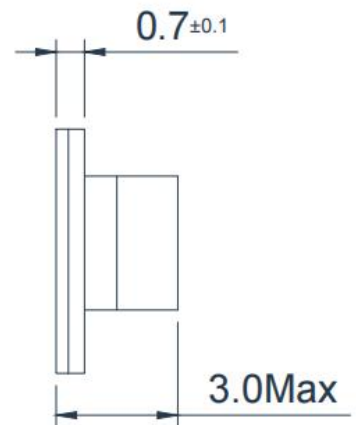
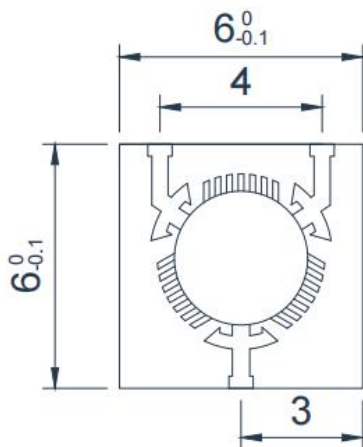
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to Drop-In Coaxial Waveguide circulators. Below are X/Ku-band microstrip circulators with Y-shaped ports, allowing for a compact arrangement of T/R circuits. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCYA80T120G	8.0~12.0	FULL	0.6	16	1.35	-55~+85℃	20/10	Clockwise
HMCYB80T120G	8.0~12.0	FULL	0.6	16	1.35	-55~+85℃	20/10	Counter Clockwise
HMCYA85T105G	8.5~10.5	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCYB85T105G	8.5~10.5	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCYA90T120G	9.0~12.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCYB90T120G	9.0~12.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCYA110T130G	11.0~13.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCYB110T130G	11.0~13.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCYA120T150G	12.0~15.0	FULL	0.5	18	1.3	-55~+85℃	20/10	Clockwise
HMCYB120T150G	12.0~15.0	FULL	0.5	18	1.3	-55~+85℃	20/10	Counter Clockwise
HMCYA120T180G	12.0~18.0	FULL	0.6	16	1.35	-55~+85℃	20/10	Clockwise
HMCYB120T180G	12.0~18.0	FULL	0.6	16	1.35	-55~+85℃	20/10	Counter Clockwise

Product Appearance

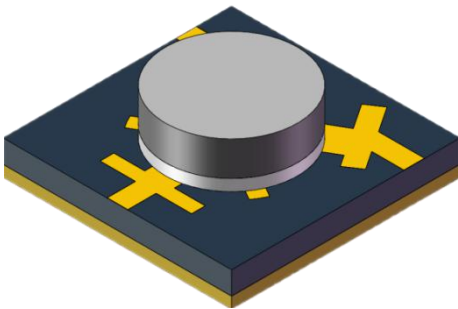


Unit:mm

14.0~20.0GHz

Product Overview

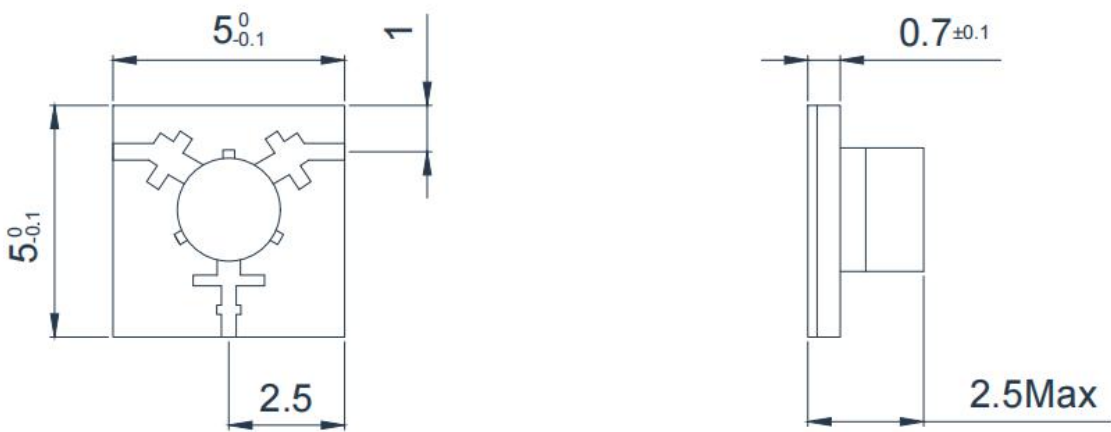
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are Ku/K-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA140T160G	14.0~16.0	FULL	0.5	20	1.3	-55~+85℃	20/10	Clockwise
HMCTB140T160G	14.0~16.0	FULL	0.5	20	1.3	-55~+85℃	20/10	Counter Clockwise
HMCTA160T180G	16.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB160T180G	16.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA140T180G	14.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCTB140T180G	14.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCTA150T200G	15.0~20.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTB150T200G	15.0~20.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance

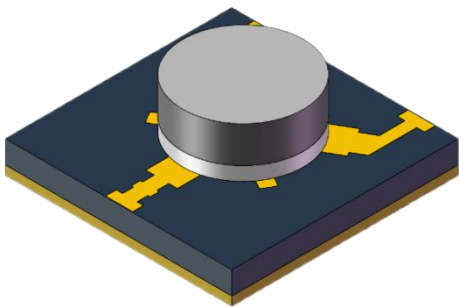


Unit:mm

14.0~20.0GHz

Product Overview

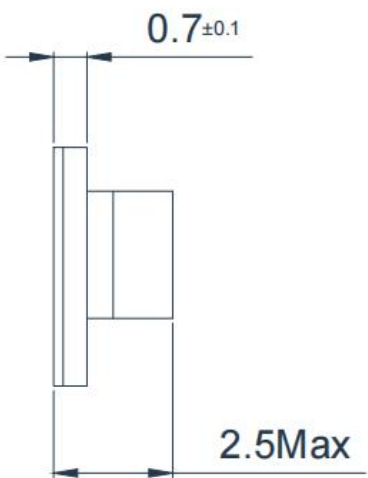
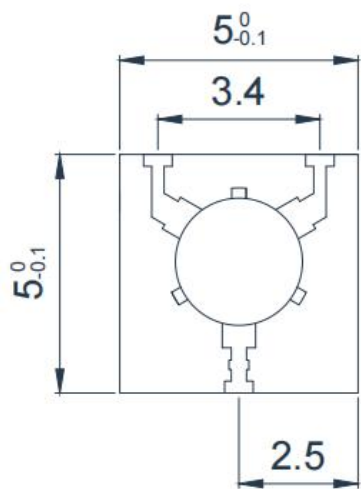
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to Drop-In Coaxial Waveguide circulators. Below are Ku/K-band microstrip circulators with Y-shaped ports, allowing for a compact arrangement of T/R circuits. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYA140T160G	14.0~16.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCYB140T160G	14.0~16.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCYA160T180G	16.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCYB160T180G	16.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCYA140T180G	14.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Clockwise
HMCYB140T180G	14.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10	Counter Clockwise
HMCYA150T200G	15.0~20.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCYB150T200G	15.0~20.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance



Unit:mm

18.0~28.0GHz

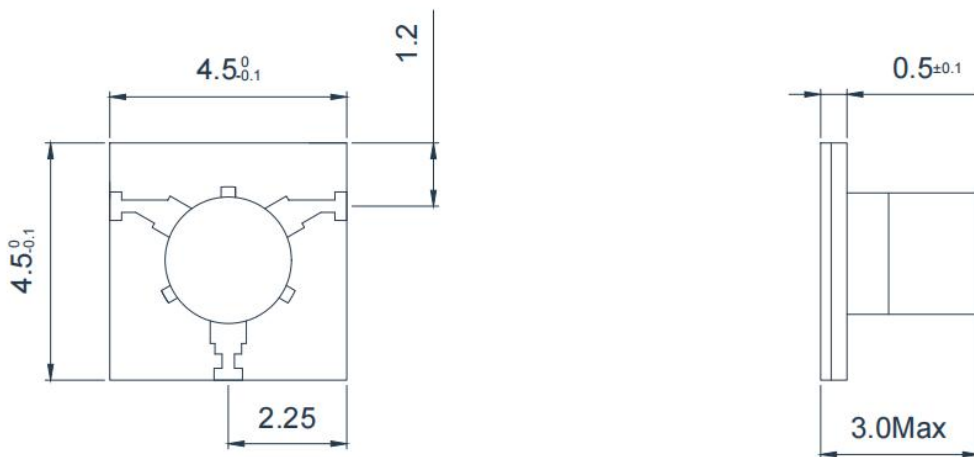
Product Overview

The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are Ku/Ka-band microstrip circulators. Customization of frequency bands, dimensions, and ports is available according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA180T220G	18.0~22.0	FULL	0.5	20	1.25	-55~+85℃	15/5	Clockwise
HMCTB180T220G	18.0~22.0	FULL	0.5	20	1.25	-55~+85℃	15/5	Counter Clockwise
HMCTA180T240G	18.0~24.0	FULL	0.6	18	1.3	-55~+85℃	15/5	Clockwise
HMCTB180T240G	18.0~24.0	FULL	0.6	18	1.3	-55~+85℃	15/5	Counter Clockwise
HMCTA240T280G	24.0~28.0	FULL	0.7	18	1.3	-55~+85℃	15/5	Clockwise
HMCTB240T280G	24.0~28.0	FULL	0.7	18	1.3	-55~+85℃	15/5	Counter Clockwise

Product Appearance

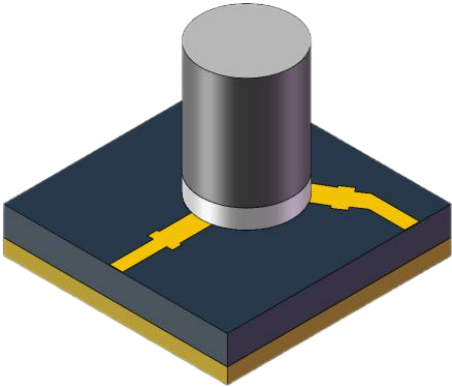


Unit:mm

28.0~40.0GHz

Product Overview

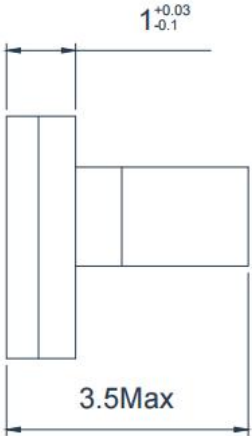
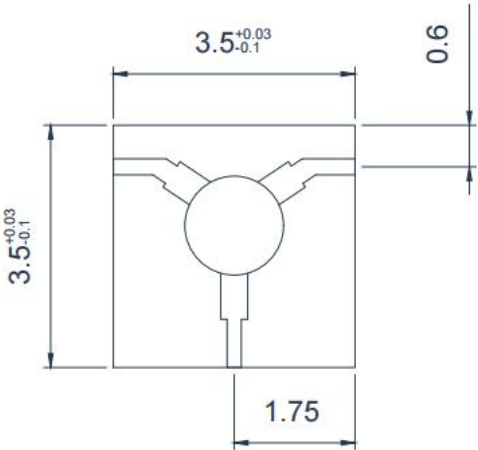
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide circulators. Below are Ka-band microstrip circulators. Customization of frequency bands,dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA280T320G	28.0~32.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB280T320G	28.0~32.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Counter Clockwise
HMCTA330T370G	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB330T370G	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Counter Clockwise
HMCTA320T380G	32.0~38.0	FULL	0.8	16	1.4	-55~+85℃	5/2	Clockwise
HMCTB320T380G	32.0~38.0	FULL	0.8	16	1.4	-55~+85℃	5/2	Counter Clockwise
HMCTA320T400G	32.0~40.0	FULL	1.0	14	1.4	-55~+85℃	5/2	Clockwise
HMCTB320T400G	32.0~40.0	FULL	1.0	14	1.4	-55~+85℃	5/2	Counter Clockwise
HMCTA380T400G	38.0~40.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB380T400G	38.0~40.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Counter Clockwise

Product Appearance

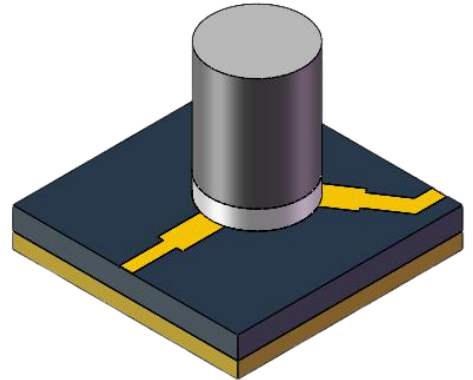


Unit:mm

28.0~40.0GHz

Product Overview

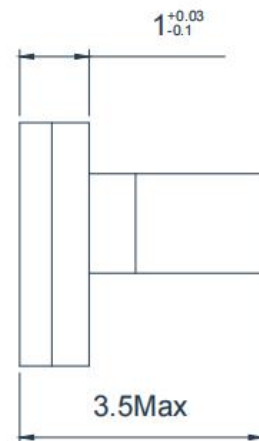
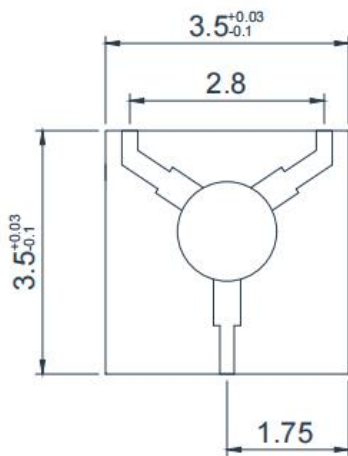
The primary advantage of microstrip circulators is their compact size, although they have a lower power handling capacity compared to Drop-In Coaxial Waveguide circulators. Below are Ka-band microstrip circulators with Y-shaped ports, allowing for a compact arrangement of T/R circuits. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA280T320G	28.0~32.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB280T320G	28.0~32.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Counter Clockwise
HMCTA330T370G	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB330T370G	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Counter Clockwise
HMCTA320T380G	32.0~38.0	FULL	0.8	16	1.4	-55~+85℃	5/2	Clockwise
HMCTB320T380G	32.0~38.0	FULL	0.8	16	1.4	-55~+85℃	5/2	Counter Clockwise
HMCTA320T400G	32.0~40.0	FULL	1.0	14	1.4	-55~+85℃	5/2	Clockwise
HMCTB320T400G	32.0~40.0	FULL	1.0	14	1.4	-55~+85℃	5/2	Counter Clockwise
HMCTA380T400G	38.0~40.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB380T400G	38.0~40.0	FULL	0.7	18	1.35	-55~+85℃	5/2	Counter Clockwise

Product Appearance



Unit:mm

2.1.2 Broadband Microstrip Circulator

2.0~6.0GHz

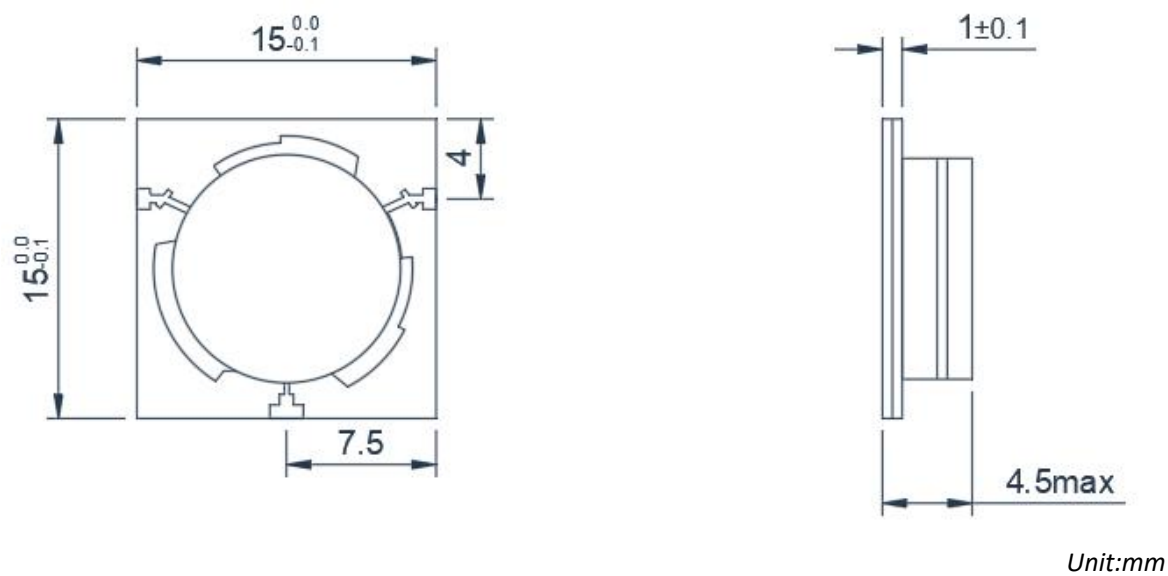
Product Overview

The following products are broadband microstrip circulators designed with a compact form factor, covering the frequency range from the S-band to the C-band, with a maximum relative bandwidth of up to 100%.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA20T60G-B	2.0~6.0	FULL	1.2(1.4)	11(10)	1.7	-55~+85℃	-/30	Clockwise
HMCTB20T60G-B	2.0~6.0	FULL	1.2(1.4)	11(10)	1.7	-55~+85℃	-/30	Counter Clockwise

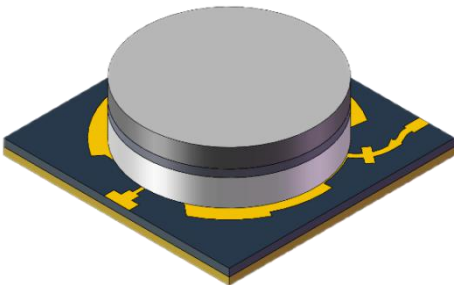
Product Appearance



2.0~6.0GHz

Product Overview

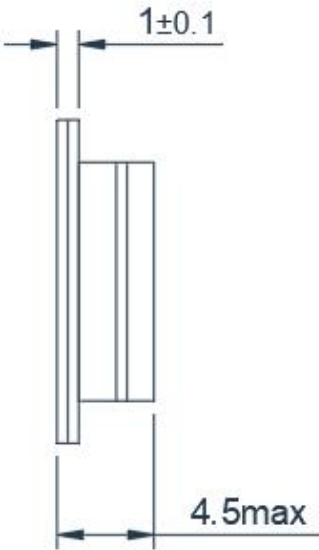
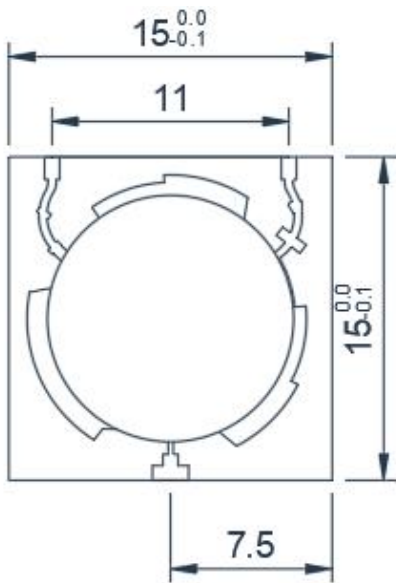
The following products are broadband microstrip circulators designed with a compact form factor, covering the frequency range from the S-band to the C-band, with a maximum relative bandwidth of up to 100%.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYA20T60G-B	2.0~6.0	FULL	1.2(1.4)	11(10)	1.7	-55~+85℃	-/30	Clockwise
HMCYB20T60G-B	2.0~6.0	FULL	1.2(1.4)	11(10)	1.7	-55~+85℃	-/30	Counter Clockwise

Product Appearance



Unit:mm

6.0~18.0GHz

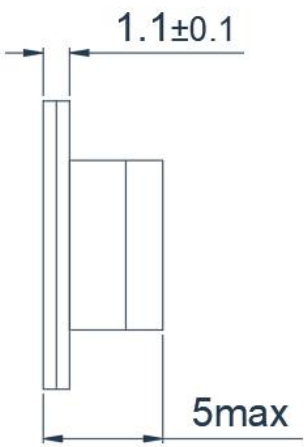
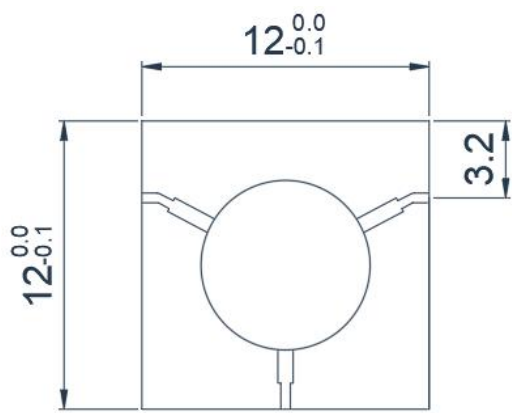
Product Overview

The following products are Broadband Microstrip Circulator, covering the frequency range from S~C-bands, with a maximum relative bandwidth of up to 100%

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA60T180G-B	6.0~18.0	FULL	1.2(6.0~6.5GHz)	11	1.7	-55~+85℃	-/30	Clockwise
			1.0(6.5~18.0GHz)					
HMCTB60T180G-B	6.0~18.0	FULL	1.2(6.0~6.5GHz)	11	1.7	-55~+85℃	-/30	Counter Clockwise
			1.0(6.5~18.0GHz)					

Product Appearance

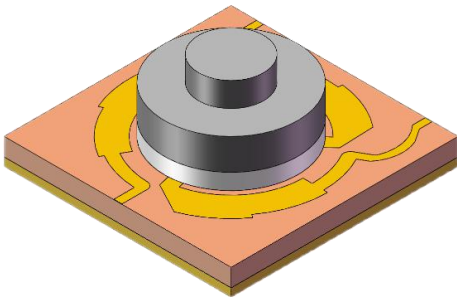


Unit:mm

6.0~18.0GHz

Product Overview

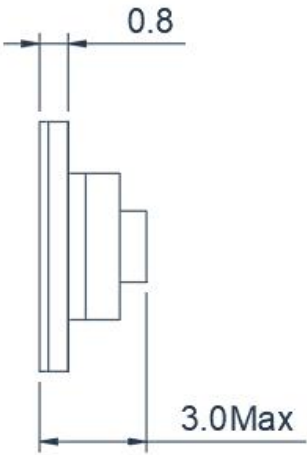
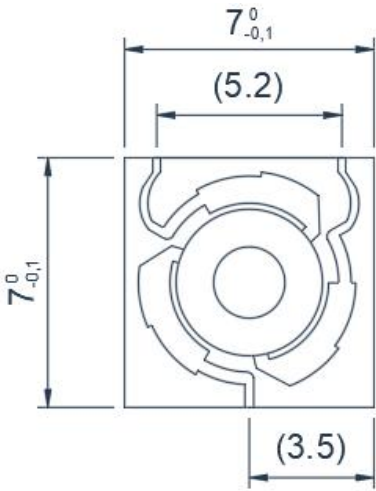
The following products are broadband microstrip circulators designed with a compact form factor, covering the frequency range from the C-band to the Ku-band, with a maximum relative bandwidth of up to 100%.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYA60T180G-B	6.0~18.0	FULL	1.2	11	1.65	-55~+85℃	-/15	Clockwise
HMCYB60T180G-B	6.0~18.0	FULL	1.2	11	1.65	-55~+85℃	-/15	Counter Clockwise

Product Appearance

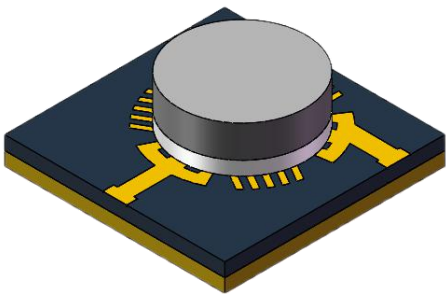


Unit:mm

8.0~12.0GHz

Product Overview

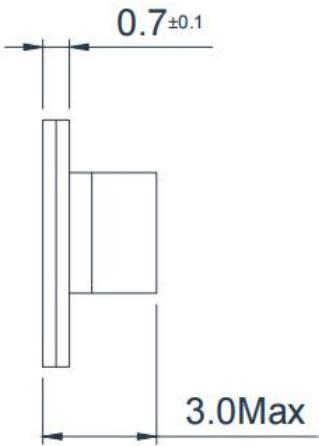
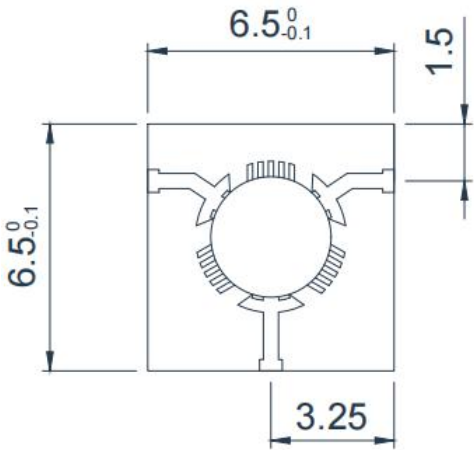
The following microstrip circulator covers the entire X-band. It is 0.5mm larger in size compared to conventional models but offers significantly improved performance.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA80T120G-B	8.0~12.0	FULL	0.5	19	1.25	-55~+85℃	20/10	Clockwise
HMCTB80T120G-B	8.0~12.0	FULL	0.5	19	1.25	-55~+85℃	20/10	Counter Clockwise

Product Appearance

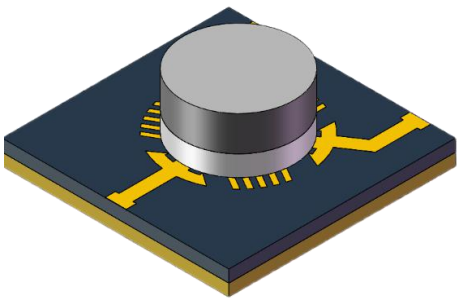


Unit:mm

8.0~12.0GHz

Product Overview

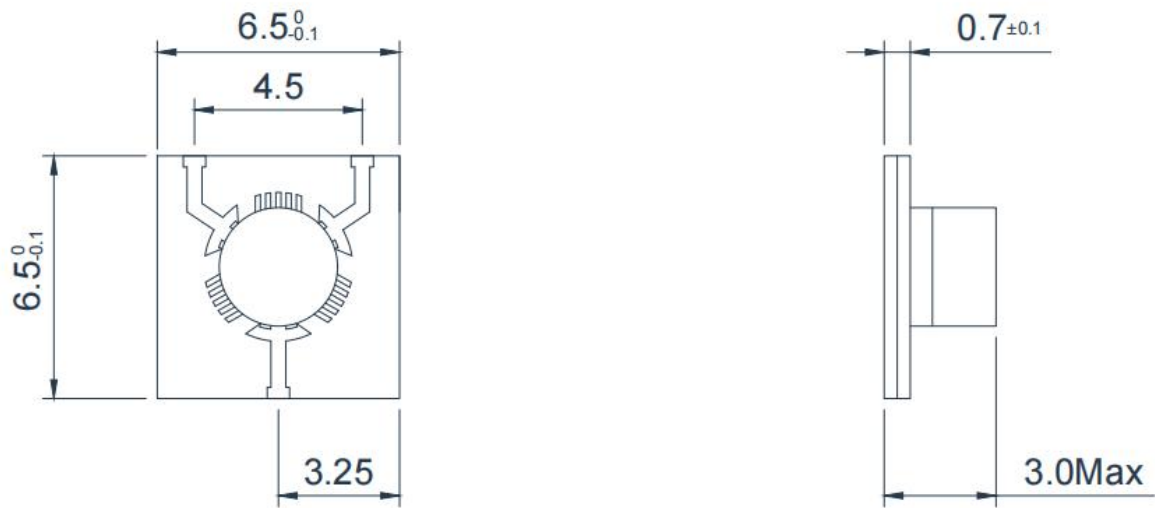
The following microstrip circulator covers the entire X-band. It is 0.5mm larger in size compared to conventional models but offers significantly improved performance.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYA80T120G-B	8.0~12.0	FULL	0.5	19	1.25	-55~+85℃	20/10	Clockwise
HMCYB80T120G-B	8.0~12.0	FULL	0.5	19	1.25	-55~+85℃	20/10	Counter Clockwise

Product Appearance



Unit:mm

8.0~18.0GHz

Product Overview

The following products are broadband microstrip circulators designed with a compact form factor, covering the frequency range from the X-band to the Ku-band.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYA80T180G-B	8.0~18.0	FULL	0.9	13	1.5	-55~+85℃	20/10	Clockwise
HMCYB80T180G-B	8.0~18.0	FULL	0.9	13	1.5	-55~+85℃	20/10	Counter Clockwise

Product Appearance



Unit:mm

2.1.3 Miniaturized Microstrip Circulator

5.0~6.0GHz

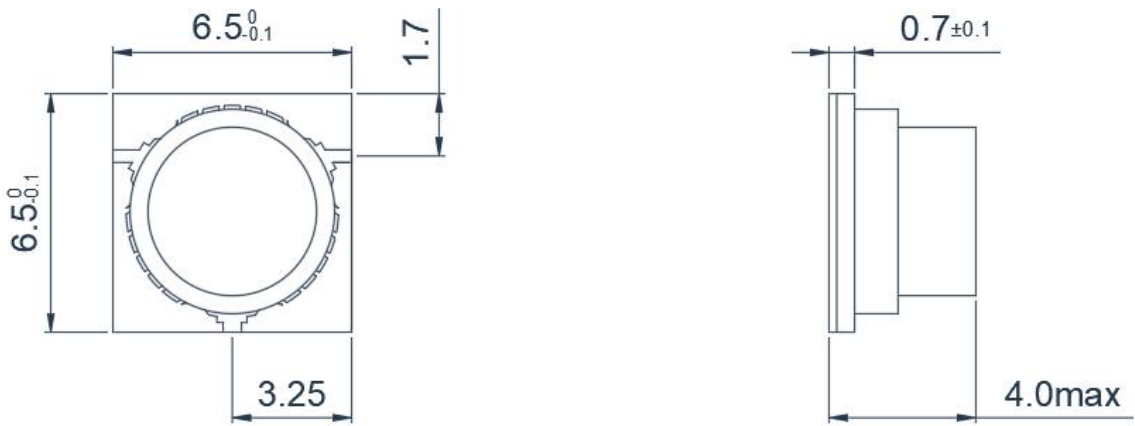
Product Overview

Here is a C-band Miniaturized Microstrip Circulator, which has been reduced in size from the conventional 10×10mm to 6.5×6.5mm. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Circulator can be customized based on the frequency band, bandwidth, and port locations. In cases where bandwidth is reduced and frequency is increased, it can be designed even smaller. Electrical Performance Table

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCTA50T60G-M	5.0~6.0	FULL	0.6	18	1.3	-55~+85℃	10/2.5	Clockwise
HMCTB50T60G-M	5.0~6.0	FULL	0.6	18	1.3	-55~+85℃	10/2.5	Counter Clockwise

Product Appearance



Unit:mm

8.0~12.0GHz

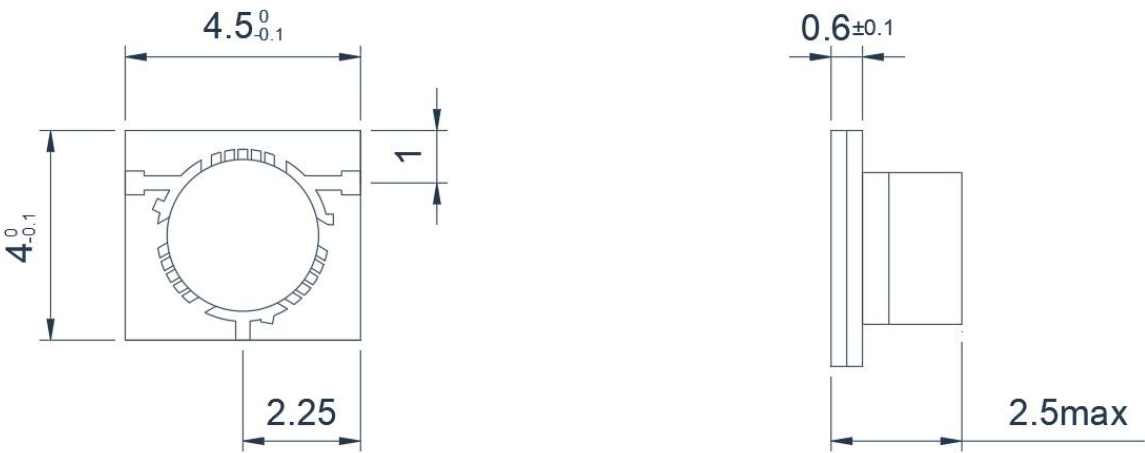
Product Overview

Here is a X-band Miniaturized Microstrip Circulator, which has been reduced in size from the conventional 6×6mm to 4.5×4.5mm. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Circulator can be customized based on the frequency band, bandwidth, and port locations. In cases where bandwidth is reduced and frequency is increased, it can be designed even smaller.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA80T120G-M	8.0~12.0	FULL	0.9	15	1.4	-55~+85℃	20/5	Clockwise
HMCTB80T120G-M	8.0~12.0	FULL	0.9	15	1.4	-55~+85℃	20/5	Counter Clockwise

Product Appearance



Unit:mm

8.0~12.0GHz

Product Overview

Here is a X-band Miniaturized Microstrip Circulator, which has been reduced in size from the conventional $6 \times 6 \text{ mm}$ to $4.5 \times 4.5 \text{ mm}$. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Circulator can be customized based on the frequency band, bandwidth, and port locations. In cases where bandwidth is reduced and frequency is increased, it can be designed even smaller.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HMCYA80T120G-M	8.0~12.0	FULL	0.9	15	1.4	-55~+85℃	20/5	Clockwise
HMCYB80T120G-M	8.0~12.0	FULL	0.9	15	1.4	-55~+85℃	20/5	Counter Clockwise

Product Appearance



Unit:mm

15.0~17.0GHz

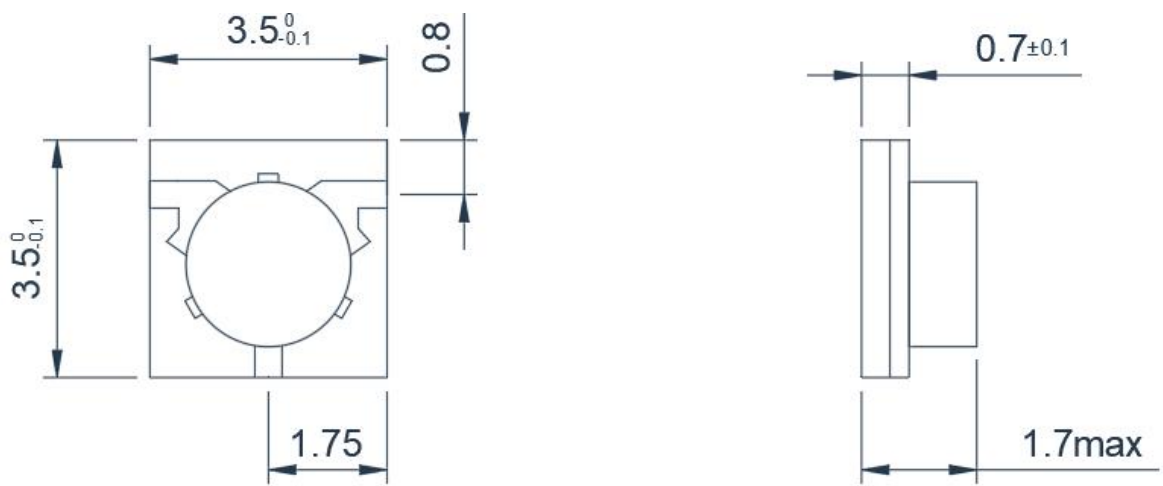
Product Overview

Here is a Ku-band Miniaturized Microstrip Circulator, which has been reduced in size from the conventional 5×5mm to 3.5×3.5mm. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Circulator can be customized based on the frequency band.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA150T170G-M	15.0~17.0	FULL	0.5	20	1.2	-55~+85℃	20/5	Clockwise
HMCTB150T170G-M	15.0~17.0	FULL	0.5	20	1.2	-55~+85℃	20/5	Counter Clockwise

Product Appearance

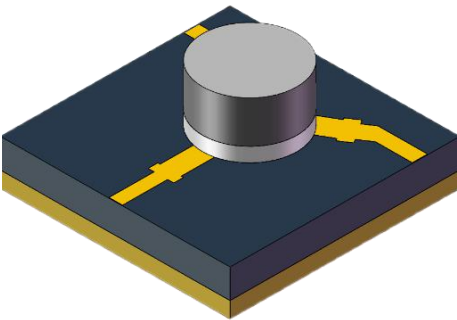


Unit:mm

33.0~37.0GHz

Product Overview

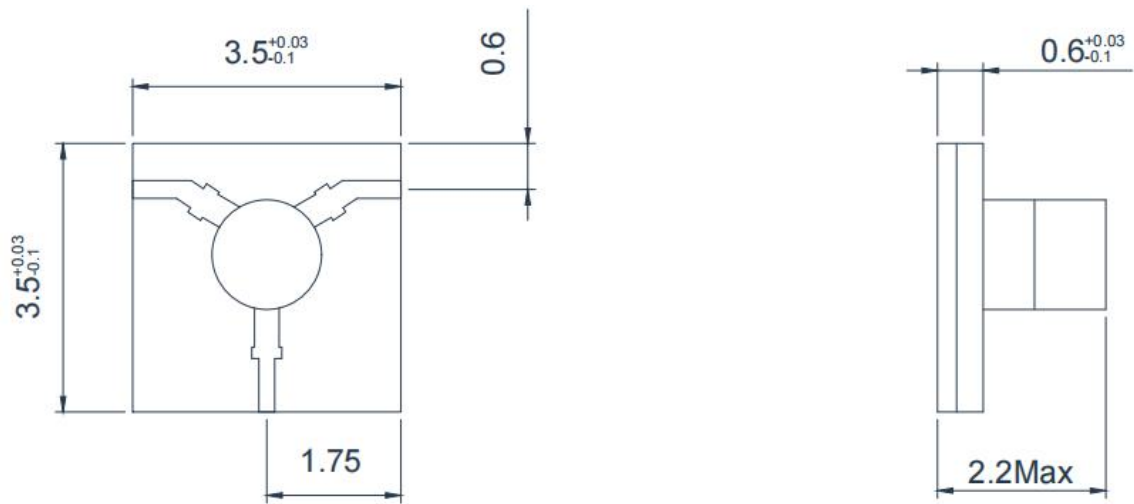
Here is a Ka-band miniaturized microstrip circulator, which has reduced the overall height from 3.5mm to 2.2mm. This miniaturized microstrip circulator can be customized based on the frequency band and bandwidth.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTA330T370G-M	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Clockwise
HMCTB330T370G-M	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Counter Clockwise

Product Appearance

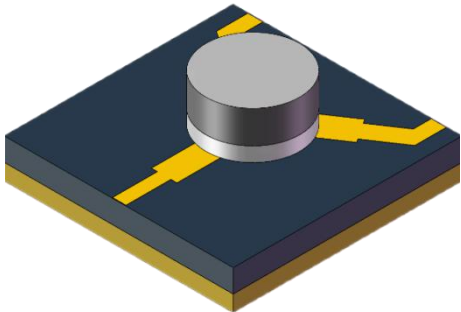


Unit:mm

33.0~37.0GHz

Product Overview

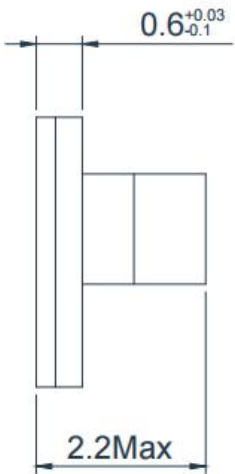
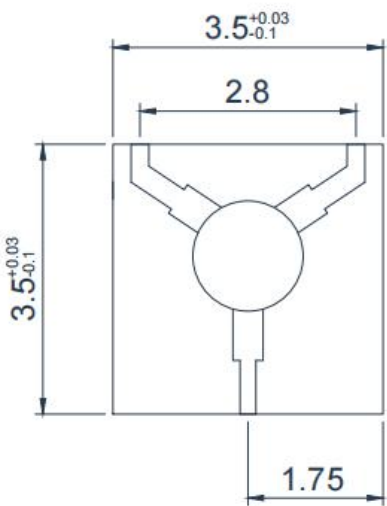
Here is a Ka-band miniaturized microstrip circulator, which has reduced the overall height from 3.5mm to 2.2mm. This miniaturized microstrip circulator can be customized based on the frequency band and bandwidth.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYA330T370G-M	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Clockwise
HMCYB330T370G-M	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Counter Clockwise

Product Appearance



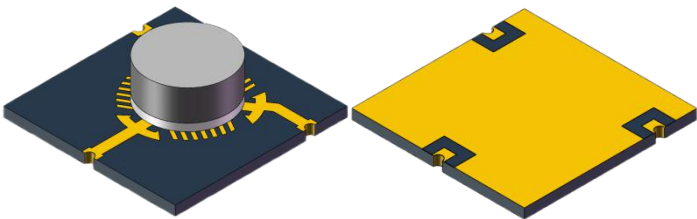
Unit:mm

2.1.4 Surface Mount Technology Microstrip Circulator

8.0~12.0GHz

Product Overview

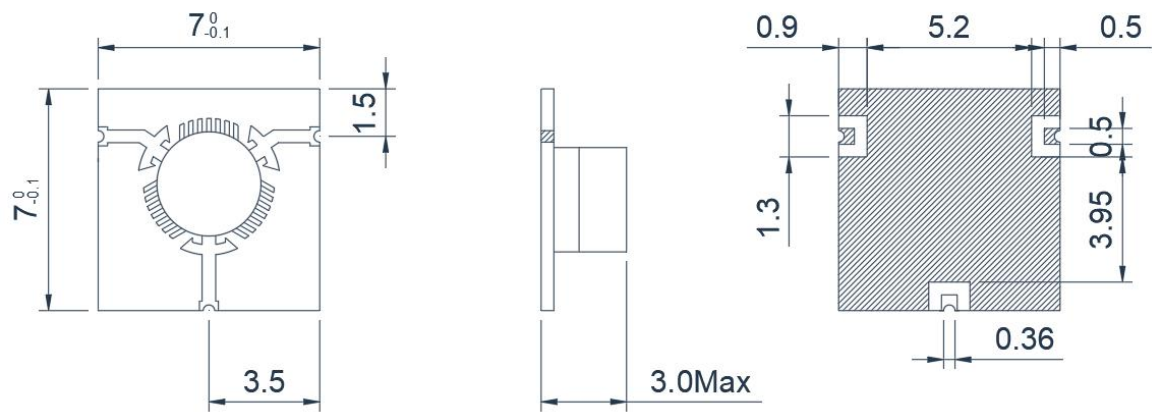
Here is an X-band Surface Mount Technology Microstrip Circulator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTE80T120G	8.0~12.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTF80T120G	8.0~12.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance



Unit:mm

8.0~12.0GHz

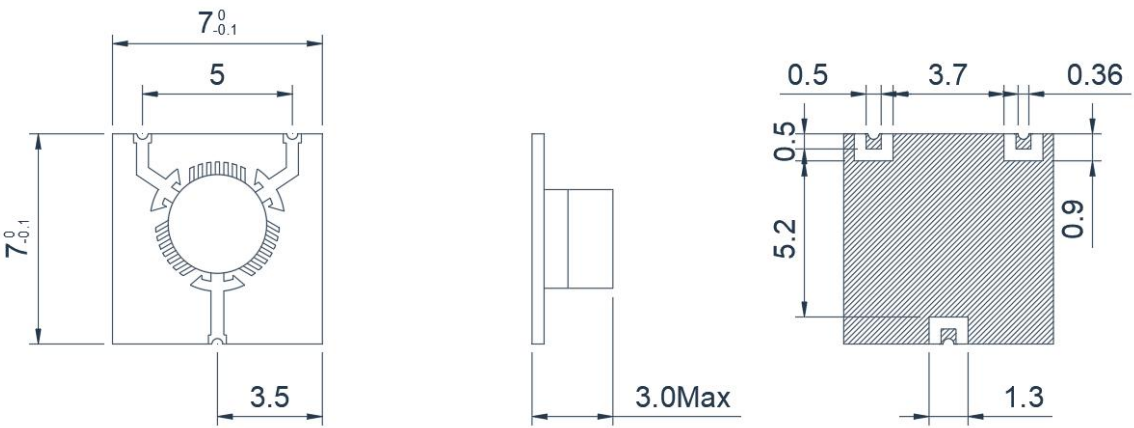
Product Overview

Here is an X-band Surface Mount Technology Microstrip Circulator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)	Direction
HMCYE80T120G	8.0~12.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCYF80T120G	8.0~12.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance



Unit:mm

14.0~18.0GHz

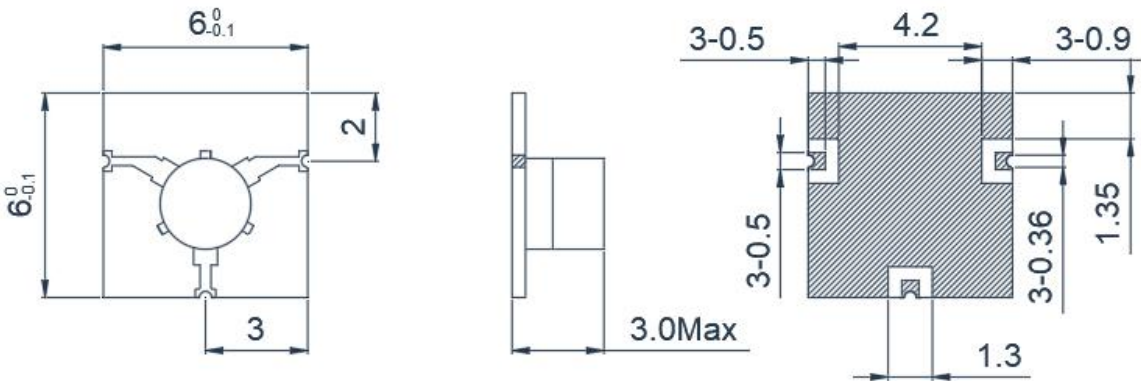
Product Overview

Here is an Ku-band Surface Mount Technology Microstrip Circulator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCTE140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCTF140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance



Unit:mm

14.0~18.0GHz

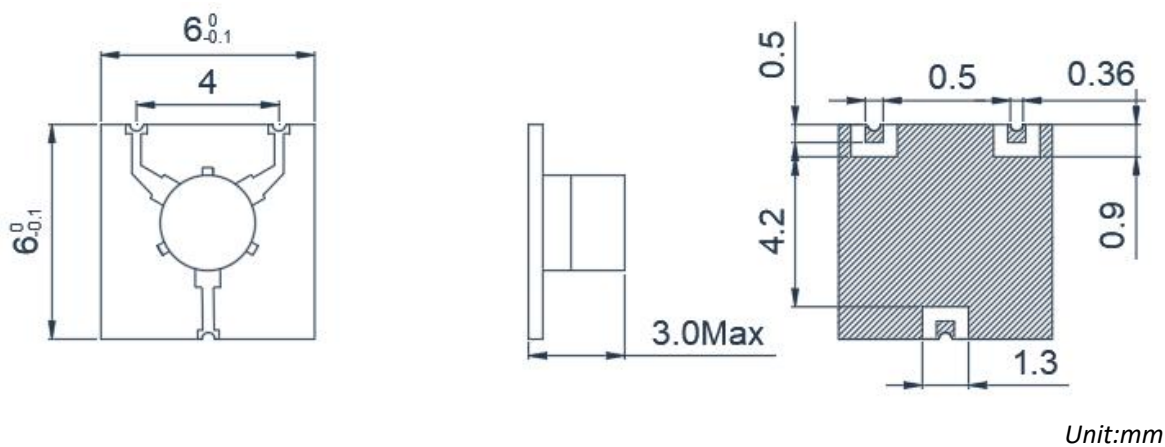
Product Overview

Here is an Ku-band Surface Mount Technology Microstrip Circulator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMCYE140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Clockwise
HMCYF140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10	Counter Clockwise

Product Appearance



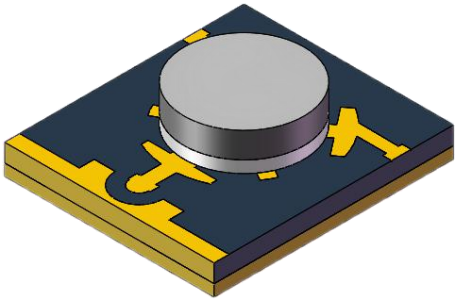
2.2 Microstrip Isolator

2.2.1 Typical Microstrip Isolator

2.7~4.0GHz

Product Overview

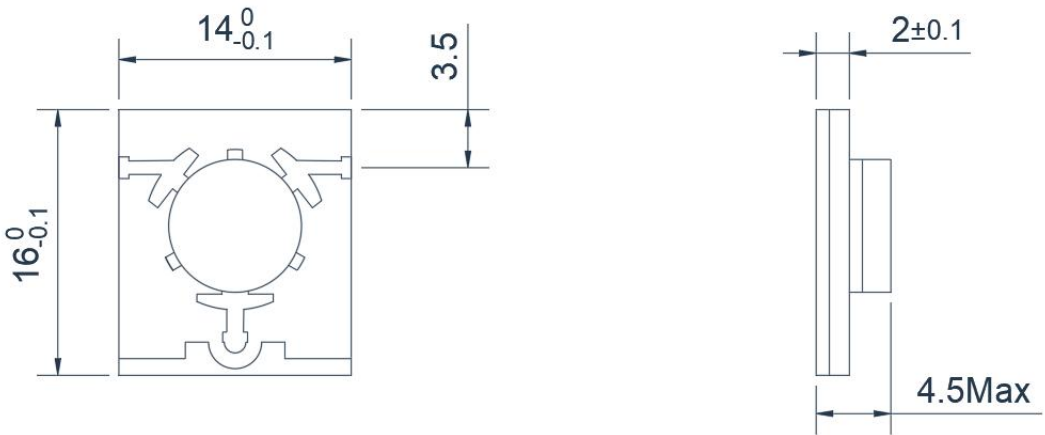
The primary advantage of microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are S-band microstrip Isolator. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMITA27T35G	2.7~3.5	FULL	0.6	20	1.3	-55~+85℃	20/10/5	Clockwise
HMITB27T35G	2.7~3.5	FULL	0.6	20	1.3	-55~+85℃	20/10/5	Counter Clockwise
HMITA30T40G	3.0~4.0	FULL	0.5	18	1.3	-55~+85℃	20/10/5	Clockwise
HMITB30T40G	3.0~4.0	FULL	0.5	18	1.3	-55~+85℃	20/10/5	Counter Clockwise
HMITA35T55G	3.5~5.5	FULL	0.6	16	1.3	-55~+85℃	20/10/5	Clockwise
HMITB35T55G	3.5~5.5	FULL	0.6	16	1.3	-55~+85℃	20/10/5	Counter Clockwise

Product Appearance

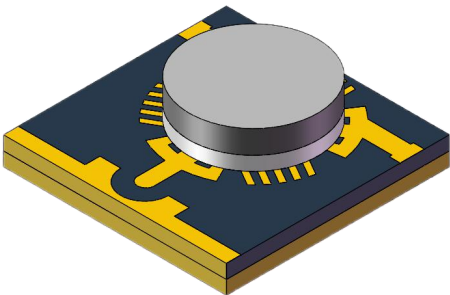


Unit:mm

3.4~5.5GHz

Product Overview

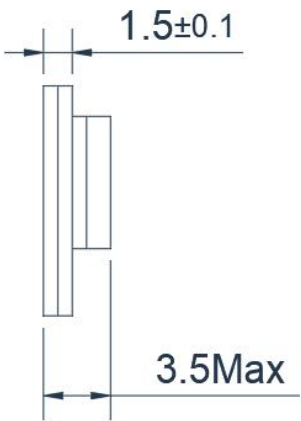
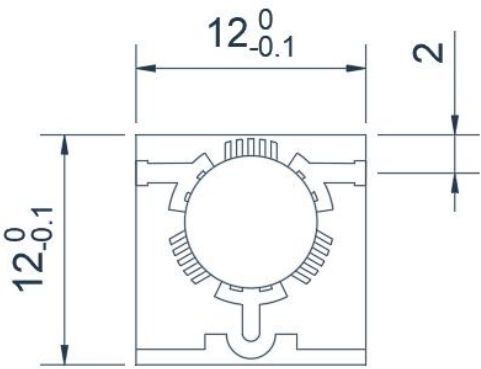
The primary advantage of microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are S/C-band Microstrip Isolators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA34T45G	3.4~4.5	FULL	0.6	18	1.3	-55~+85℃	20/10/5	Clockwise
HMITB34T45G	3.4~4.5	FULL	0.6	18	1.3	-55~+85℃	20/10/5	Counter Clockwise
HMITA37T39G	3.7~3.9	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB37T39G	3.7~3.9	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise
HMITA40T50G	4.0~5.0	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB40T50G	4.0~5.0	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise
HMITA45T55G	4.5~5.5	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB45T55G	4.5~5.5	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise

Product Appearance

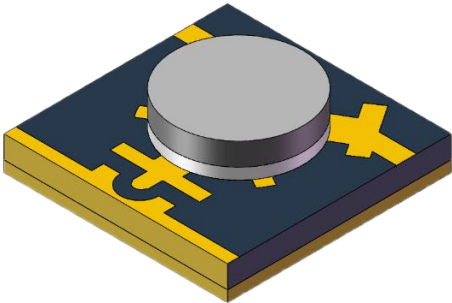


Unit:mm

5.0~8.0GHz

Product Overview

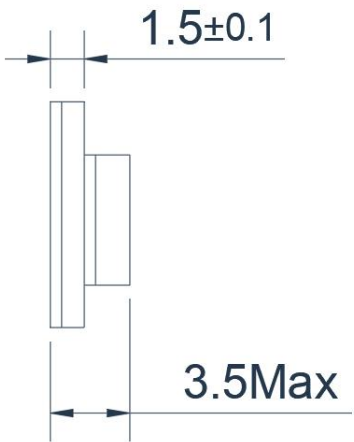
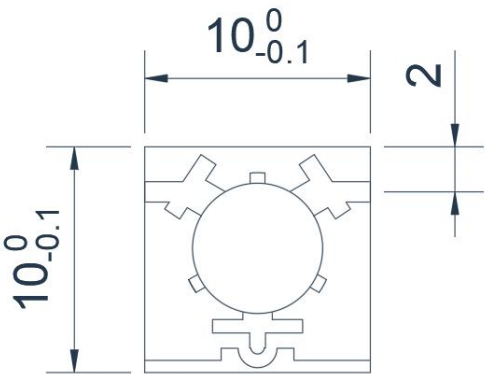
The primary advantage of Microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are C-band Microstrip Isolators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA50T60G	5.0~6.0	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB50T60G	5.0~6.0	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise
HMITA55T65G	5.5~6.5	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB55T65G	5.5~6.5	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise
HMITA65T75G	6.5~7.5	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB65T75G	6.5~7.5	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise
HMITA50T80G	5.0~8.0	FULL	0.6	18	1.3	-55~+85℃	20/10/5	Clockwise
HMITB50T80G	5.0~8.0	FULL	0.6	18	1.3	-55~+85℃	20/10/5	Counter Clockwise
HMITA60T80G	6.0~8.0	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Clockwise
HMITB60T80G	6.0~8.0	FULL	0.5	20	1.25	-55~+85℃	20/10/5	Counter Clockwise

Product Appearance

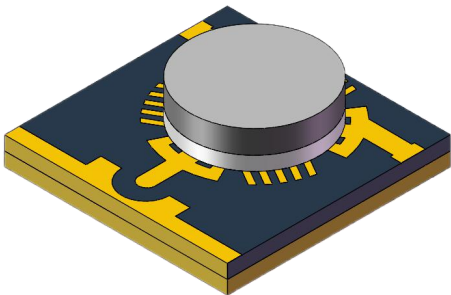


Unit:mm

7.0~9.5GHz

Product Overview

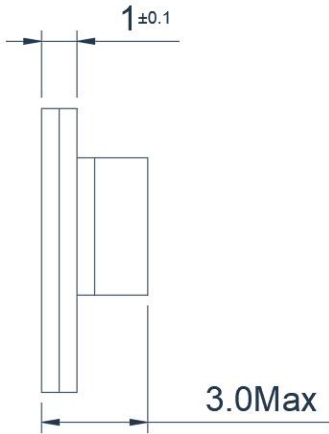
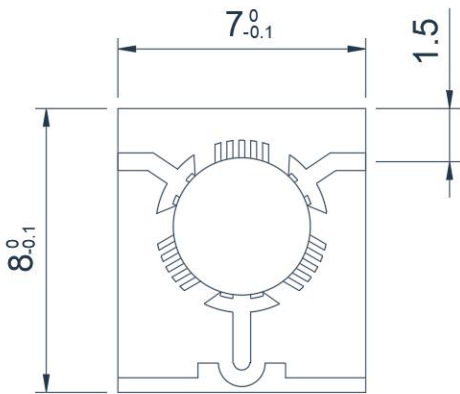
The primary advantage of Microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are C/X-band Microstrip Isolators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA70T95G	7.0~9.5	FULL	0.6	17	1.35	-55~+85℃	20/10/3	Clockwise
HMITB70T95G	7.0~9.5	FULL	0.6	17	1.35	-55~+85℃	20/10/3	Counter Clockwise
HMITA75T95G	7.5~9.5	FULL	0.5	18	1.3	-55~+85℃	20/10/3	Clockwise
HMITB75T95G	7.5~9.5	FULL	0.5	18	1.3	-55~+85℃	20/10/3	Counter Clockwise

Product Appearance

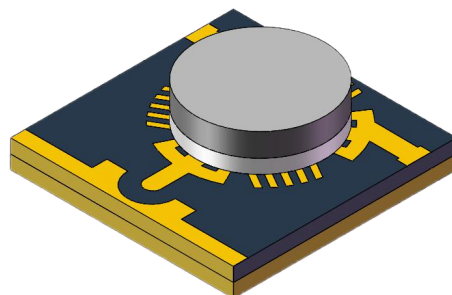


Unit:mm

8.0~18.0GHz

Product Overview

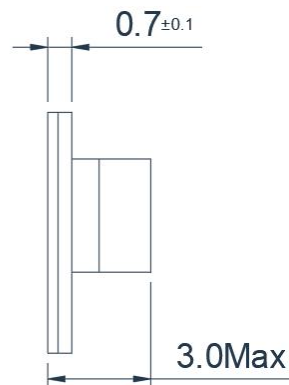
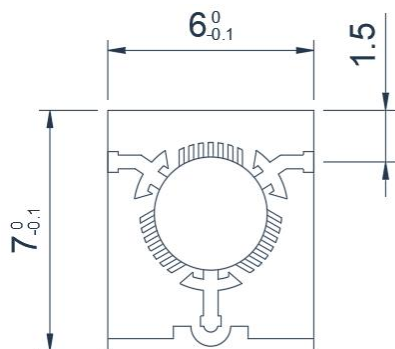
The primary advantage of Microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are X/Ku -band Microstrip Isolators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMITA80T100G	8.0~10.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Clockwise
HMITB80T100G	8.0~10.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Counter Clockwise
HMITA85T105G	8.5~10.5	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Clockwise
HMITB85T105G	8.5~10.5	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Counter Clockwise
HMITA80T120G	8.0~12.0	FULL	0.6	18	1.35	-55~+85℃	20/10/3	Clockwise
HMITB80T120G	8.0~12.0	FULL	0.6	18	1.35	-55~+85℃	20/10/3	Counter Clockwise
HMITA90T110G	9.0~11.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Clockwise
HMITB90T110G	9.0~11.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Counter Clockwise
HMITA100T120G	10.0~12.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Clockwise
HMITB100T120G	10.0~12.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Counter Clockwise
HMITA110T130G	11.0~13.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Clockwise
HMITB110T130G	11.0~13.0	FULL	0.5	20	1.25	-55~+85℃	20/10/3	Counter Clockwise
HMITA120T150G	12.0~15.0	FULL	0.5	18	1.3	-55~+85℃	20/10/3	Clockwise
HMITB120T150G	12.0~15.0	FULL	0.5	18	1.3	-55~+85℃	20/10/3	Counter Clockwise
HMITA120T180G	12.0~18.0	FULL	0.7	16	1.4	-55~+85℃	20/10/3	Clockwise
HMITB120T180G	12.0~18.0	FULL	0.7	16	1.4	-55~+85℃	20/10/3	Counter Clockwise

Product Appearance

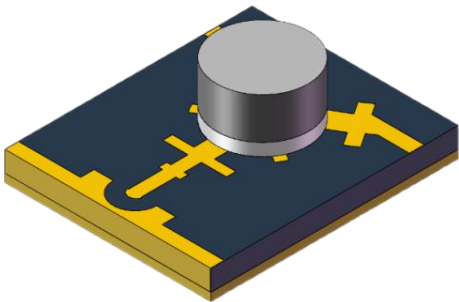


Unit:mm

14.0~20.0GHz

Product Overview

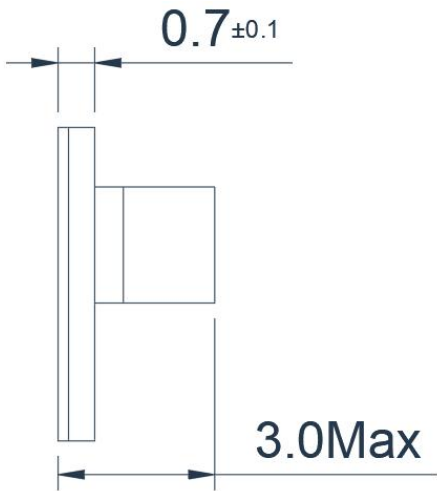
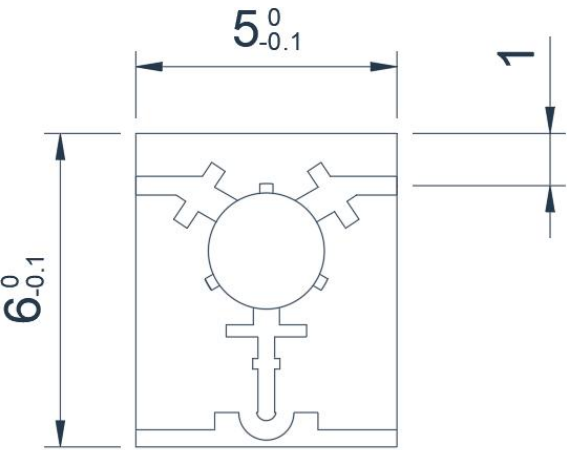
The primary advantage of Microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are Ku/K-band Microstrip Isolators. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA140T180G	14.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10/2	Clockwise
HMITB140T180G	14.0~18.0	FULL	0.5	20	1.25	-55~+85℃	20/10/2	Counter Clockwise
HMITA150T200G	15.0~20.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Clockwise
HMITB150T200G	15.0~20.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Counter Clockwise

Product Appearance



Unit:mm

18.0~28.0GHz

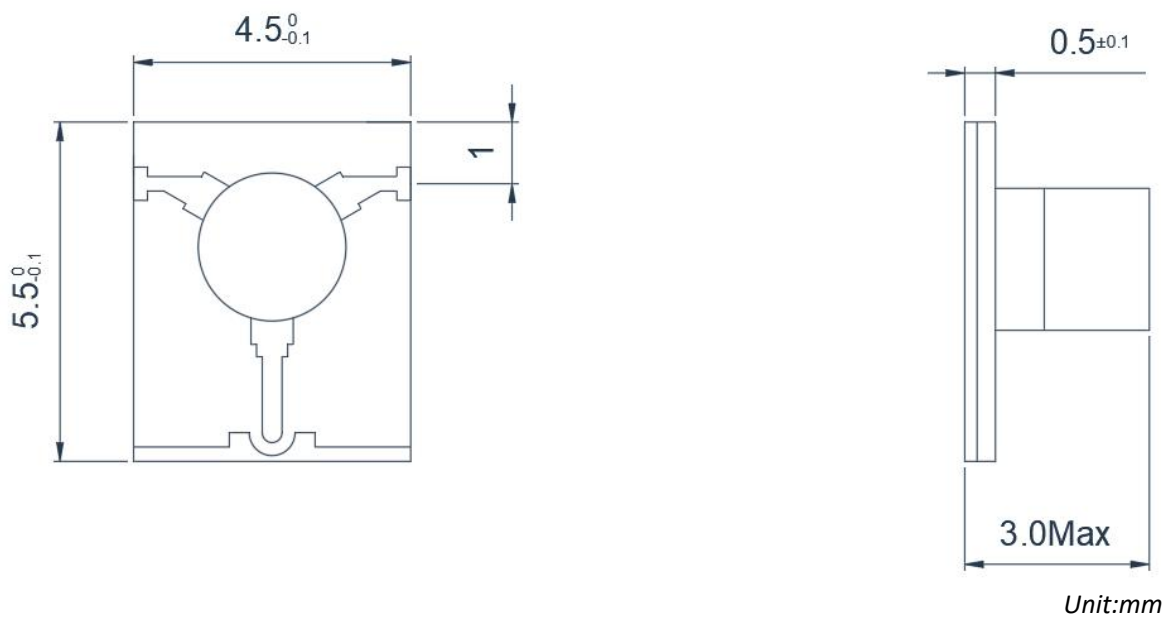
Product Overview

The primary advantage of Microstrip Isolators is their compact size, although they have a lower power handling capacity compared to drop-in coaxial waveguide Isolator. Below are Ku/K Ka-band Microstrip Isolators. Customization of frequency bands, dimensions, and ports is available according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA180T220G	18.0~22.0	FULL	0.5	20	1.25	-55~+85℃	15/5/2	Clockwise
HMITB180T220G	18.0~22.0	FULL	0.5	20	1.25	-55~+85℃	15/5/2	Counter Clockwise
HMITA180T240G	18.0~24.0	FULL	0.6	18	1.3	-55~+85℃	15/5/2	Clockwise
HMITB180T240G	18.0~24.0	FULL	0.6	18	1.3	-55~+85℃	15/5/2	Counter Clockwise
HMITA240T280G	24.0~28.0	FULL	0.7	18	1.3	-55~+85℃	5/2/1	Clockwise
HMITB240T280G	24.0~28.0	FULL	0.7	18	1.3	-55~+85℃	5/2/1	Counter Clockwise

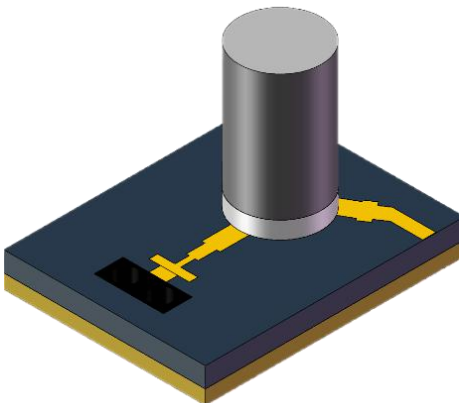
Product Appearance



28.0~40.0GHz

Product Overview

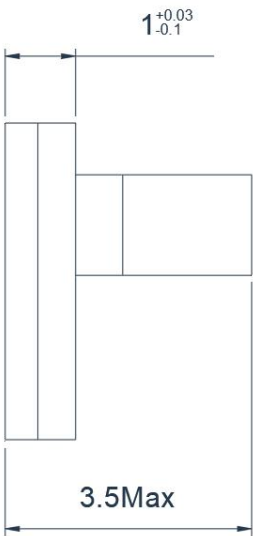
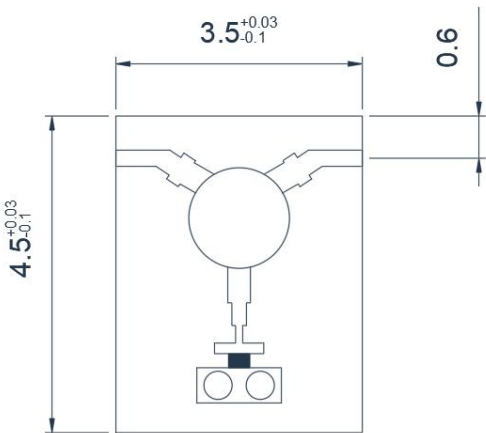
The primary advantage of Microstrip Isolators is their compact size, although they have a lower power handling capacity compared to Drop-In Coaxial Waveguide Isolator. Below are Ka-band Microstrip Isolators with Y-shaped ports, allowing for a compact arrangement of T/R circuits. Customization of frequency bands, dimensions, and ports is available according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA280T320G	28.0~32.0	FULL	0.7	18	1.35	-55~+85℃	5/2/1	Clockwise
HMITB280T320G	28.0~32.0	FULL	0.7	18	1.35	-55~+85℃	5/2/1	Counter Clockwise
HMITA330T370G	33.0~37.0	FULL	0.7	18	1.35	-55~+85℃	5/2/1	Clockwise
HMITB330T370G	33.0~37.0	FULL	0.7	18	1.35	-55~+85℃	5/2/1	Counter Clockwise
HMITA320T380G	32.0~38.0	FULL	0.8	17	1.4	-55~+85℃	5/2/1	Clockwise
HMITB320T380G	32.0~38.0	FULL	0.8	17	1.4	-55~+85℃	5/2/1	Counter Clockwise
HMITA320T400G	32.0~40.0	FULL	1.0	14	1.4	-55~+85℃	5/2/1	Clockwise
HMITB320T400G	32.0~40.0	FULL	1.0	14	1.4	-55~+85℃	5/2/1	Counter Clockwise
HMITA380T400G	38.0~40.0	FULL	0.7	20	1.35	-55~+85℃	5/2/1	Clockwise
HMITB380T400G	38.0~40.0	FULL	0.7	20	1.35	-55~+85℃	5/2/1	Counter Clockwise

Product Appearance



Unit:mm

2.2.2 Broadband Microstrip Isolator

2.0~6.0GHz

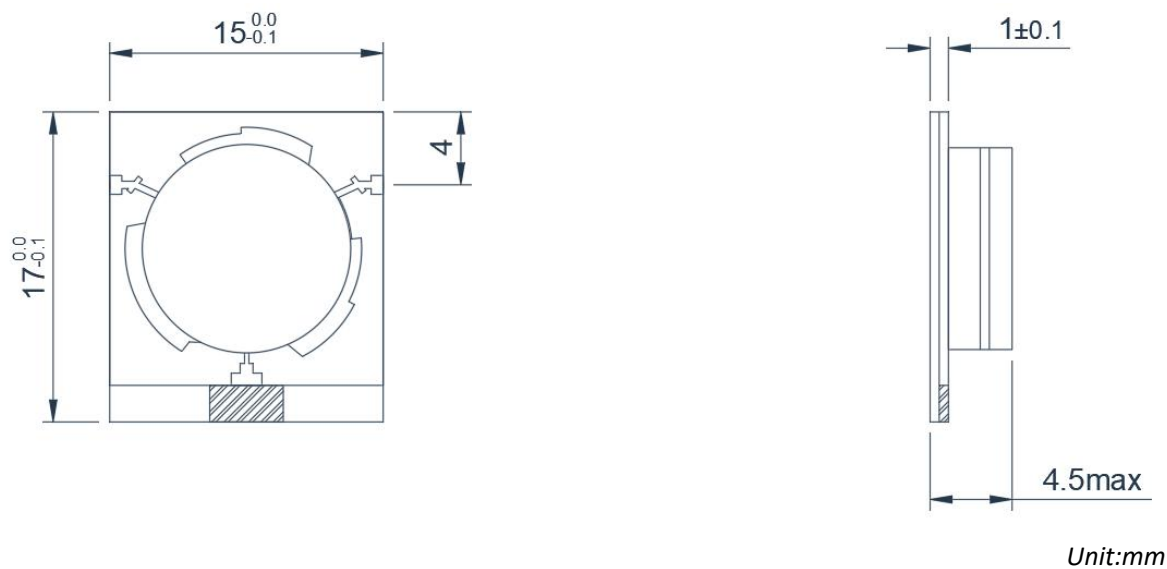
Product Overview

The following products are broadband Microstrip Isolators designed with a compact form factor, covering the frequency range from the S-band to the C-band, with a maximum relative bandwidth of up to 100%.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMITA20T60G-B	2.0~6.0	FULL	1.2(1.4)	11(10)	1.7	-55~+85℃	30/10/10	Clockwise
HMITB20T60G-B	2.0~6.0	FULL	1.2(1.4)	11(10)	1.7	-55~+85℃	30/10/10	Counter Clockwise

Product Appearance



6.0~18.0GHz（Edge Guide Mode Microstrip Isolator）

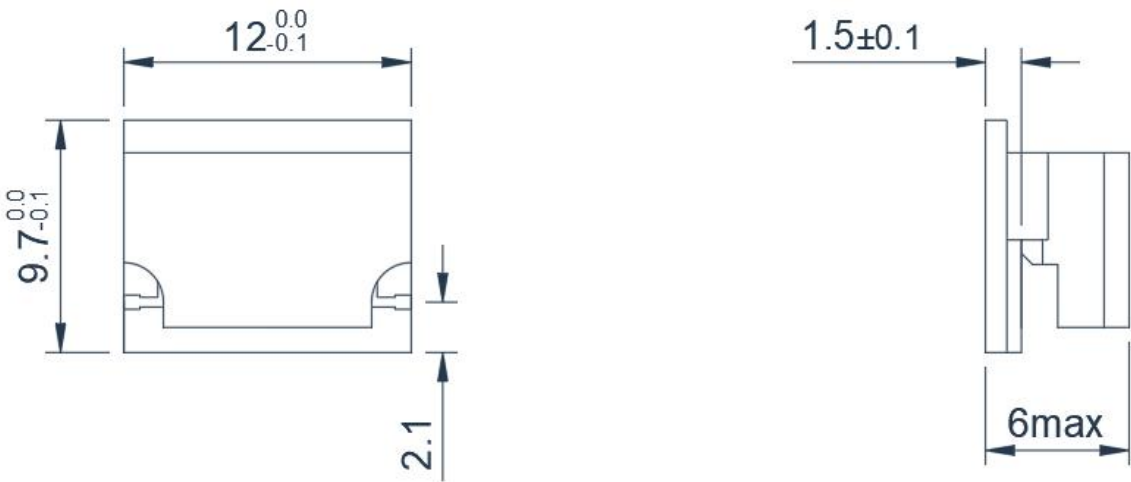
Product Overview

The following products are edge mode isolators, covering the C-Band, X-Band, and Ku Band frequency ranges. The principle of edge mode isolators is based on the gyromagnetic effect of ferrite in the presence of a constant magnetic field and a perpendicular microwave field. This gyromagnetic effect results in a non-reciprocal transverse field shift in the propagation constant of electromagnetic waves transmitted on microstrip lines with ferrite substrates. As a result, the energy of the forward-traveling wave is concentrated along one edge of the microstrip, while the energy of the backward-traveling wave is concentrated along the opposite edge. Therefore, this wave can be considered to be guided by the edge of the conductor, hence the term "edge mode."

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA60T180G-B	6.0~18.0	FULL	1.0 (1.3)	15	1.65	-55~+85	30/10/1	Clockwise
HMITB60T180G-B	6.0~18.0	FULL	1.0 (1.3)	15	1.65	-55~+85	30/10/1	Counter Clockwise

Product Appearance



Unit:mm

6.0~18.0GHz

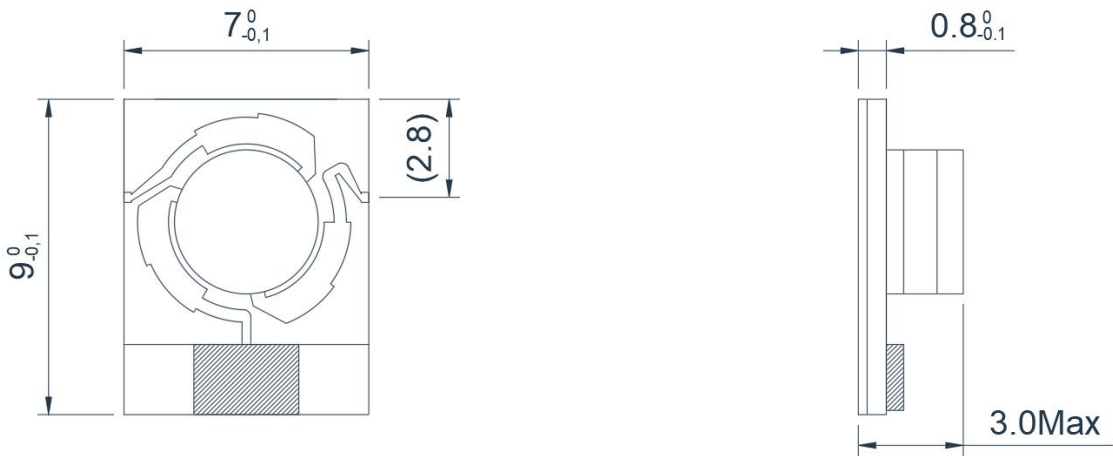
Product Overview

The following products are broadband Microstrip Isolators designed with a compact form factor, covering the frequency range from the C-band to the Ku-band, with a maximum relative bandwidth of up to 100%.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA60T180G-B2	6.0~18.0	FULL	1.0 (1.2)	12 (11)	1.65	-55~+85	30/10/1	Clockwise
HMITB60T180G-B2	6.0~18.0	FULL	1.0 (1.2)	12 (11)	1.65	-55~+85	30/10/1	Counter Clockwise

Product Appearance

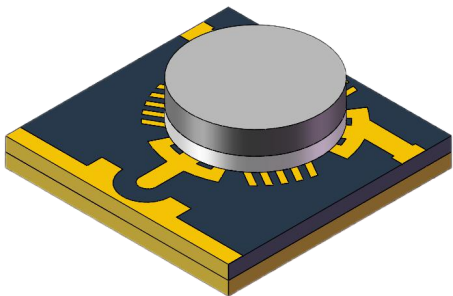


Unit:mm

8.0~12.0GHz

Product Overview

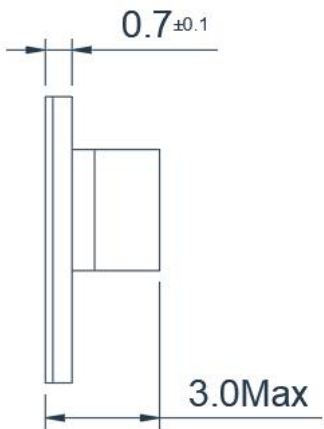
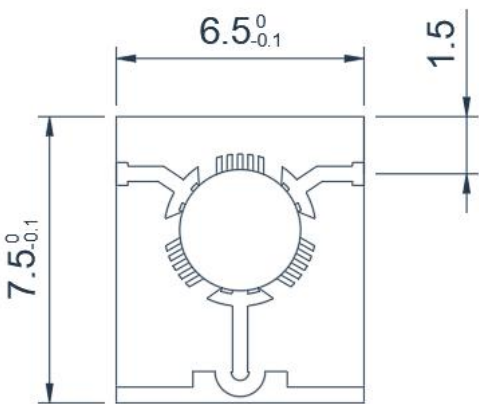
The following Microstrip Isolator covers the entire X-band. It is 0.5mm larger in size compared to conventional models but offers significantly improved performance.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA80T120G-B	8.0~12.0	FULL	0.5	19	1.3	-55~+85℃	20/10/3	Clockwise
HMITB80T120G-B	8.0~12.0	FULL	0.5	19	1.3	-55~+85℃	20/10/3	Counter Clockwise

Product Appearance



Unit:mm

18.0~28.0GHz

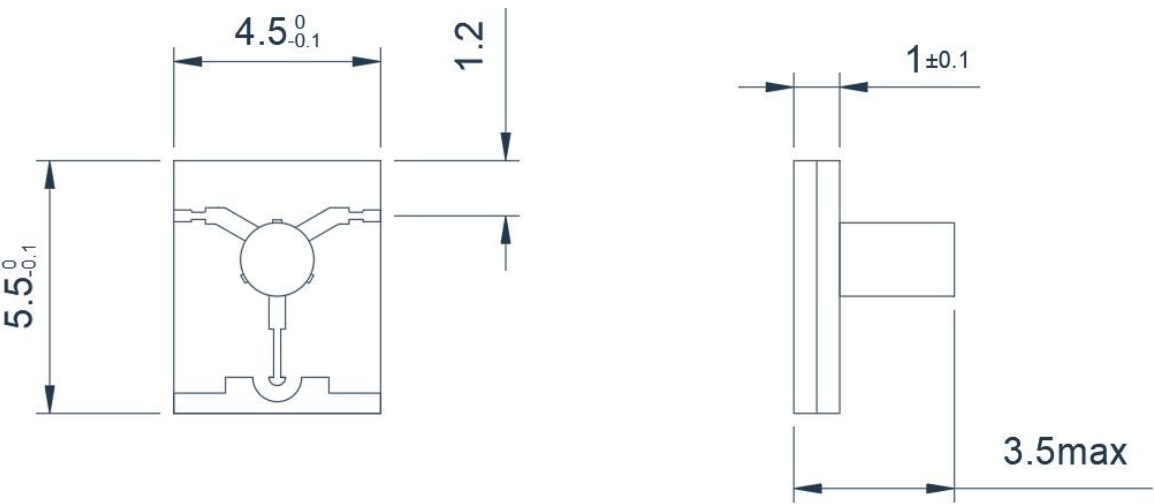
Product Overview

The following products are broadband Microstrip Isolators that cover the entire K-band frequency range. Their design ensures that the broad bandwidth does not result in an increase in size in K-band microstrip isolators.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA180T280G-B	18.0~28.0	FULL	0.8	16	1.3	-55~+85℃	10/2/-	Clockwise
HMITB180T280G-B	18.0~28.0	FULL	0.8	16	1.3	-55~+85℃	10/2/-	Counter Clockwise

Product Appearance



Unit:mm

2.2.3 Miniaturized Microstrip Isolator

5.0~6.0GHz

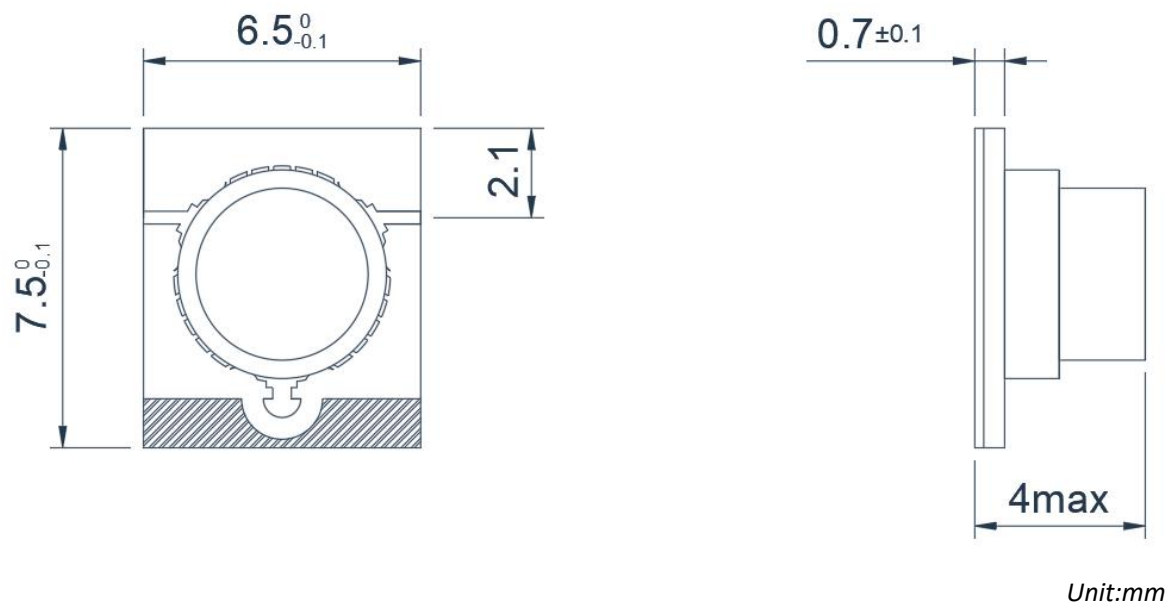
Product Overview

Here is a C-band Miniaturized Microstrip Isolator, which has been reduced in size from the conventional 10×10mm to 6.5×7.5mm. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Isolator can be customized based on the frequency band, bandwidth, and port locations. In cases where bandwidth is reduced and frequency is increased, it can be designed even smaller.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA50T60G-M	5.0~6.0	FULL	0.6	18	1.3	-55~+85℃	10/2.5/3	Clockwise
HMITB50T60G-M	5.0~6.0	FULL	0.6	18	1.3	-55~+85℃	10/2.5/3	Counter Clockwise

Product Appearance



8.0~12.0GHz

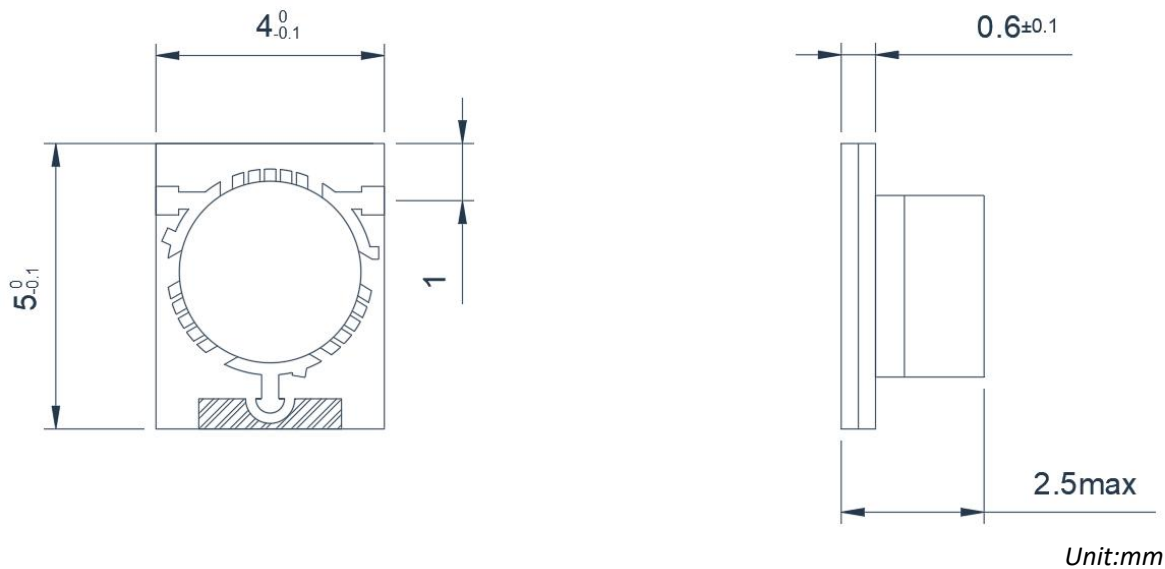
Product Overview

Here is a X-band Miniaturized Microstrip Isolator, which has been reduced in size from the conventional 6×6mm to 4.0×5.0mm. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Isolator can be customized based on the frequency band, bandwidth, and port locations. In cases where bandwidth is reduced and frequency is increased, it can be designed even smaller.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA80T120G-M	8.0~12.0	FULL	0.6	15	1.4	-55~+85℃	5/2/2	Clockwise
HMITB80T120G-M	8.0~12.0	FULL	0.6	15	1.4	-55~+85℃	5/2/2	Counter Clockwise

Product Appearance



15.0~17.0GHz

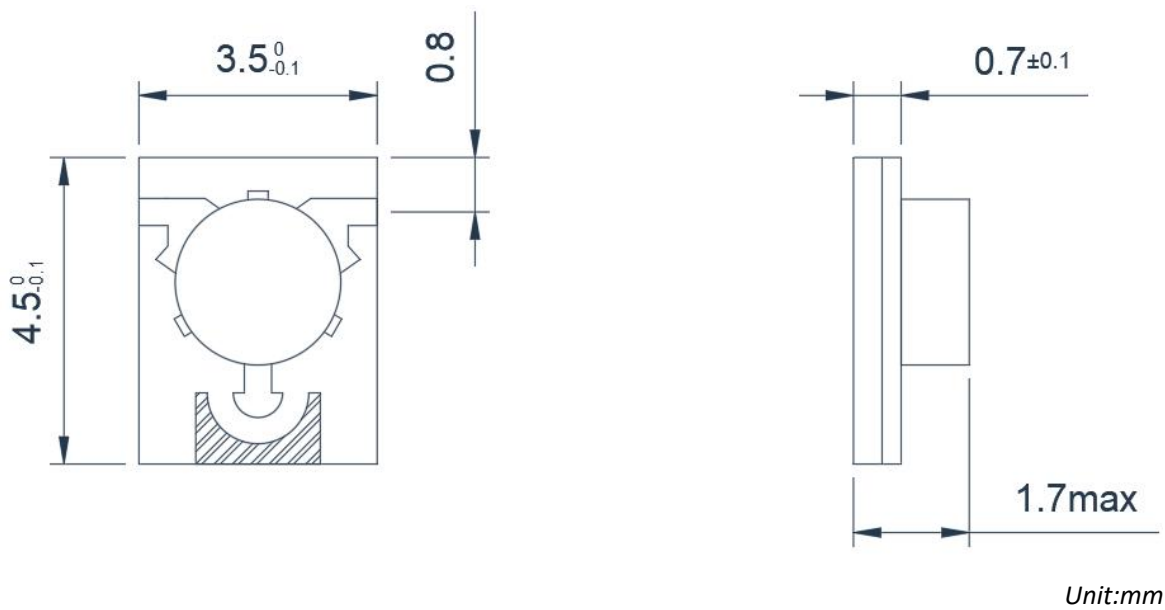
Product Overview

Here is a Ku-band Miniaturized Microstrip Isolator, which has been reduced in size from the conventional 5×5mm to 3.5×4.5mm. However, there are some compromises in terms of specifications and power capacity. The Miniaturized Microstrip Isolator can be customized based on the frequency band.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITA150T170G-M	15.0~17.0	FULL	0.5	20	1.2	-55~+85℃	20/5/2	Clockwise
HMITB150T170G-M	15.0~17.0	FULL	0.5	20	1.2	-55~+85℃	20/5/2	Counter Clockwise

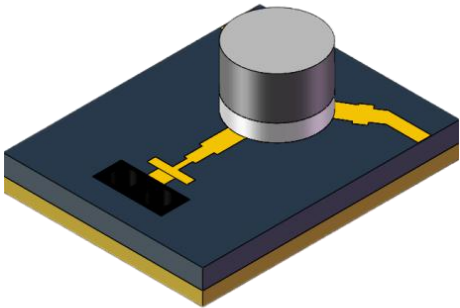
Product Appearance



33.0~37.0GHz

Product Overview

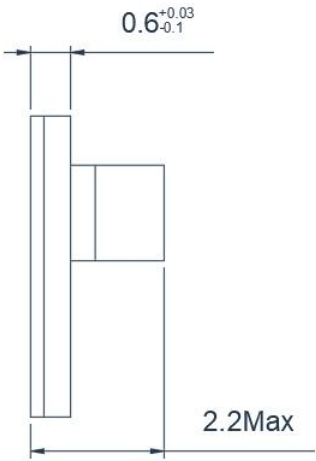
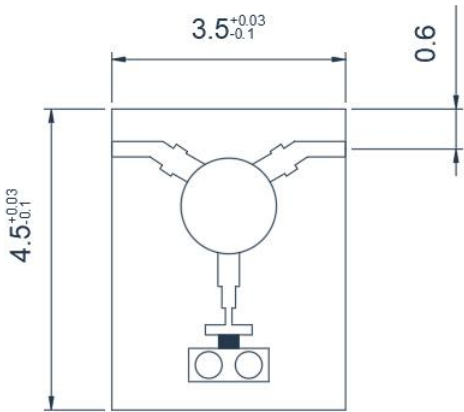
Here is a Ka-band miniaturized microstrip isolator, which has reduced the overall height from 3.5mm to 2.2mm. This miniaturized Microstrip Isolator can be customized based on the frequency band and bandwidth.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HMITA330T370G-M	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Clockwise
HMITB330T370G-M	33.0~37.0	FULL	0.8	18	1.35	-55~+85℃	5/2	Counter Clockwise

Product Appearance



Unit:mm

2.1.4 Surface Mount Technology Microstrip Isolator

8.0~12.0GHz

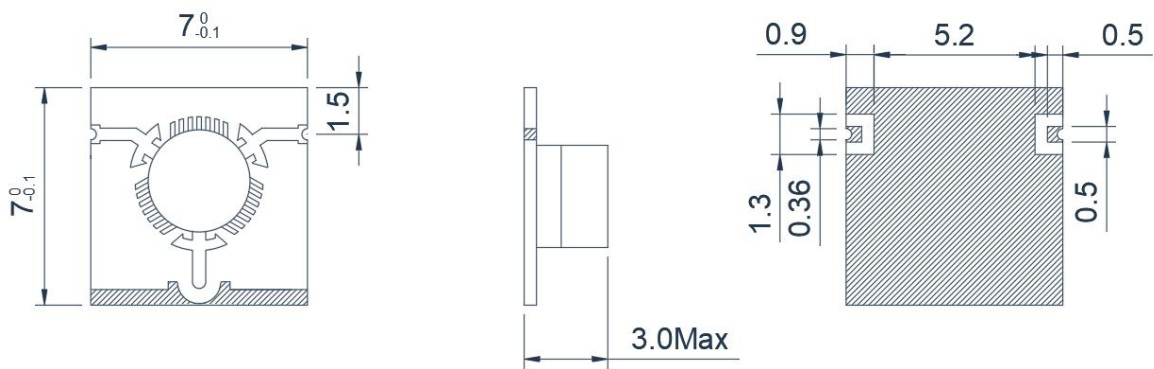
Product Overview

Here is an X-band Surface Mount Technology Microstrip Isolator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMITE80T120G	8.0~12.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Clockwise
HMITF80T120G	8.0~12.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Counter Clockwise

Product Appearance



Unit:mm

14.0~18.0GHz

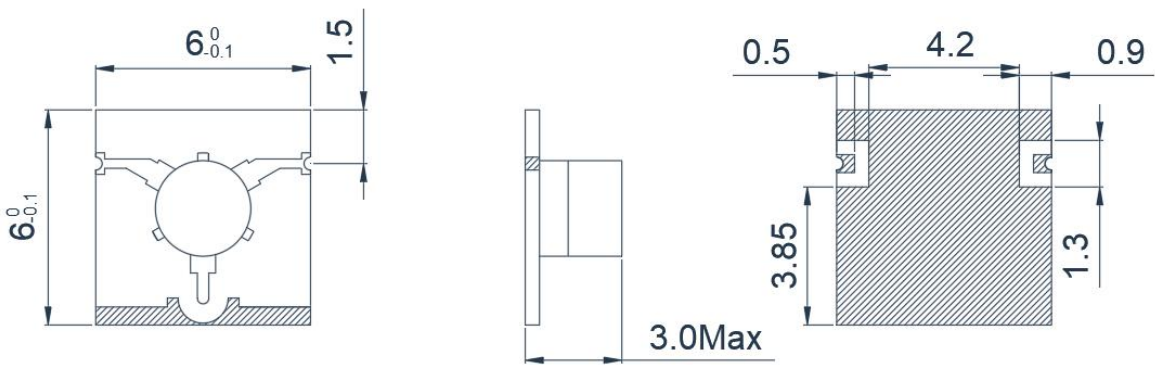
Product Overview

Here is an Ku-band Surface Mount Technology Microstrip Isolator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITE140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Clockwise
HMITF140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Counter Clockwise

Product Appearance



Unit:mm

14.0~18.0GHz

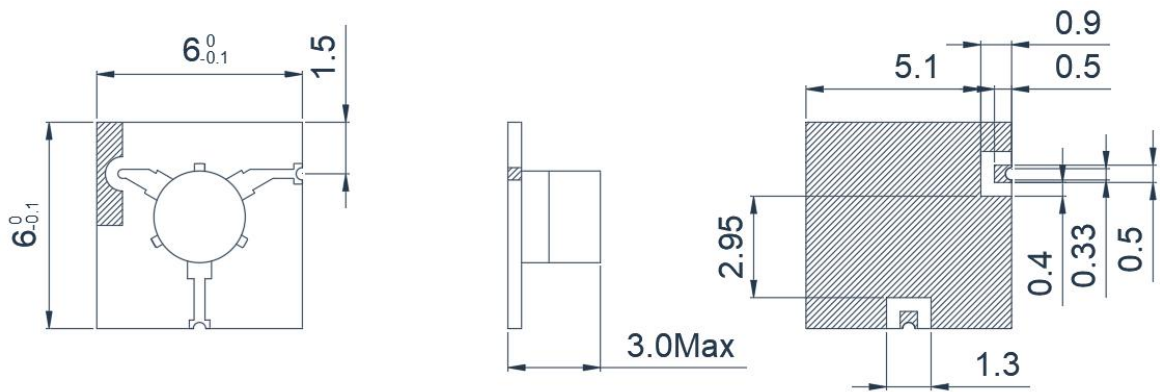
Product Overview

Here is an Ku-band Surface Mount Technology Microstrip Isolator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMITE140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Clockwise
HMITF140T180G	14.0~18.0	FULL	0.6	18	1.3	-55~+85℃	20/10/2	Counter Clockwise

Product Appearance



Unit:mm

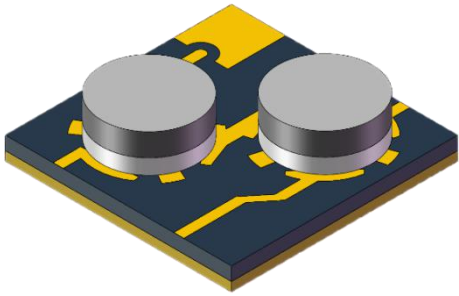
2.3 Dual-Junction Microstrip Circulator

2.3.1 Typical Dual-Junction Microstrip Circulator

5.0~6.0GHz

Product Overview

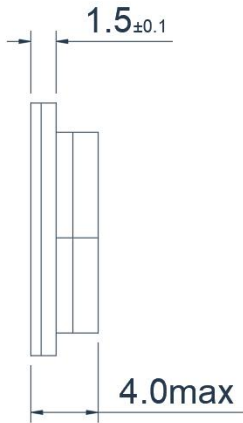
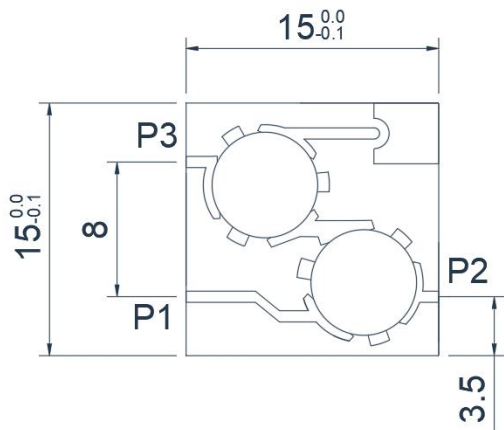
This is a C-band Microstrip Dual-Junction Circulator. As shown in the diagram, the circuit is arranged diagonally to narrow the signal transmission channel width. However, it results in longer signal transmission distances and some sacrifices in terms of loss. This kind of solution can be customized based on your requirements to achieve a narrower signal transmission channel width.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMDHA50T60G	5.0~6.0	FULL	0.5(P1-P2)	18.0(P2-P1)	1.35	-55~+85	30/15/5	Clockwise
			0.9(P2-P3)	30.0(P3-P2)				
HMDHB50T60G	5.0~6.0	FULL	0.5(P1-P2)	18.0(P2-P1)	1.35	-55~+85	30/15/5	Counter Clockwise
			0.9(P2-P3)	30.0(P3-P2)				

Product Appearance



Unit:mm

5.0~6.0GHz

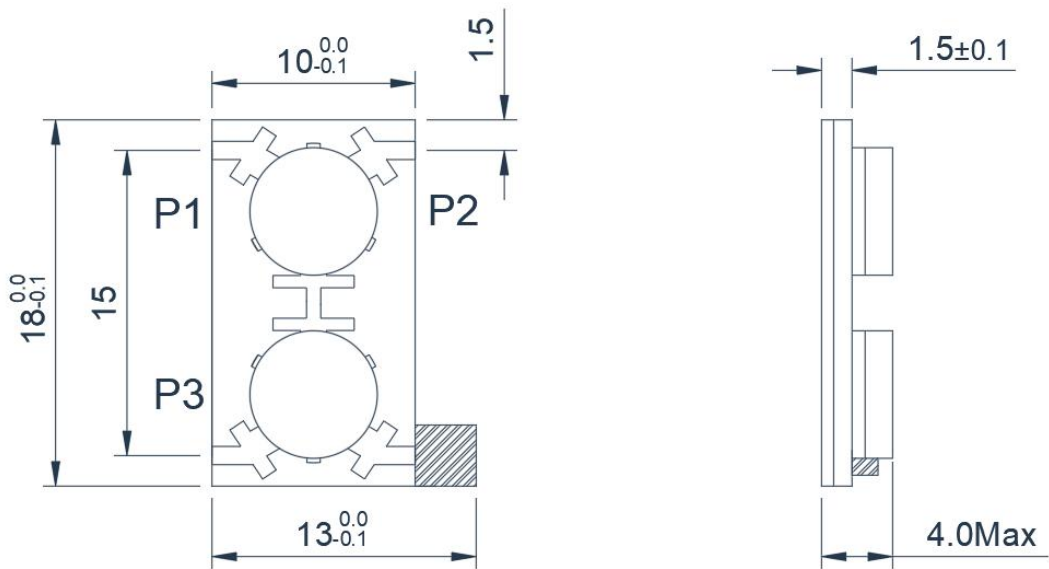
Product Overview

This is a C-band Microstrip Dual-Junction Circulator. As shown in the diagram, the load port has been transformed into an external load, significantly increasing the reflected power tolerance and providing better protection for the transmitting end. It can be customized based on frequency bands, power, and size requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA50T60G-R	5.0~6.0	FULL	0.5(P1-P2)	20.0(P2-P1)	1.25	-55~+85	30/15/5	Clockwise
			0.9(P2-P3)	30.0(P3-P2)				
HMDHB50T60G-R	5.0~6.0	FULL	0.5(P1-P2)	20.0(P2-P1)	1.25	-55~+85	30/15/5	Counter Clockwise
			0.9(P2-P3)	30.0(P3-P2)				

Product Appearance

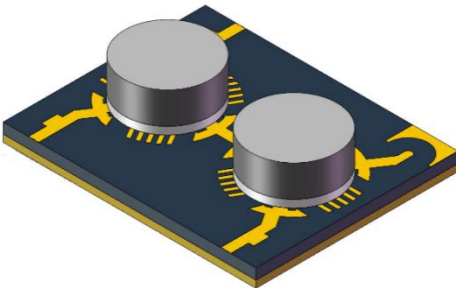


Unit:mm

8.0~12.0GHz

Product Overview

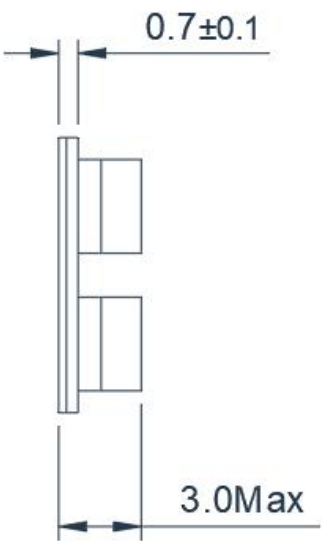
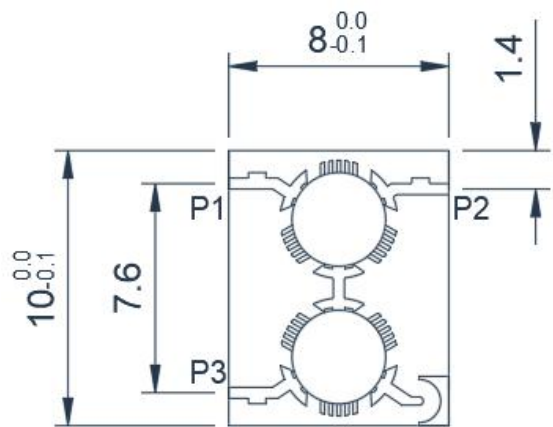
This is a standard X-band Microstrip Dual-Junction Circulator. It can be customized based on frequency bands, power, and size requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA80T120G	8.0~12.0	FULL	0.6(P1-P2)	16.0(P2-P1)	1.35	-55~+85	20/10/3	Clockwise
			1.2(P2-P3)	28.0(P3-P2)				
HMDHB80T120G	8.0~12.0	FULL	0.6(P1-P2)	16.0(P2-P1)	1.35	-55~+85	20/10/3	Counter Clockwise
			1.2(P2-P3)	28.0(P3-P2)				
HMDHA85T105G	8.5~10.5	FULL	0.4(P1-P2)	20.0(P2-P1)	1.25	-55~+85	20/10/3	Clockwise
			0.8(P2-P3)	30.0(P3-P2)				
HMDHB85T105G	8.5~10.5	FULL	0.4(P1-P2)	20.0(P2-P1)	1.25	-55~+85	20/10/3	Counter Clockwise
			0.8(P2-P3)	30.0(P3-P2)				

Product Appearance

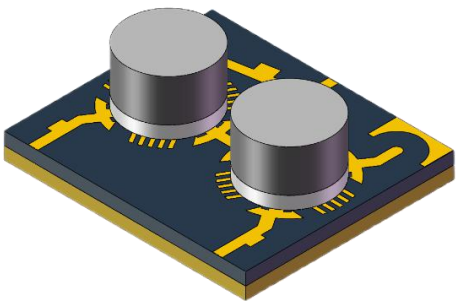


Unit:mm

8.0~12.0GHz

Product Overview

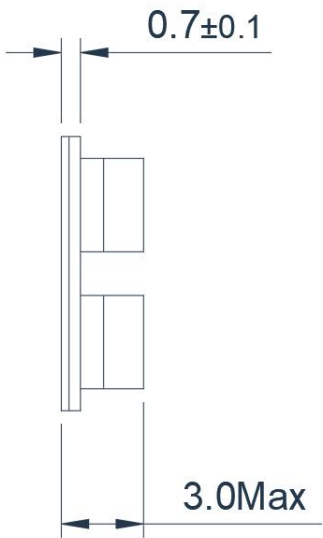
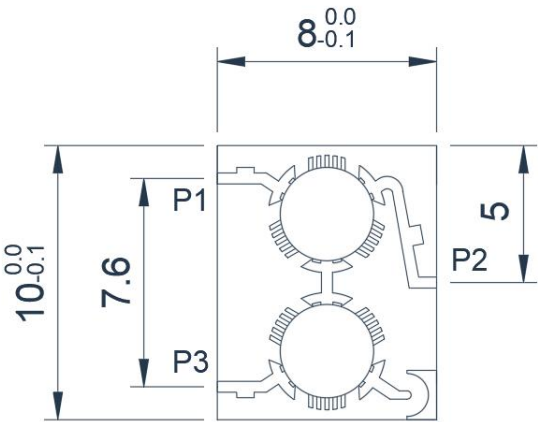
This is an X-band Microstrip Dual-Junction Circulator. As shown in the diagram, the antenna port has been moved to the center position, making it more convenient for customer engineers to design their circuits according to the usage scenario. It can be customized based on frequency bands, power, and size requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDYA80T120G	8.0~12.0	FULL	0.65(P1-P2)	16.0(P2-P1)	1.35	-55~+85	20/10/3	Clockwise
			1.3(P2-P3)	28.0(P3-P2)				
HMDYB80T120G	8.0~12.0	FULL	0.6(P1-P2)	16.0(P2-P1)	1.35	-55~+85	20/10/3	Counter Clockwise
			1.3(P2-P3)	28.0(P3-P2)				
HMDYA85T105G	8.5~10.5	FULL	0.5(P1-P2)	20.0(P2-P1)	1.25	-55~+85	20/10/3	Clockwise
			0.9(P2-P3)	30.0(P3-P2)				
HMDYB85T105G	8.5~10.5	FULL	0.5(P1-P2)	20.0(P2-P1)	1.25	-55~+85	20/10/3	Counter Clockwise
			0.9(P2-P3)	30.0(P3-P2)				

Product Appearance



Unit:mm

14.0~18.0GHz

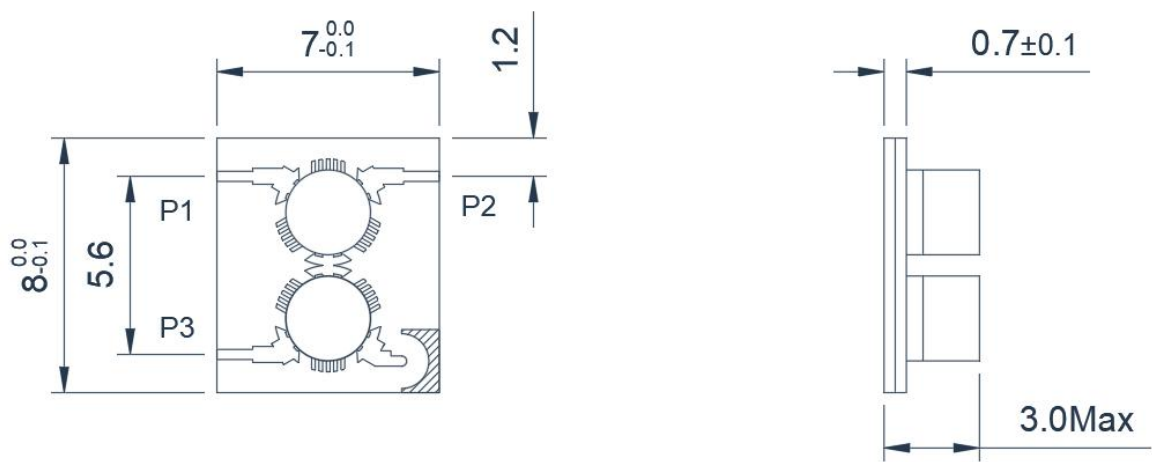
Product Overview

This is a standard Ku-band Microstrip Dual-Junction Circulator. It can be customized based on frequency bands, power, and size requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA140T180G	14.0~18.0	FULL	0.5(P1-P2)	17.0(P2-P1)	1.3	-55~+85	20/10/3	Clockwise
			0.9(P2-P3)	28.0(P3-P2)				
HMDHB140T180G	14.0~18.0	FULL	0.5(P1-P2)	17.0(P2-P1)	1.3	-55~+85	20/10/3	Counter Clockwise
			0.9(P2-P3)	28.0(P3-P2)				

Product Appearance



Unit:mm

14.0~18.0GHz

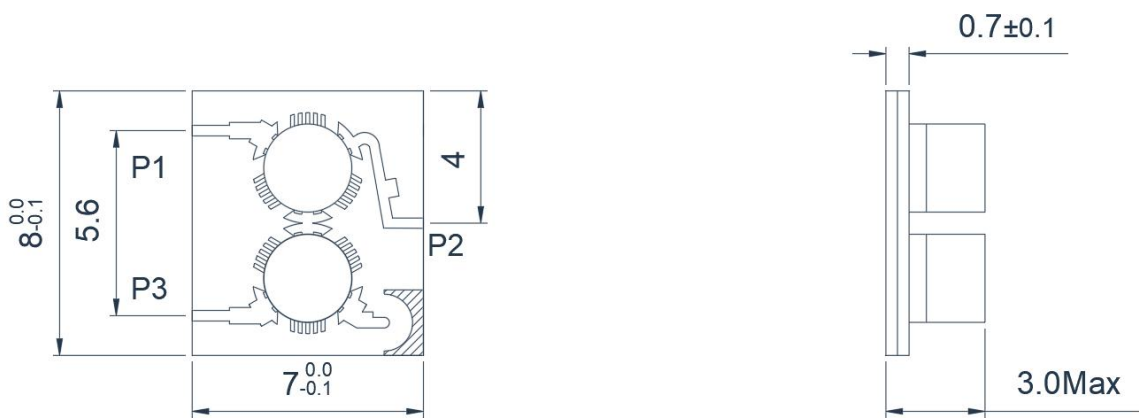
Product Overview

This is an Ku-band Microstrip Dual-Junction Circulator. As shown in the diagram, the antenna port has been moved to the center position, making it more convenient for customer engineers to design their circuits according to the usage scenario. It can be customized based on frequency bands, power, and size requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDYA140T180G	14.0~18.0	FULL	0.6(P1-P2)	16.0(P2-P1)	1.35	-55~+85	20/10/3	Clockwise
			1.1(P2-P3)	28.0(P3-P2)				
HMDYB140T180G	14.0~18.0	FULL	0.6(P1-P2)	16.0(P2-P1)	1.35	-55~+85	20/10/3	Counter Clockwise
			1.1(P2-P3)	28.0(P3-P2)				

Product Appearance



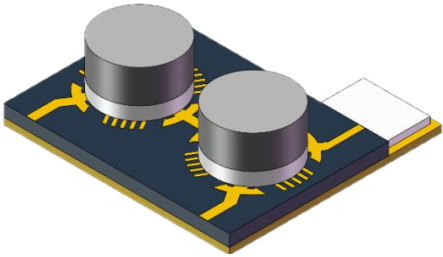
Unit:mm

2.3.2 Miniaturized Dual-Junction Microstrip Circulator

5.0~6.0GHz

Product Overview

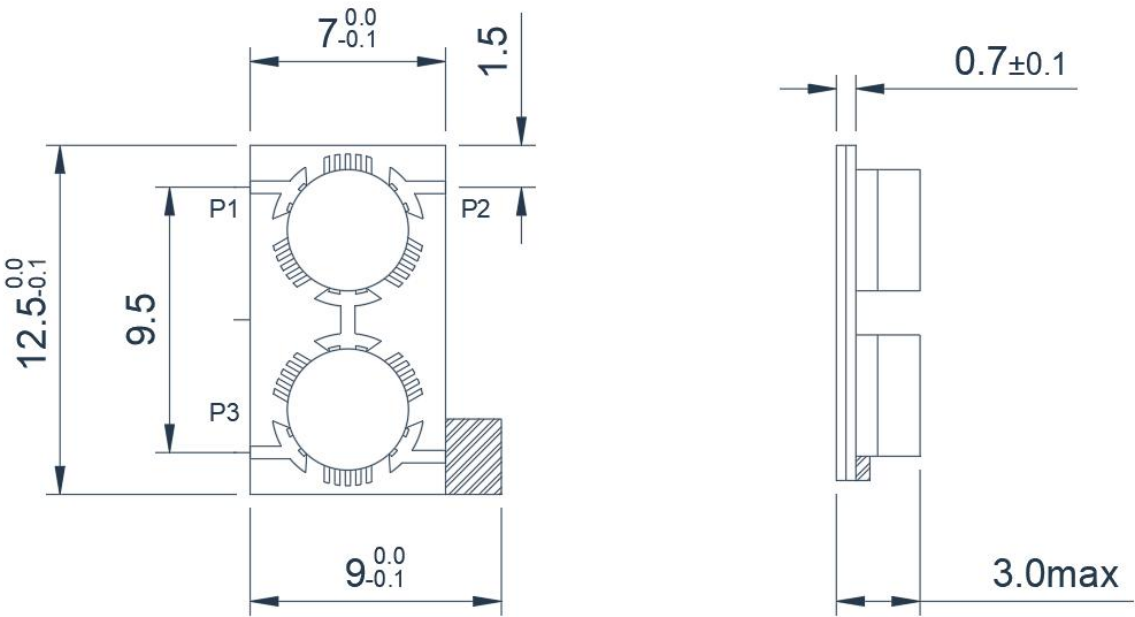
The following products are Miniaturized Microstrip Dual-Junction Circulator for the C-band. They are designed using the layout of the HMCTA50T60G-M Miniaturized Circulator, effectively reducing the overall size. Customization is available based on your requirements for frequency bands, power, and dimensions.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMDHA50T60G-MR	5.0~6.0	FULL	0.5(P1-P2) 1.0(P2-P3)	18.0(P2-P1) 30.0(P3-P2)	1.35	-55~+85	20/10/10	Clockwise
HMDHB50T60G-MR	5.0~6.0	FULL	0.5(P1-P2) 1.0(P2-P3)	18.0(P2-P1) 30.0(P3-P2)	1.35	-55~+85	20/10/10	Counter Clockwise

Product Appearance



Unit:mm

9.0~10.0GHz

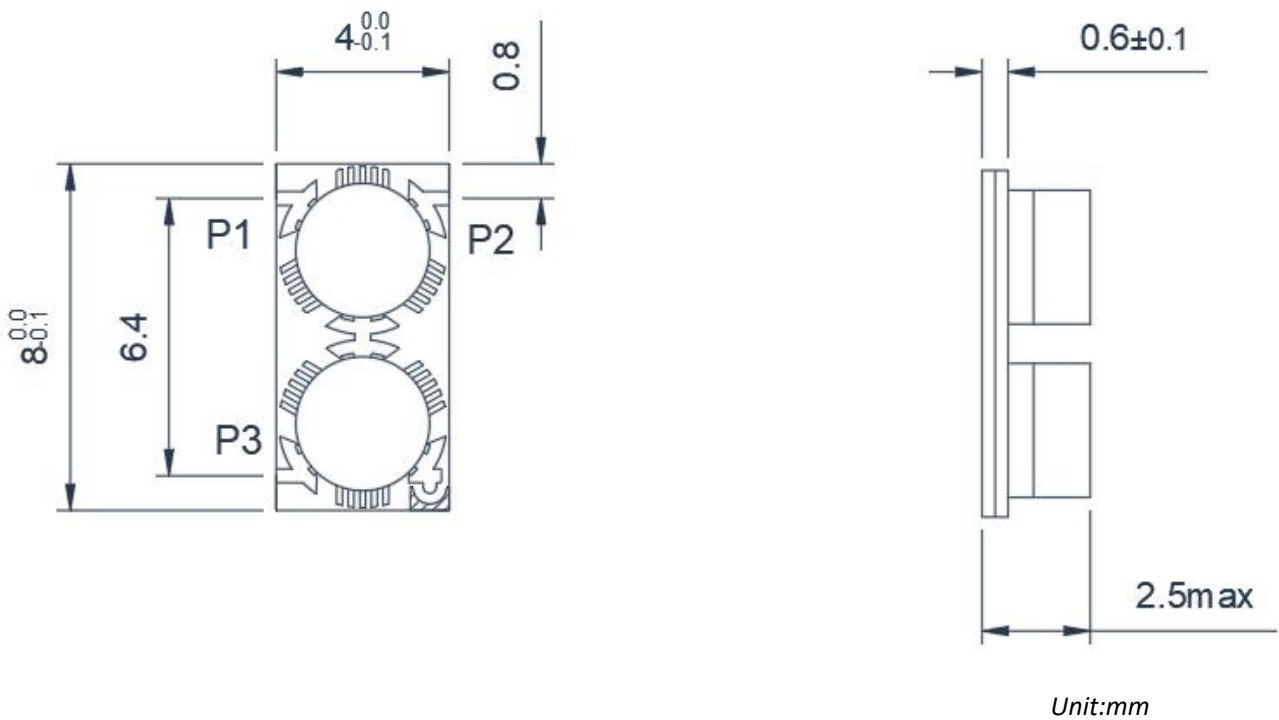
Product Overview

The following products are X-band Miniaturized Microstrip Dual-Junction Circulator. In the X-band, a narrowband single-loop can be achieved with a size of 4x4mm, which is already at the size limit for the X-band. The X-band Dual-Junction Circulator is also at the size limit, but there are some compromises in terms of specifications and power tolerance. Customization is available based on your requirements for frequency bands and port configurations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA90T100G-M	9.0~10.0	FULL	0.5(P1-P2)	18.0(P2-P1)	1.25	-55~+85	10/5/1	Clockwise
			1.0(P2-P3)	30.0(P3-P2)				
HMDHB90T100G-M	9.0~10.0	FULL	0.5(P1-P2)	18.0(P2-P1)	1.25	-55~+85	10/5/1	Counter Clockwise
			1.0(P2-P3)	30.0(P3-P2)				

Product Appearance



9.0~10.0GHz

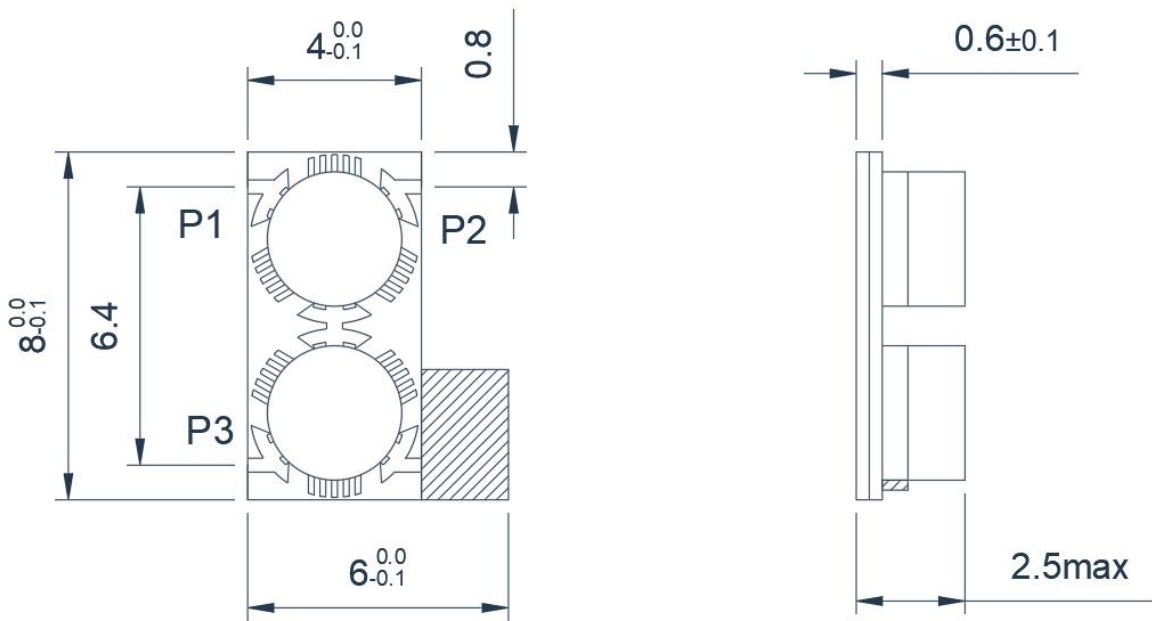
Product Overview

The following products are X-band Miniaturized Microstrip Dual-Junction Circulator. They are based on the HMDHA90T100G-M model and include an external load to enhance reflected power. Customization is available based on your frequency band and port requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA90T100G-MR	9.0~10.0	FULL	0.5(P1-P2)	20.0(P2-P1)	1.25	-55~+85	10/5/10	Clockwise
			1.0(P2-P3)	30.0(P3-P2)				
HMDHB90T100G-MR	9.0~10.0	FULL	0.5(P1-P2)	20.0(P2-P1)	1.25	-55~+85	10/5/10	Counter Clockwise
			1.0(P2-P3)	30.0(P3-P2)				

Product Appearance



Unit:mm

8.5~10.5GHz

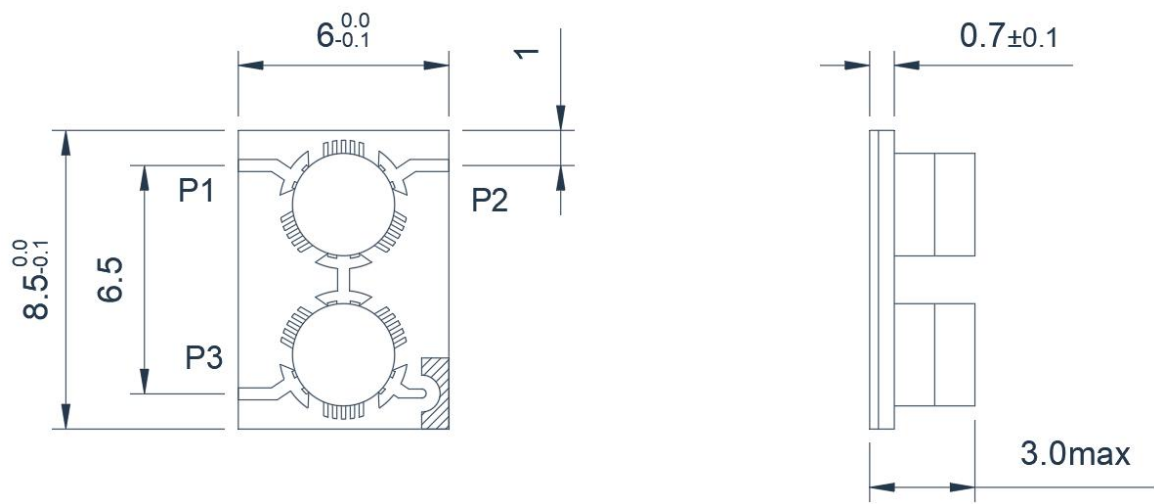
Product Overview

The following products are X-band Miniaturized Microstrip Dual-Junction Circulator. Compared to the 4x8mm products, they have greater power tolerance, wider product bandwidth, and increased internal load power tolerance. Customization is available based on your frequency band and port requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA85T105G-M	8.5~10.5	FULL	0.4(P1-P2)	18.0(P2-P1)	1.25	-55~+85	20/10/3	Clockwise
			0.8(P2-P3)	30.0(P3-P2)				
HMDHB85T105G-M	8.5~10.5	FULL	0.4(P1-P2)	18.0(P2-P1)	1.25	-55~+85	20/10/3	Counter Clockwise
			0.8(P2-P3)	30.0(P3-P2)				

Product Appearance



Unit:mm

8.5~10.5GHz

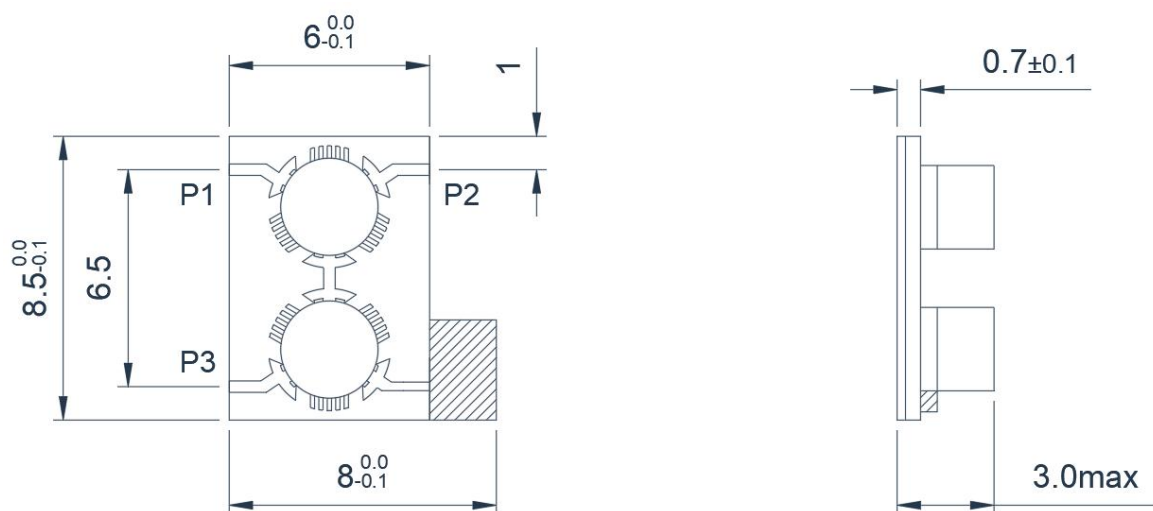
Product Overview

The following products are X-band Miniaturized Microstrip Dual-Junction Circulator. They are based on the HMDHA85T105G-M model and include an external load to enhance reflected power. Customization is available based on your frequency band and port requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMDHA85T105G-MR	8.5~10.5	FULL	0.4(P1-P2)	18.0(P2-P1)	1.25	-55~+85	20/10/10	Clockwise
			0.8(P2-P3)	30.0(P3-P2)				
HMDHB85T105G-MR	8.5~10.5	FULL	0.4(P1-P2)	18.0(P2-P1)	1.25	-55~+85	20/10/10	Counter Clockwise
			0.8(P2-P3)	30.0(P3-P2)				

Product Appearance



Unit:mm

15.0~17.0GHz

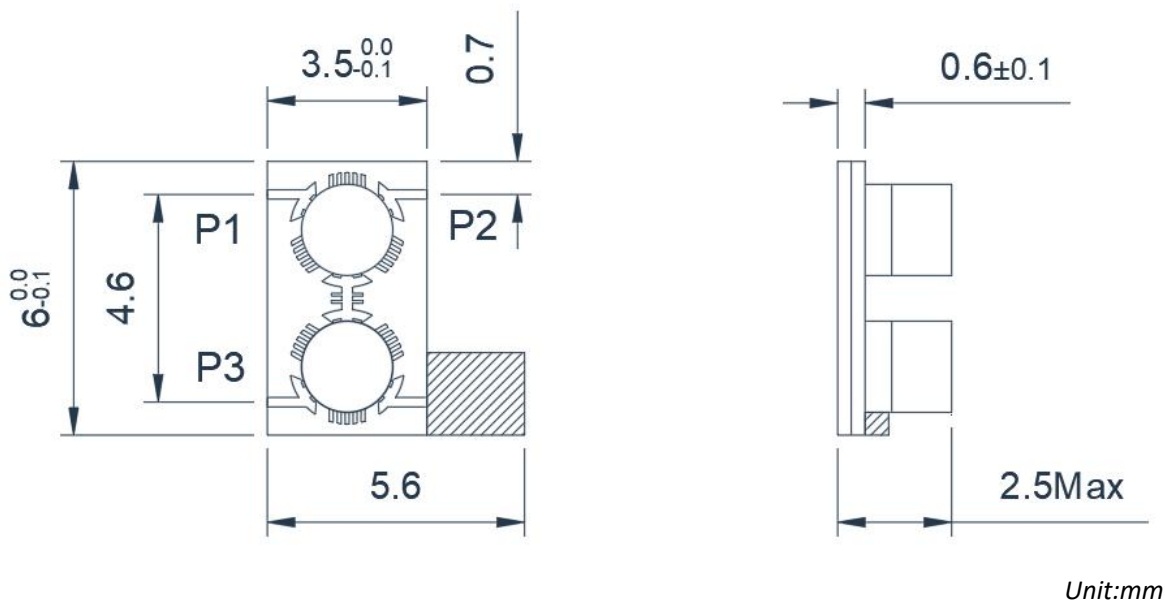
Product Overview

The following products are Ku-band Miniaturized Microstrip Dual-Junction Circulator. In the Ku-band, a narrowband single-loop design achieves a size of 3.5x3.5mm, which is already at the size limit for the Ku-band. The Ku-band Dual-Junction Microstrip Circulator is also at its size limit. However, there are some compromises in terms of power handling, and there is no extra space for arranging internal loads. Customization is available based on your frequency band requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA150T170G-MR	15.0~17.0	FULL	0.4(P1-P2)	20.0(P2-P1)	1.25	-55~+85	20/10/10	Clockwise
			0.75(P2-P3)	30.0(P3-P2)				
HMDHB150T170G--MR	15.0~17.0	FULL	0.4(P1-P2)	20.0(P2-P1)	1.25	-55~+85	20/10/10	Counter Clockwise
			0.75(P2-P3)	30.0(P3-P2)				

Product Appearance



15.0~17.7GHz

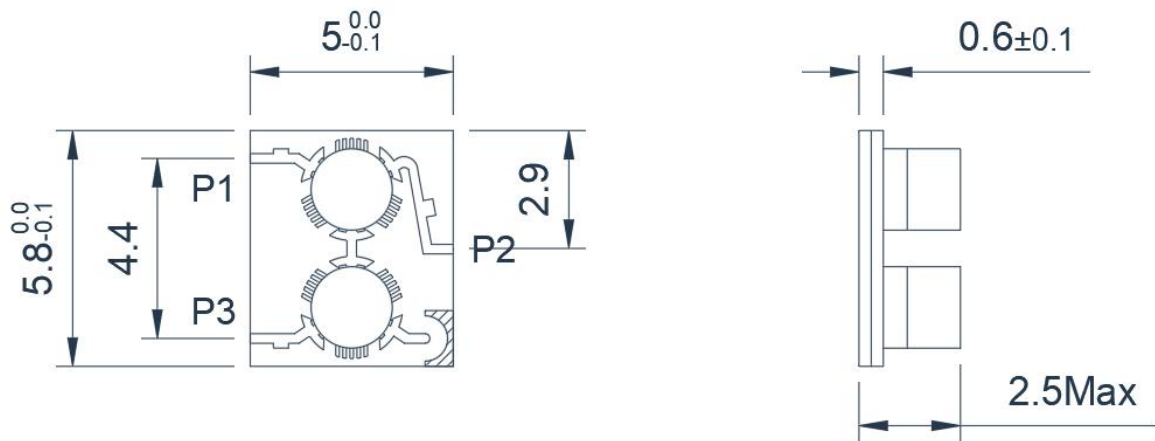
Product Overview

The following products are Ku-band Miniaturized Microstrip Dual-Junction Circulator. This design allows for center alignment of the antenna port while accommodating internal loads, sacrificing some power handling capacity. Customization is available based on your frequency band requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HMDYA150T170G-M	15.0~17.0	FULL	0.4(P1-P2) 0.8(P2-P3)	20.0(P2-P1) 30.0(P3-P2)	1.25	-55~+85	20/10/2	Clockwise
HMDYB150T170G-M	15.0~17.0	FULL	0.4(P1-P2) 0.8(P2-P3)	20.0(P2-P1) 30.0(P3-P2)	1.25	-55~+85	20/10/2	Counter Clockwise
HMDYA157T177G-M	15.7~17.7	FULL	0.4(P1-P2) 0.8(P2-P3)	20.0(P2-P1) 30.0(P3-P2)	1.25	-55~+85	20/10/2	Clockwise
HMDYB157T177G-M	15.7~17.7	FULL	0.4(P1-P2) 0.8(P2-P3)	20.0(P2-P1) 30.0(P3-P2)	1.25	-55~+85	20/10/2	Counter Clockwise

Product Appearance



Unit:mm

2.3.3 SMT Microwave Dual-Junction Circulator

5.0~6.0GHz

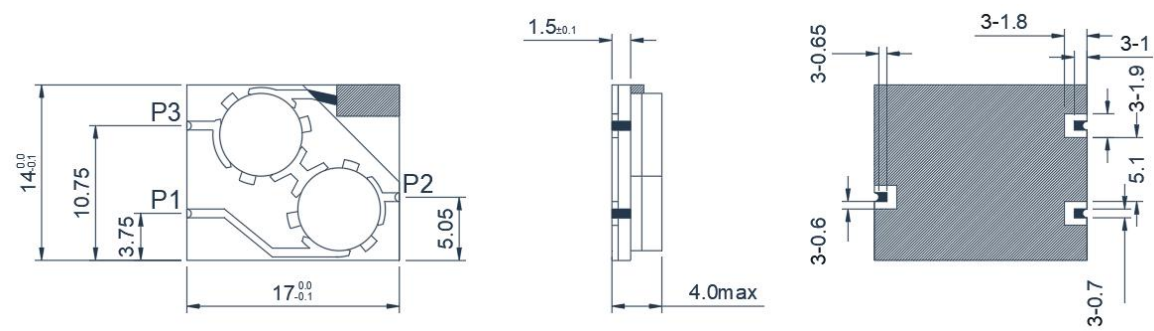
Product Overview

Here is an C-band Surface Mount Technology Microstrip Dual-Junction Circulator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHA50T60G-R	5.0~6.0	FULL	0.5(P1-P2)	18.0(P2-P1)	1.35	-55~+85	30/15/10	Clockwise
			0.9(P2-P3)	30.0(P3-P2)				
HMDHB50T60G-R	5.0~6.0	FULL	0.5(P1-P2)	18.0(P2-P1)	1.35	-55~+85	30/15/10	Counter Clockwise
			0.9(P2-P3)	30.0(P3-P2)				

Product Appearance

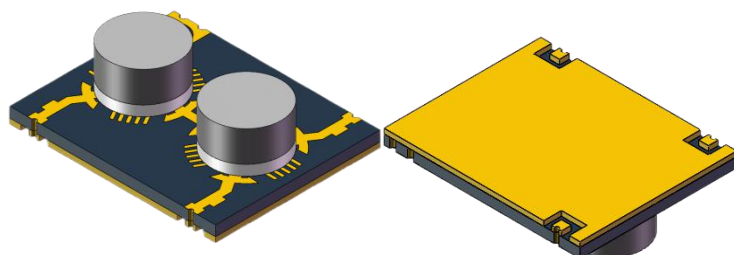


Unit:mm

8.5~10.5GHz

Product Overview

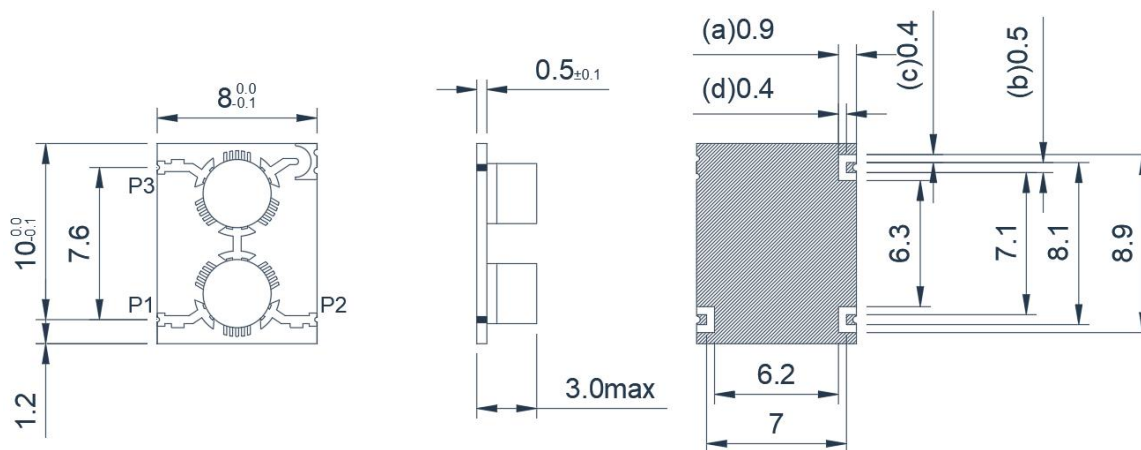
Here is an X-band Surface Mount Technology Microstrip Dual-Junction Circulator designed for easy installation using surface mount technology. The product can be customized based on your requirements for frequency band, bandwidth, dimensions, and port locations.



Electrical Performance Table

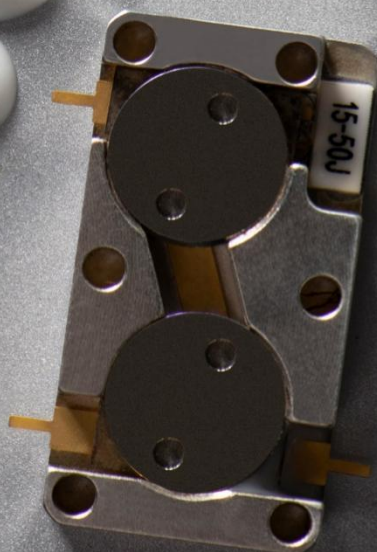
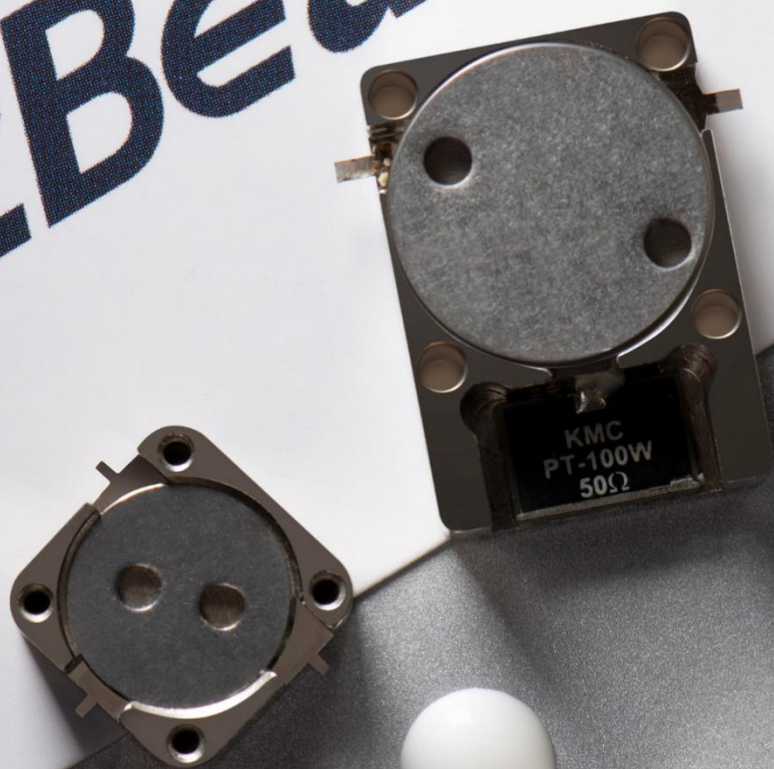
Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HMDHE85T105G	8.5~10.5	FULL	0.45(P1-P2)	18.0(P2-P1)	1.3	-55~+85	20/10/2	Clockwise
			0.9(P2-P3)	30.0(P3-P2)				
HMDHF85T105G	8.5~10.5	FULL	0.45(P1-P2)	18.0(P2-P1)	1.3	-55~+85	20/10/2	Counter Clockwise
			0.9(P2-P3)	30.0(P3-P2)				

Product Appearance



Unit:mm

HzBeat





Drop-in

Directory

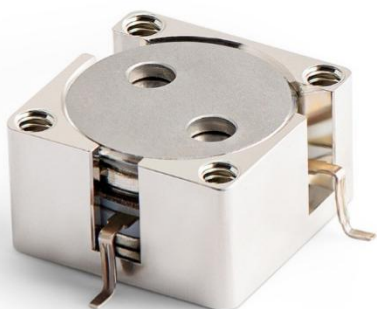
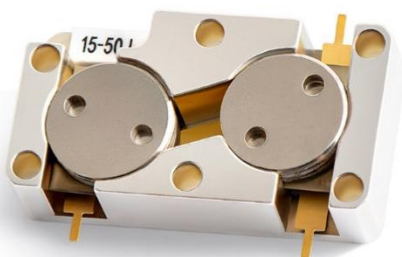
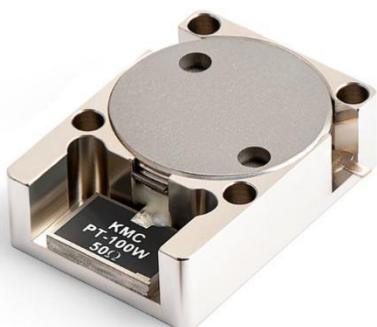
Company Product

Microstrip products

Drop-in products

Coaxial products

Waveguide products



- Frequency range: 50MHz-40GHz
- The relative advantages of Drop-in isolator and circulator are small size, light weight and easy installation.

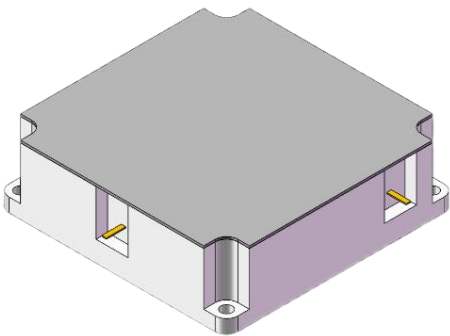
3.1 Drop-in Circulator

3.1.1 Typical Drop-in Circulator

0.05~0.3GHz

Product Overview

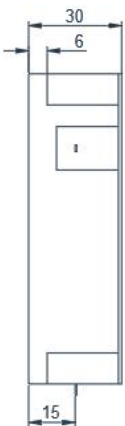
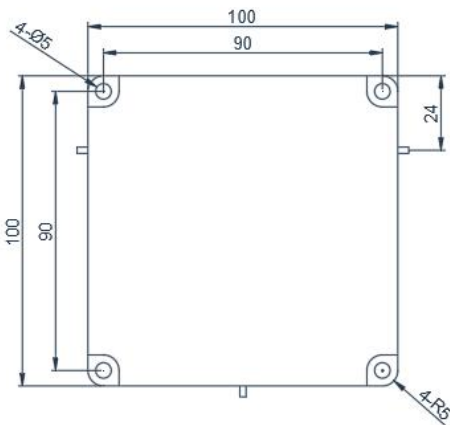
Here are commonly used products of Drop-in Circulator. This product covers the VHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDCTC50T300M	0.05~0.3	20%	0.5	20	1.25	-55~+85℃	1000/100	Clockwise
HDCTD50T300M	0.05~0.3	20%	0.5	20	1.25	-55~+85℃	1000/100	Counter Clockwise
HDCTC50T300M	0.05~0.3	10%	0.4	20	1.2	-55~+85℃	1000/100	Clockwise
HDCTD50T300M	0.05~0.3	10%	0.4	20	1.2	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

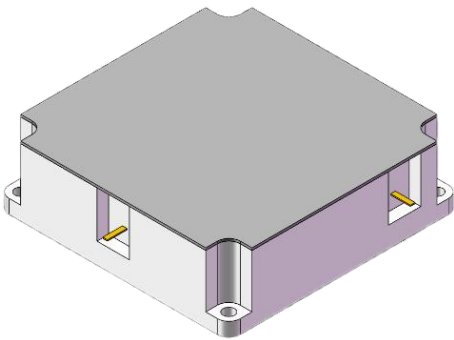


Unit:mm

0.15~0.4GHz

Product Overview

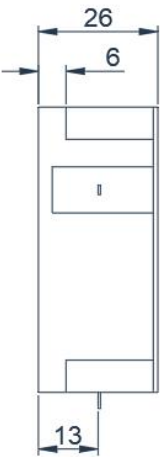
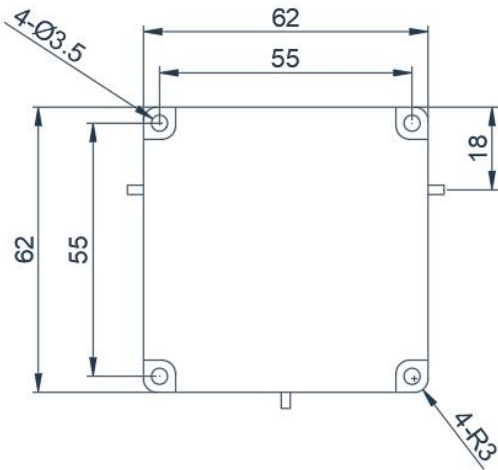
Here are commonly used products of Drop-in Circulator. This product covers the VHF~UHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC150T400M	0.15~0.4	20%	0.4	20	1.25	-55~+85℃	1000/100	Clockwise
HDCTD150T400M	0.15~0.4	20%	0.4	20	1.25	-55~+85℃	1000/100	Counter Clockwise
HDCTC150T400M	0.15~0.4	10%	0.3	20	1.2	-55~+85℃	1000/100	Clockwise
HDCTD150T400M	0.15~0.4	10%	0.3	20	1.2	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

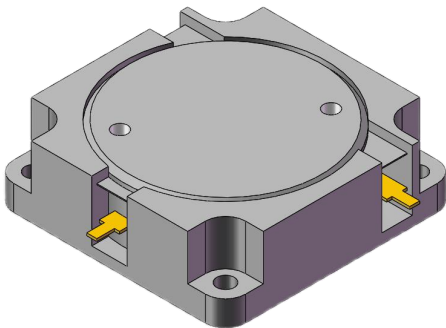


Unit:mm

0.25~0.6GHz

Product Overview

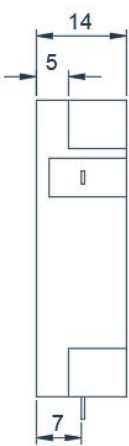
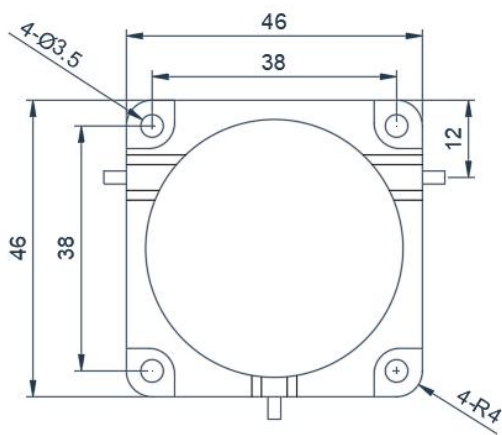
Here are commonly used products of Drop-in Circulator. This product covers the VHF~UHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC250T600M	0.25~0.6	20%	0.4	20	1.25	-55~+85℃	1000/100	Clockwise
HDCTD250T600M	0.25~0.6	20%	0.4	20	1.25	-55~+85℃	1000/100	Counter Clockwise
HDCTC250T600M	0.25~0.6	10%	0.3	20	1.20	-55~+85℃	1000/100	Clockwise
HDCTD250T600M	0.25~0.6	10%	0.3	20	1.20	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

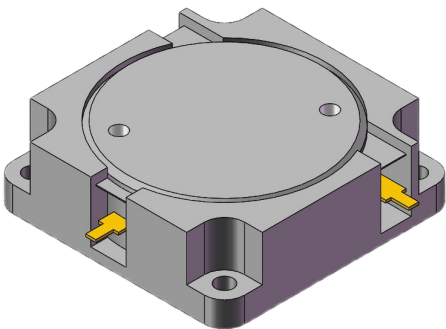


Unit:mm

0.45~1.0GHz

Product Overview

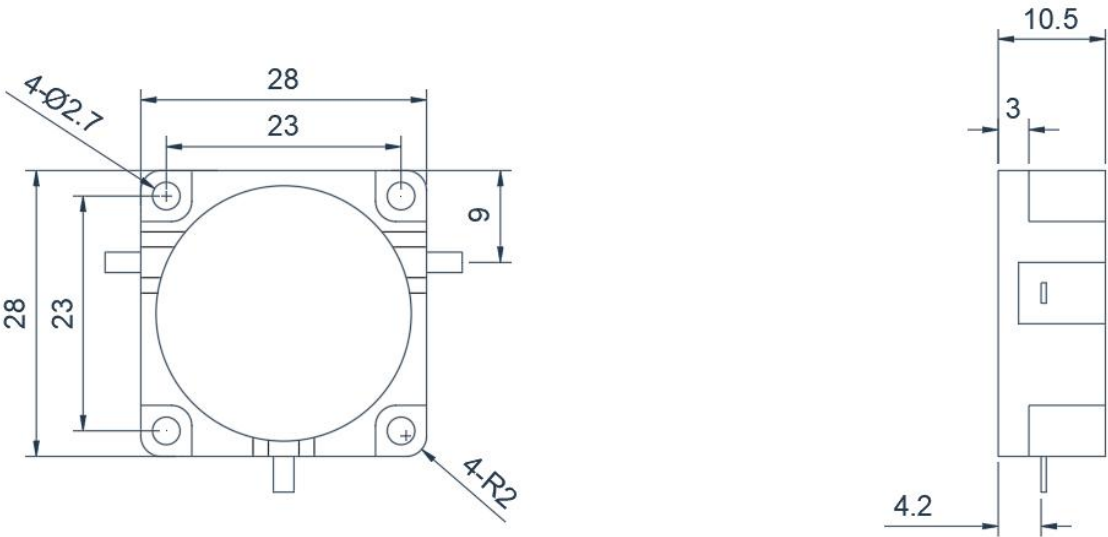
Here are commonly used products of Drop-in Circulator. This product covers the UHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDCTC450T1000M	0.45~1.0	20%	0.4	20	1.25	-55~+85℃	1000/100	Clockwise
HDCTD450T1000M	0.45~1.0	20%	0.4	20	1.25	-55~+85℃	1000/100	Counter Clockwise
HDCTC450T1000M	0.45~1.0	10%	0.3	20	1.2	-55~+85℃	1000/100	Clockwise
HDCTD450T1000M	0.45~1.0	10%	0.3	20	1.2	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

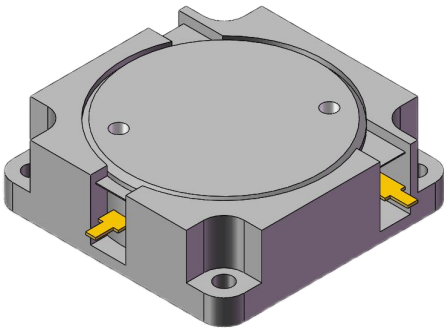


Unit:mm

0.8~3.4GHz

Product Overview

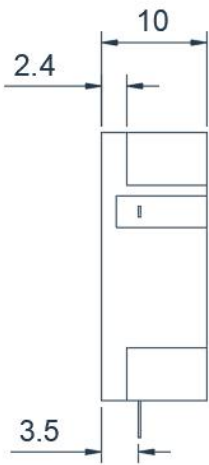
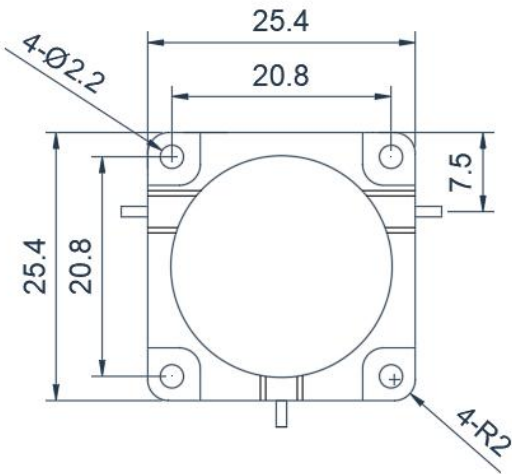
Here are commonly used products of Drop-in Circulator. This product covers the UHF~S band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature ℃)	PK/CW (Watt)	Direction
HDCTC08T34G	0.8~3.4	20%	0.4	20	1.25	-55~+85℃	500/100	Clockwise
HDCTD08T34G	0.8~3.4	20%	0.4	20	1.25	-55~+85℃	500/100	Counter Clockwise
HDCTC08T34G	0.8~3.4	10%	0.3	20	1.25	-55~+85℃	500/100	Clockwise
HDCTD08T34G	0.8~3.4	10%	0.3	20	1.25	-55~+85℃	500/100	Counter Clockwise

Product Appearance

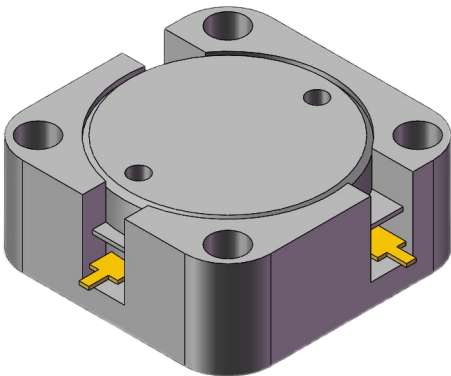


Unit:mm

1.0~3.4GHz

Product Overview

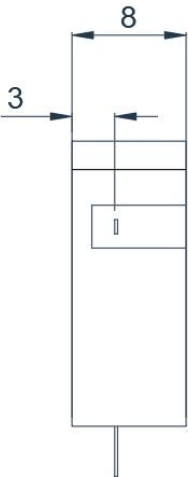
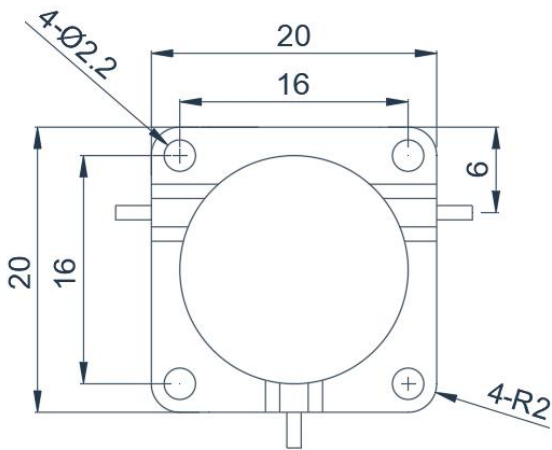
Here are commonly used products of Drop-in Circulator. This product covers the L~S band range with a relative bandwidth of up to 15~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC10T34G	1.0~3.4	15%	0.4	20	1.25	-55~+85℃	500/100	Clockwise
HDCTD10T34G	1.0~3.4	15%	0.4	20	1.25	-55~+85℃	500/100	Counter Clockwise
HDCTC10T34G	1.0~3.4	10%	0.3	20	1.2	-55~+85℃	500/100	Clockwise
HDCTD10T34G	1.0~3.4	10%	0.3	20	1.2	-55~+85℃	500/100	Counter Clockwise

Product Appearance

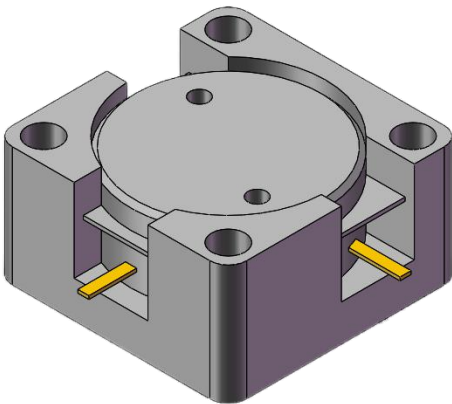


Unit:mm

1.2~1.4GHz

Product Overview

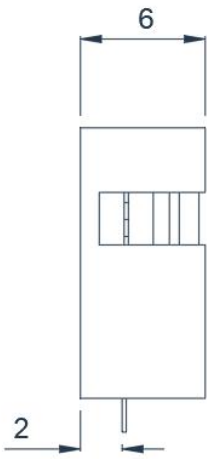
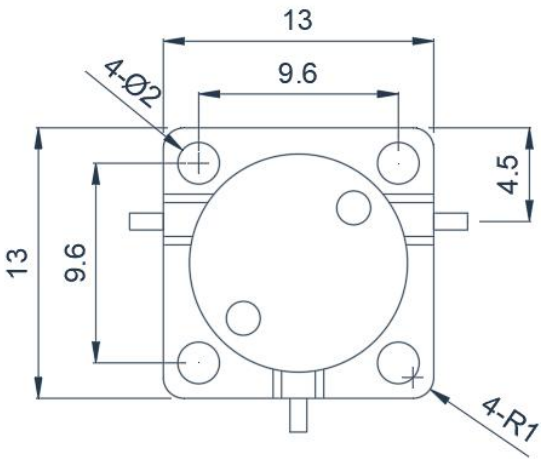
Here are commonly used products of Drop-in Circulator. This product covers the L band range with a relative bandwidth of up to 15%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC12T14G	1.2~1.4	FULL	0.5	20	1.20	-55~+85℃	/100	Clockwise
HDCTD12T14G	1.2~1.4	FULL	0.5	20	1.20	-55~+85℃	/100	Counter Clockwise

Product Appearance

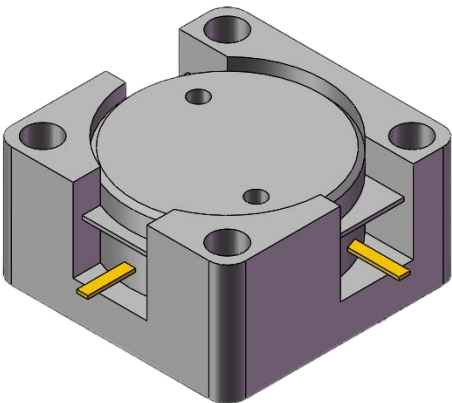


Unit:mm

1.8~3.4GHz

Product Overview

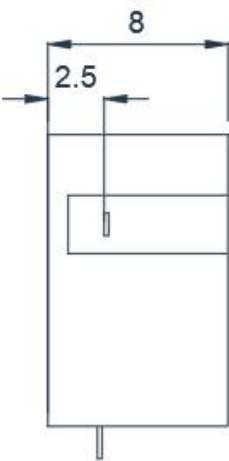
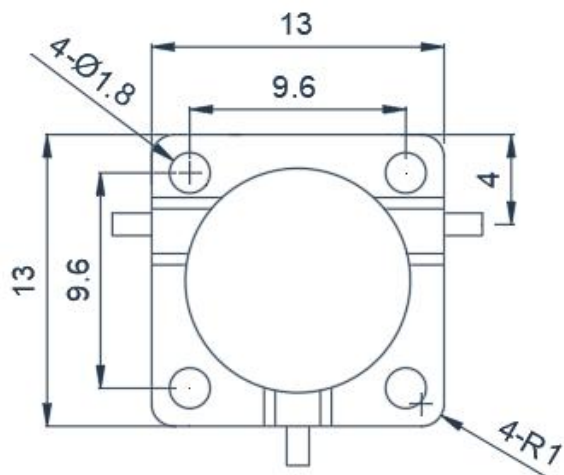
Here are commonly used products of Drop-in Circulator. This product covers the L~S band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC18T34G	1.8~3.4	10%	0.4	20	1.25	-55~+85℃	500/100	Clockwise
HDCTD18T34G	1.8~3.4	10%	0.4	20	1.25	-55~+85℃	500/100	Counter Clockwise
HDCTC18T34G	1.8~3.4	5%	0.3	20	1.2	-55~+85℃	500/100	Clockwise
HDCTD18T34G	1.8~3.4	5%	0.3	20	1.2	-55~+85℃	500/100	Counter Clockwise

Product Appearance



Unit:mm

2.0~3.4GHz

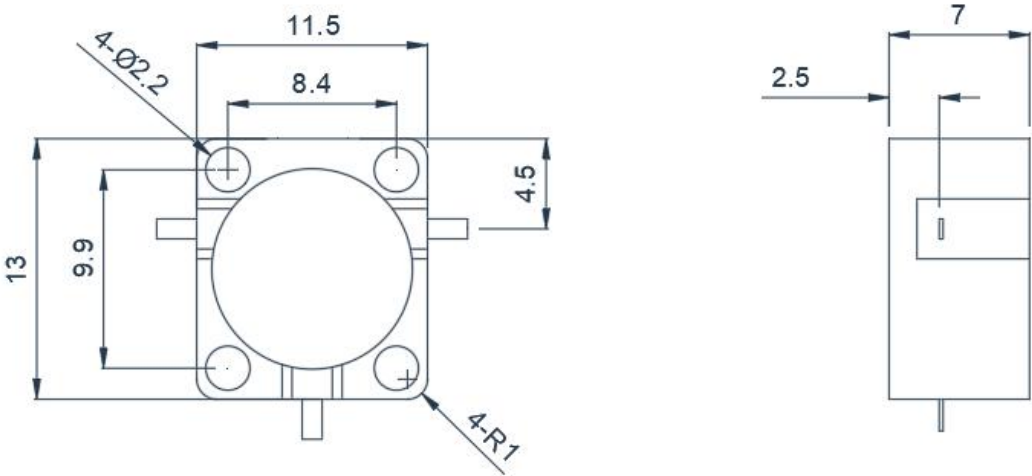
Product Overview

Here are commonly used products of Drop-in Circulator. This product covers the S band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC20T34G	2.0~3.4	10%	0.5	20	1.25	-55~+85℃	200/50	Clockwise
HDCTD20T34G	2.0~3.4	10%	0.5	20	1.25	-55~+85℃	200/50	Counter Clockwise
HDCTC20T34G	2.0~3.4	5%	0.4	20	1.2	-55~+85℃	200/50	Clockwise
HDCTD20T34G	2.0~3.4	5%	0.4	20	1.2	-55~+85℃	200/50	Counter Clockwise

Product Appearance



Unit:mm

2.6~3.8GHz

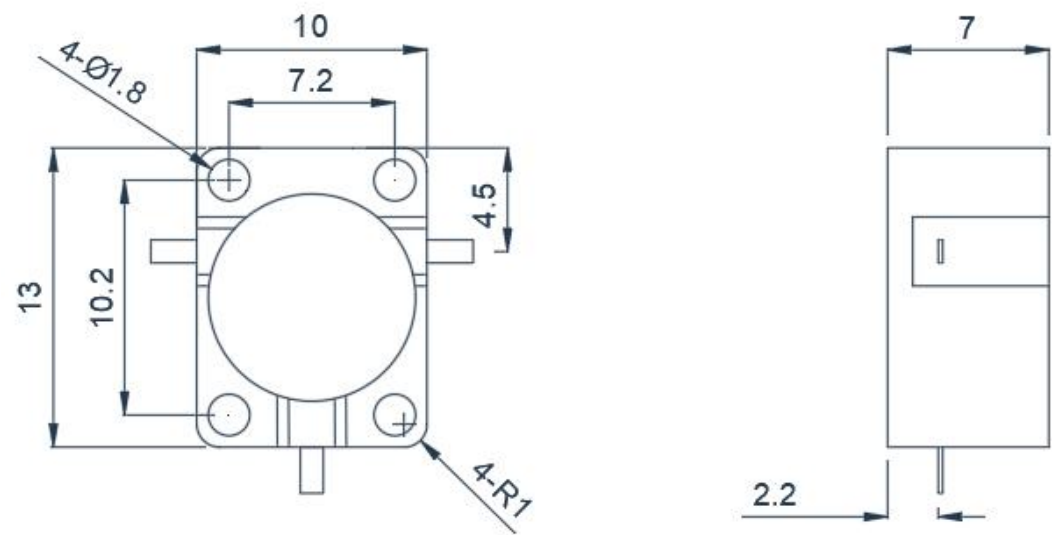
Product Overview

Here are commonly used products of Drop-in Circulator. This product covers the S band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDCTC26T38G	2.6~3.8	10%	0.5	20	1.25	-55~+85℃	200/50	Clockwise
HDCTD26T38G	2.6~3.8	10%	0.5	20	1.25	-55~+85℃	200/50	Counter Clockwise
HDCTC26T38G	2.6~3.8	5%	0.4	20	1.2	-55~+85℃	200/50	Clockwise
HDCTD26T38G	2.6~3.8	5%	0.4	20	1.2	-55~+85℃	200/50	Counter Clockwise

Product Appearance

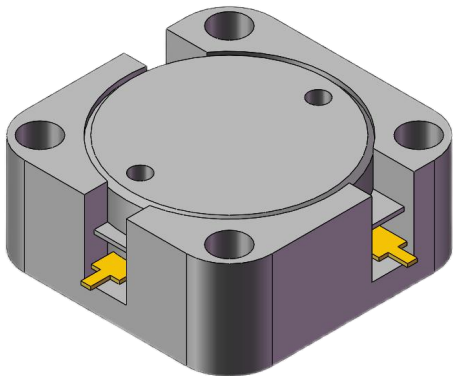


Unit:mm

2.5~5.0GHz

Product Overview

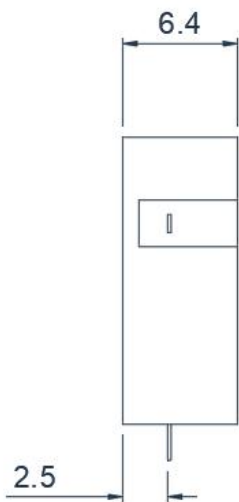
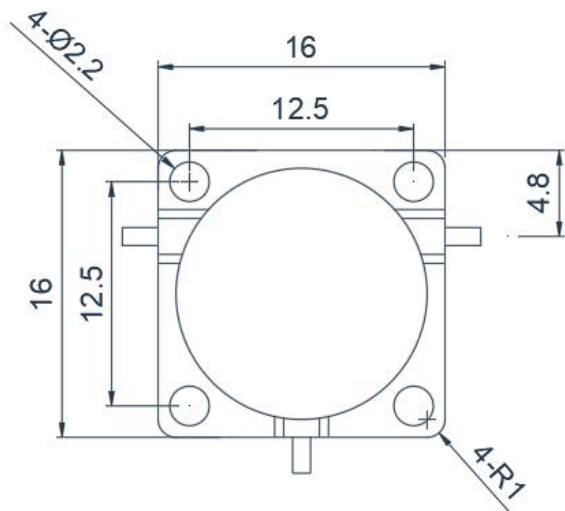
Here are commonly used products of Drop-in Circulator. This product covers the S~C band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC25T50G	2.5~5.0	10%	0.4	20	1.25	-55~+85℃	200/50	Clockwise
HDCTD25T50G	2.5~5.0	10%	0.4	20	1.25	-55~+85℃	200/50	Counter Clockwise
HDCTC25T50G	2.5~5.0	5%	0.35	20	1.2	-55~+85℃	200/50	Clockwise
HDCTD25T50G	2.5~5.0	5%	0.35	20	1.2	-55~+85℃	200/50	Counter Clockwise

Product Appearance

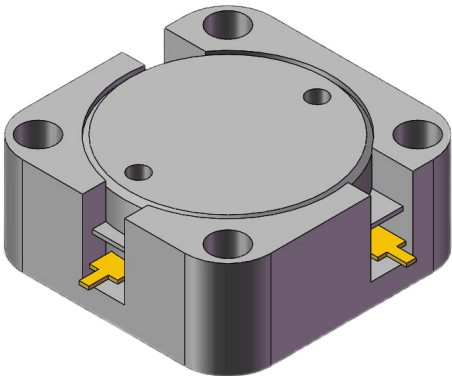


Unit:mm

4.0~8.0GHz

Product Overview

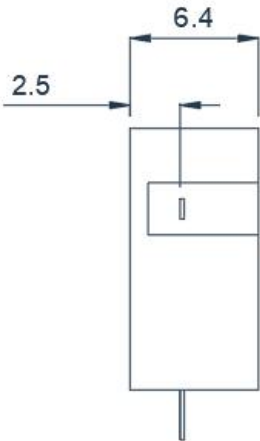
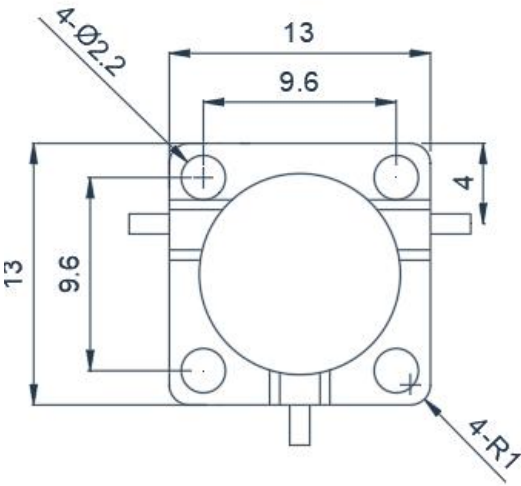
Here are commonly used products of Drop-in Circulator. This product covers the C band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDCTC40T80G	4.0~8.0	10%	0.4	20	1.25	-55~+85℃	200/50	Clockwise
HDCTD40T80G	4.0~8.0	10%	0.4	20	1.25	-55~+85℃	200/50	Counter Clockwise
HDCTC40T80G	4.0~8.0	5%	0.35	20	1.2	-55~+85℃	200/50	Clockwise
HDCTD40T80G	4.0~8.0	5%	0.35	20	1.2	-55~+85℃	200/50	Counter Clockwise

Product Appearance

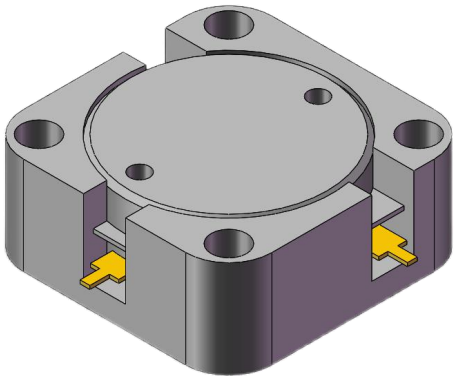


Unit:mm

5.0~6.0GHz

Product Overview

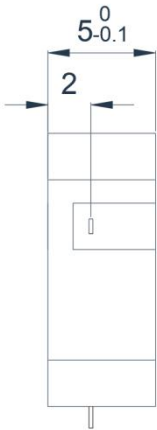
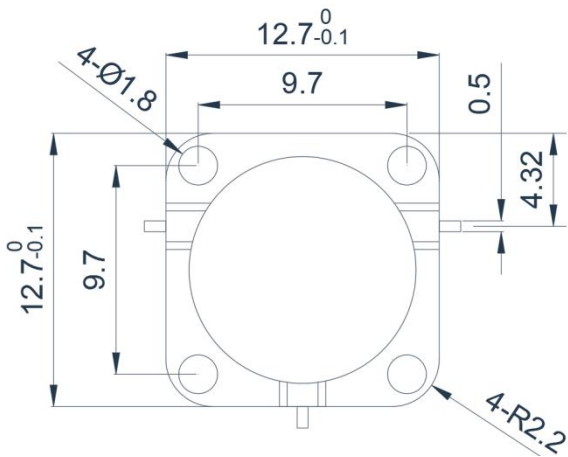
Here are commonly used products of Drop-in Circulator. This product covers the C band range with a relative bandwidth of up to 18%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC50T60G	5.0~6.0	FULL	0.40	20	1.20	-55~+85℃	/50	Clockwise
HDCTD50T60G	5.0~6.0	FULL	0.40	20	1.20	-55~+85℃	/50	Counter Clockwise

Product Appearance

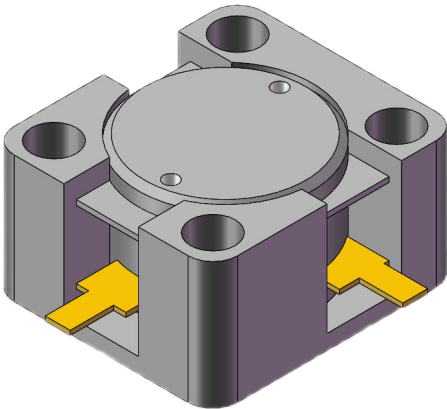


Unit:mm

7.0~18.0GHz

Product Overview

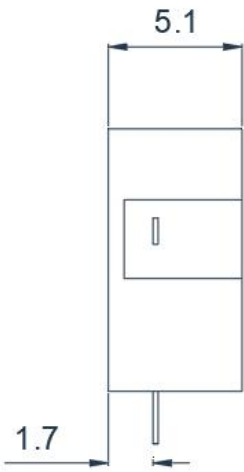
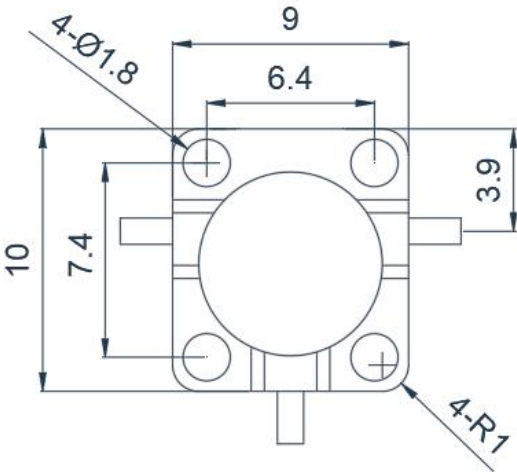
Here are commonly used products of Drop-in Circulator. This product covers the C~Ku band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC70T180G	7.0~18.0	10%	0.4	20	1.25	-55~+85℃	200/20	Clockwise
HDCTD70T180G	7.0~18.0	10%	0.4	20	1.25	-55~+85℃	200/20	Counter Clockwise
HDCTC70T180G	7.0~18.0	5%	0.35	20	1.25	-55~+85℃	200/20	Clockwise
HDCTD70T180G	7.0~18.0	5%	0.35	20	1.25	-55~+85℃	200/20	Counter Clockwise

Product Appearance

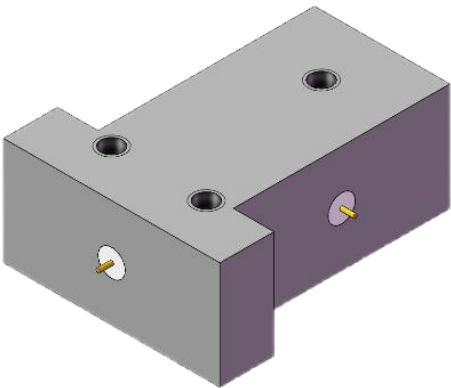


Unit:mm

18.0~40.0GHz

Product Overview

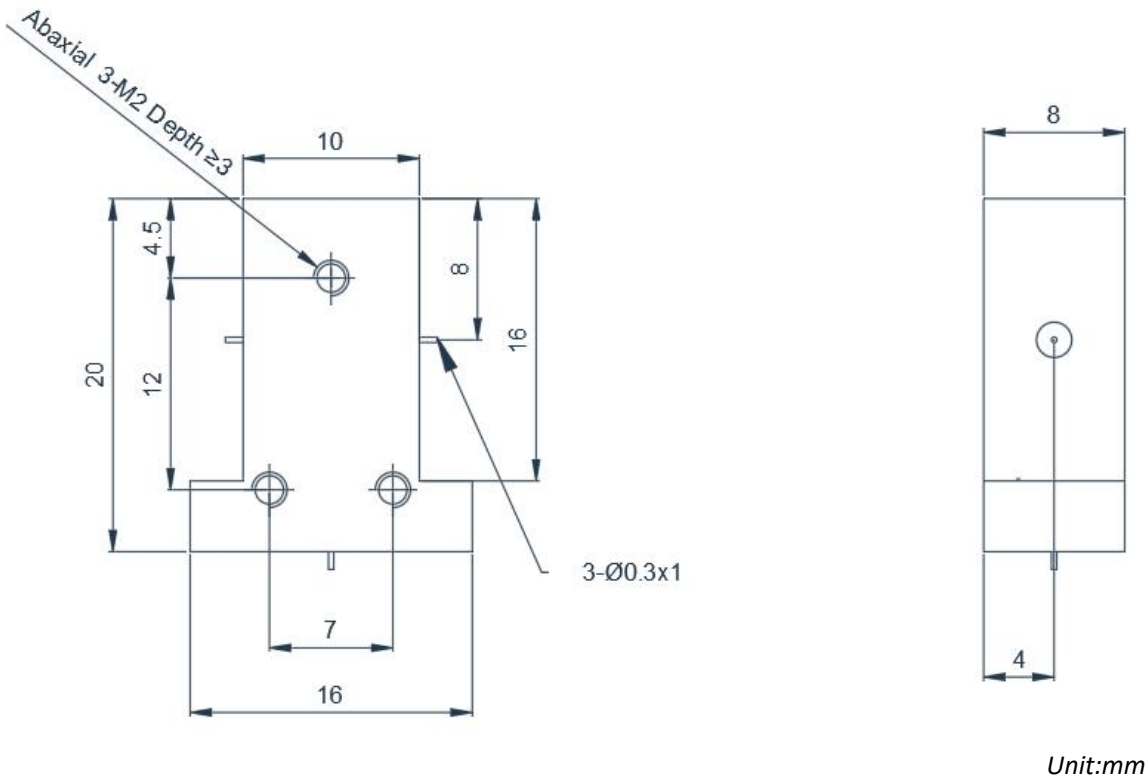
Here are commonly used products of Drop-in Circulator. This product covers the K~Ka band range with a relative bandwidth of up to 10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC180T400G	18.0~40.0	10%	0.6	18	1.35	-55~+85℃	20/5	Clockwise
HDCTD180T400G	18.0~40.0	10%	0.6	18	1.35	-55~+85℃	20/5	Counter Clockwise

Product Appearance

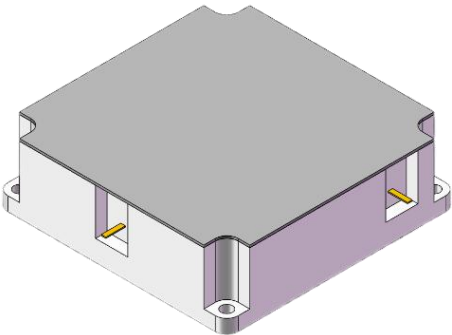


3.1.2 Broadband Drop-in Circulator

0.1~0.4GHz

Product Overview

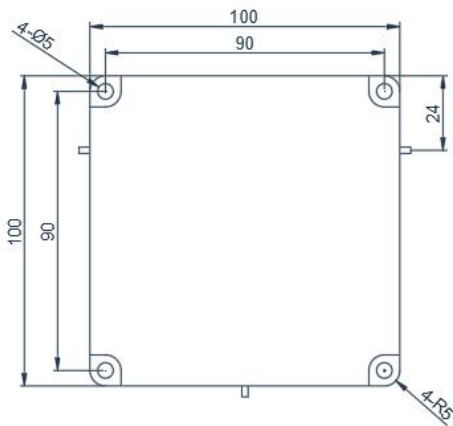
The following products are Broadband Drop-in Circulator, covering the frequency range from VHF to UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC01T04G-B	0.1~0.4	40%	0.6	15	1.5	-55~+85℃	1000/100	Clockwise
HDCTD01T04G-B	0.1~0.4	40%	0.6	15	1.5	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

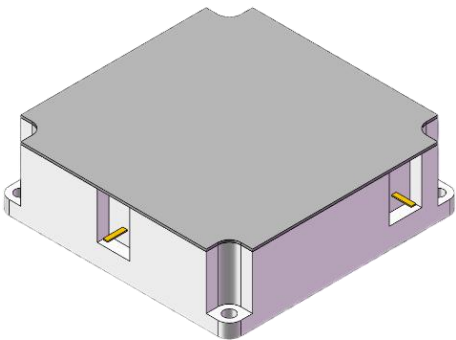


Unit:mm

0.3~0.6GHz

Product Overview

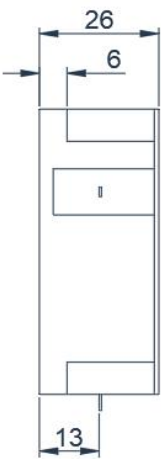
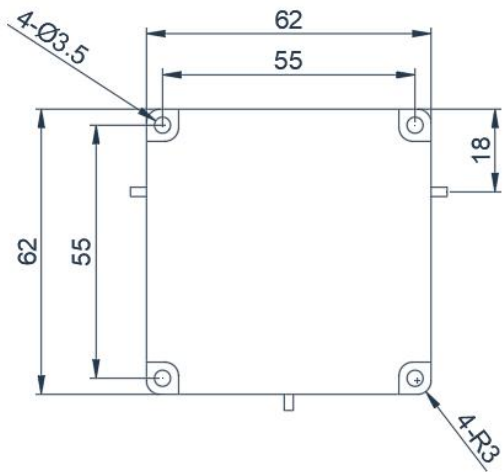
The following products are Broadband Drop-in Circulator, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC03T06G-B	0.3~0.6	40%	0.6	15	1.5	-55~+85℃	1000/100	Clockwise
HDCTD03T06G-B	0.3~0.6	40%	0.6	15	1.5	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

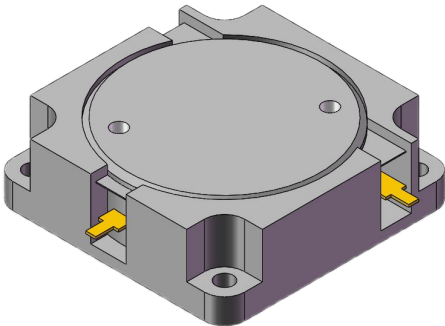


Unit:mm

0.5~1.0GHz

Product Overview

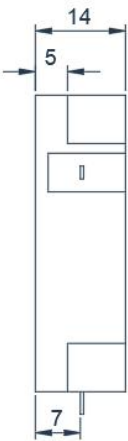
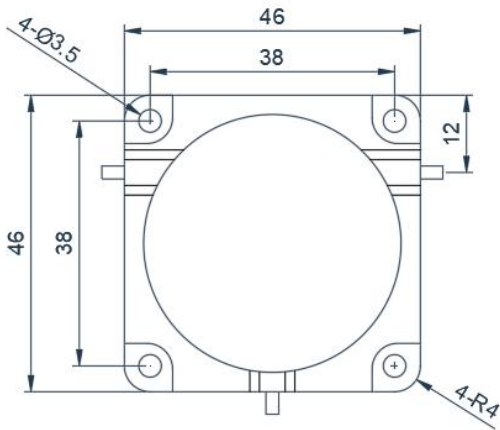
The following products are Broadband Drop-in Circulator, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature ℃)	PK/CW (Watt)	Direction
HDCTC05T10G-B	0.5~1.0	40%	0.6	15	1.5	-55~+85℃	1000/100	Clockwise
HDCTD05T10G-B	0.5~1.0	40%	0.6	15	1.5	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

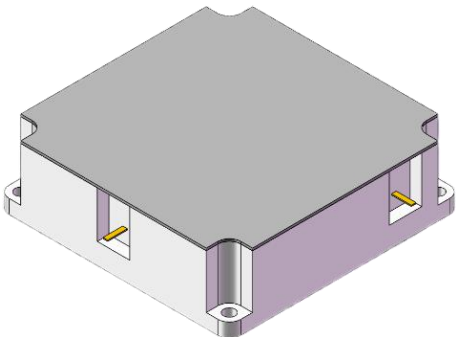


Unit:mm

1.0~2.0GHz

Product Overview

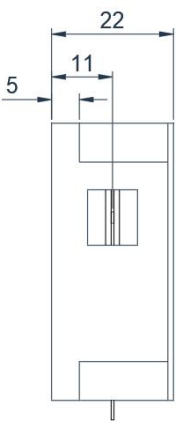
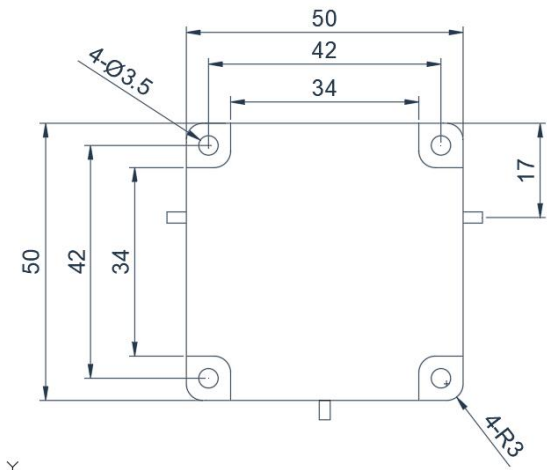
The following products are Broadband Drop-in Circulator covering the entire L-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC10T20G-B	1.0~2.0	FULL	0.7(1.0)	16(14)	1.5(1.6)	-55~~+85℃	/100	Clockwise
HDCTD10T20G-B	1.0~2.0	FULL	0.7(1.0)	16(14)	1.5(1.6)	-55~~+85℃	/100	Counter Clockwise

Product Appearance

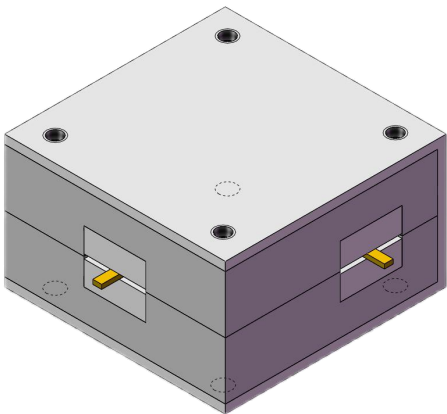


Unit:mm

2.0~6.0GHz

Product Overview

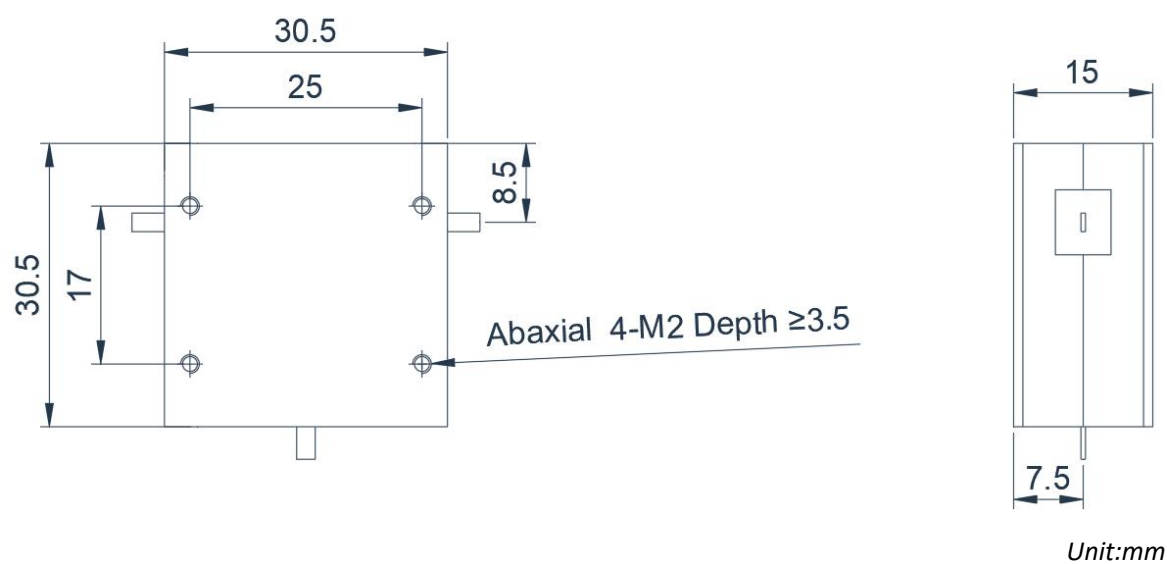
The following products are Broadband Drop-in Circulator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 66.6% or 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDCTC20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	-55~+85℃	/80	Clockwise
HDCTD20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	-55~+85℃	/80	Counter Clockwise
HDCTC20T60G-B	2.0~6.0	FULL	1.0(1.2)	11	1.65(1.75)	-55~+85℃	/80	Clockwise
HDCTD20T60G-B	2.0~6.0	FULL	1.0(1.2)	11	1.65(1.75)	-55~+85℃	/80	Counter Clockwise

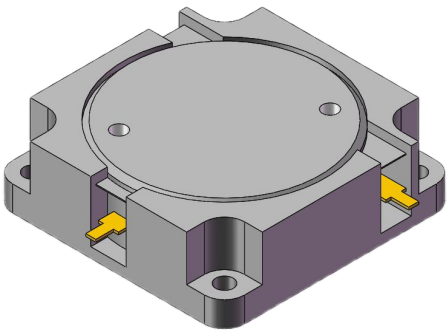
Product Appearance



2.0~6.0GHz

Product Overview

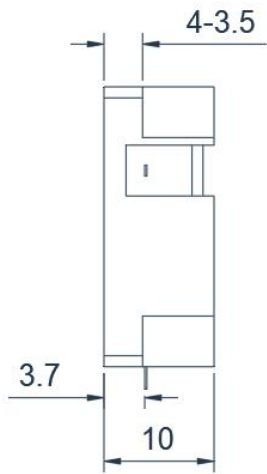
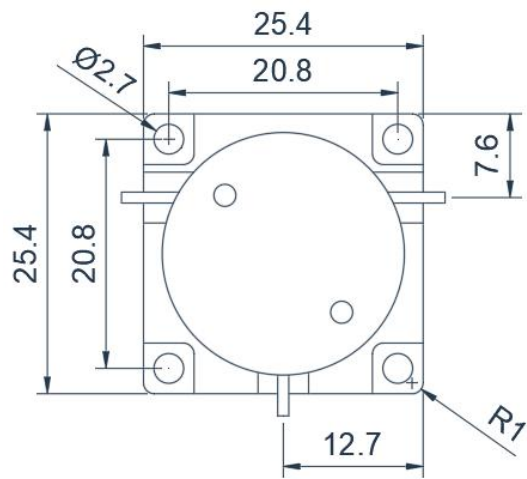
The following products are Broadband Drop-in Circulator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC20T60G-B	2.0~6.0	FULL	1.0(1.2)	11(10)	1.7(1.8)	-55~+85℃	/50	Clockwise
HDCTD20T60G-B	2.0~6.0	FULL	1.0(1.2)	11(10)	1.7(1.8)	-55~+85℃	/50	Counter Clockwise

Product Appearance

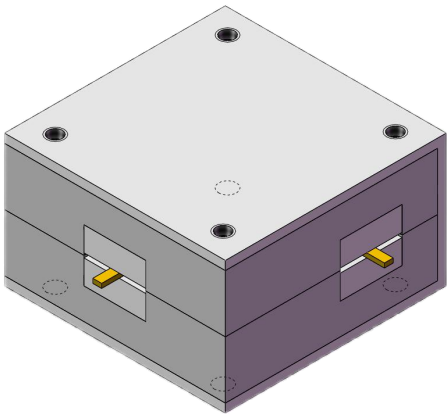


Unit:mm

3.0~6.0GHz

Product Overview

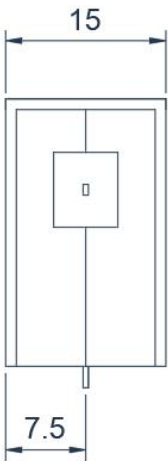
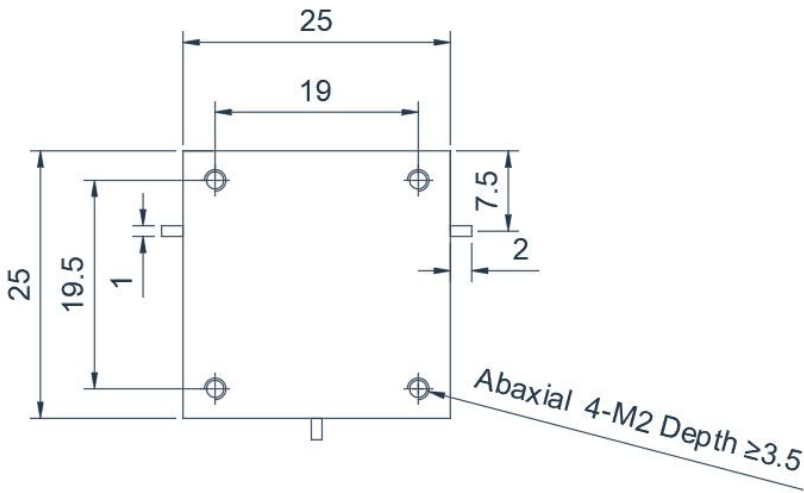
The following products are Broadband Drop-in Circulator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 66.66%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC30T60G-B	3.0~6.0	FULL	0.6(0.65)	16.0	1.35	-55~+85℃	/60	Clockwise
HDCTD30T60G-B	3.0~6.0	FULL	0.6(0.65)	16.0	1.35	-55~+85℃	/60	Counter Clockwise

Product Appearance

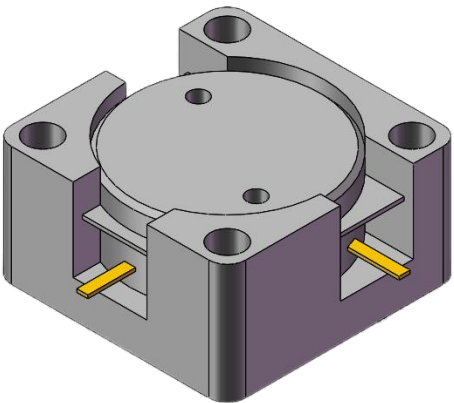


Unit:mm

4.0~8.0GHz

Product Overview

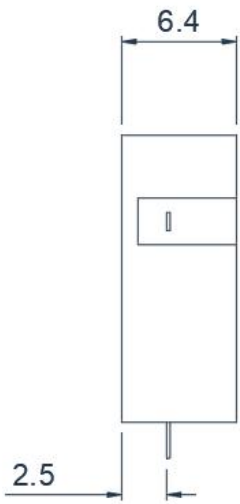
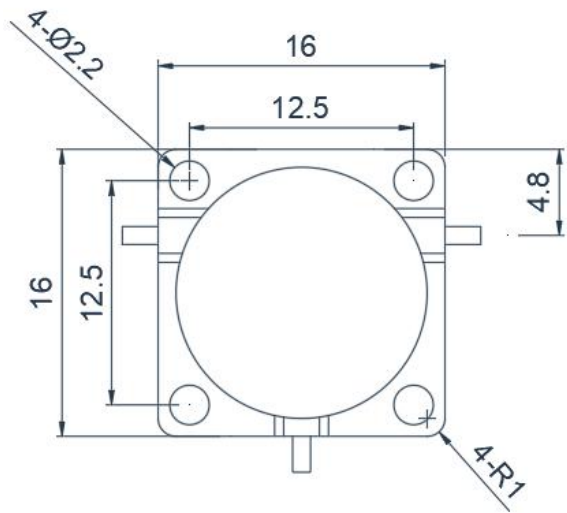
The following products are Broadband Drop-in Circulator covering the entire C-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC40T80G-B	4.0~8.0	FULL	0.6(0.7)	17(16)	1.4(1.5)	-55~+85℃	/60	Clockwise
HDCTD40T80G-B	4.0~8.0	FULL	0.6(0.7)	17(16)	1.4(1.5)	-55~+85℃	/60	Counter Clockwise

Product Appearance

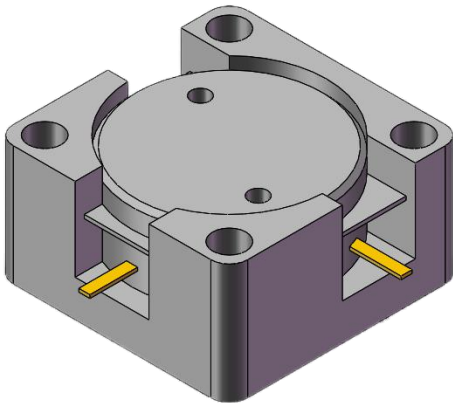


Unit:mm

6.0~18.0GHz

Product Overview

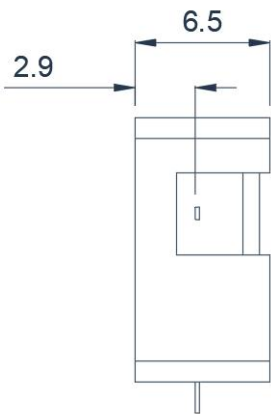
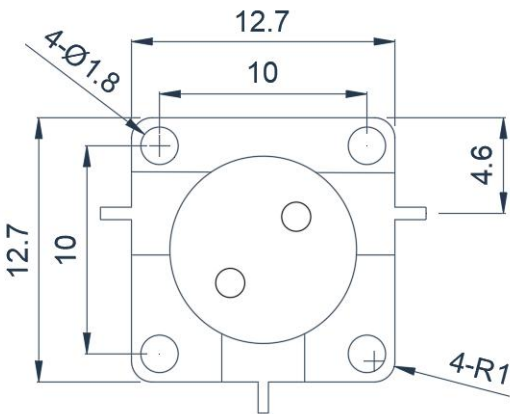
The following products are Broadband Drop-in Circulator, covering the frequency range from C to Ku bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC60T180G-B	6.0~18.0	FULL	1.2(1.5)	11(10)	1.7(1.8)	-55~+85℃	/30	Clockwise
HDCTD60T180G-B	6.0~18.0	FULL	1.2(1.5)	11(10)	1.7(1.8)	-55~+85℃	/30	Counter Clockwise

Product Appearance

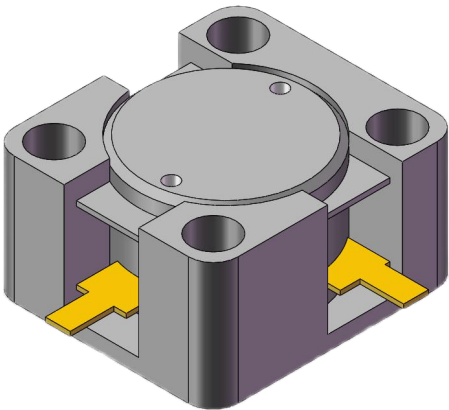


Unit:mm

8.0~18.0GHz

Product Overview

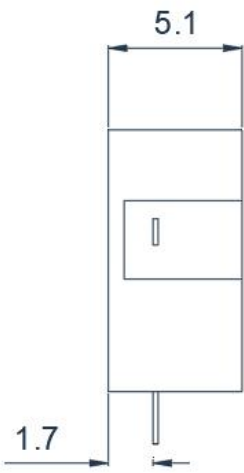
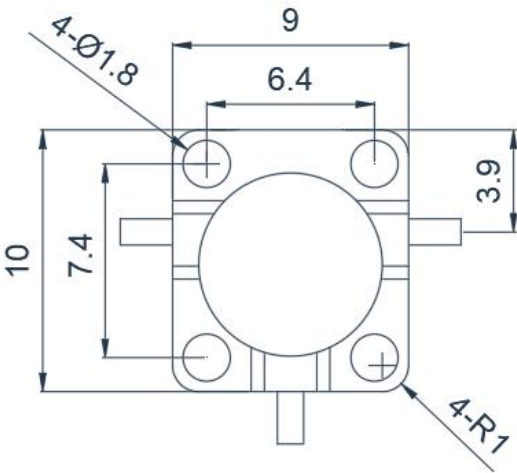
The following products are Broadband Drop-in Circulator covering the entire X-band or Ku-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC80T120G-B	8.0~12.0	FULL	0.5(0.6)	18(16)	1.35(1.5)	-55~+85℃	50/20	Clockwise
HDCTD80T120G-B	8.0~12.0	FULL	0.5(0.6)	18(16)	1.35(1.5)	-55~+85℃	50/20	Counter Clockwise
HDCTC120T180G-B	12.0~18.0	FULL	0.6(0.7)	16	1.35(1.4)	-55~+85℃	50/20	Clockwise
HDCTD120T180G-B	12.0~18.0	FULL	0.6(0.7)	16	1.35(1.4)	-55~+85℃	50/20	Counter Clockwise

Product Appearance

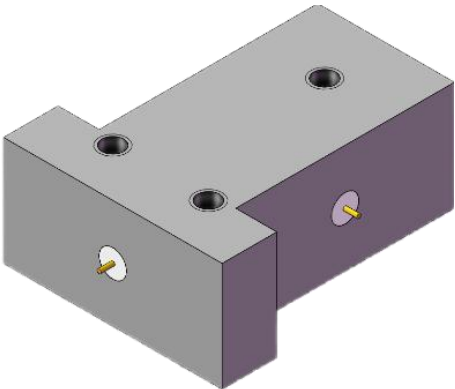


Unit:mm

18.0~26.5GHz

Product Overview

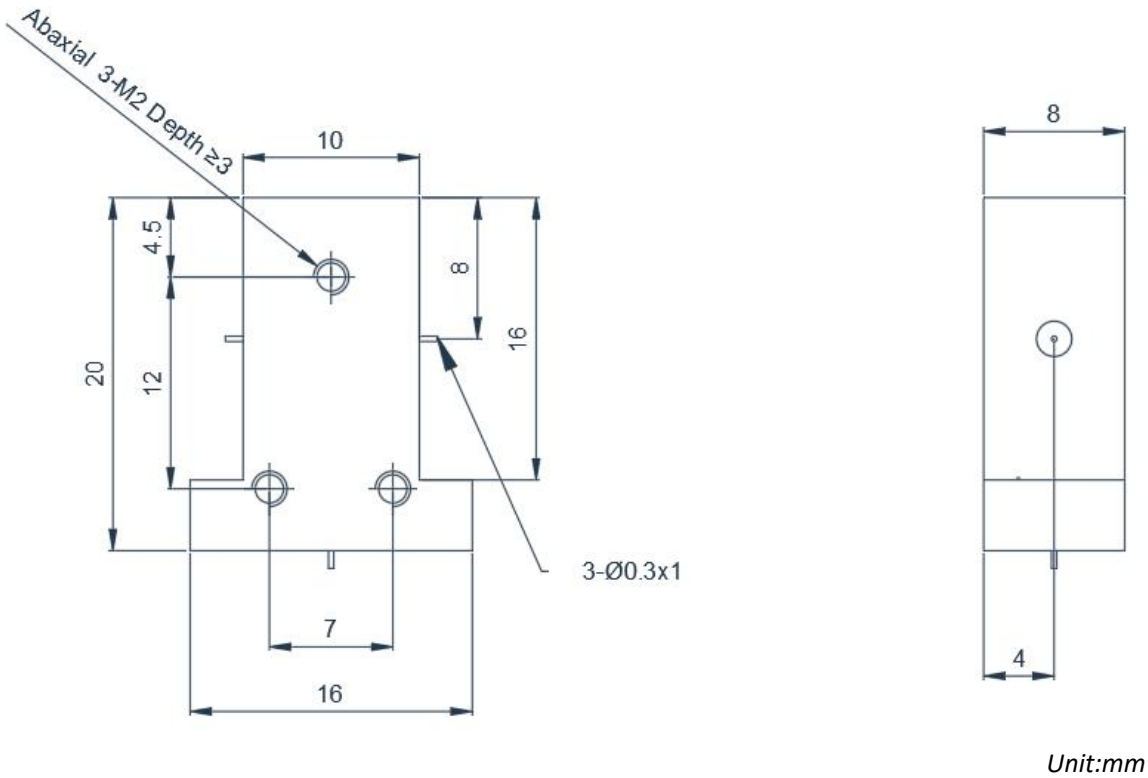
The following products are Broadband Drop-in Circulators covering the entire K-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC180T265G-B	18.0~26.5	FULL	1.0	14	1.5	-55~+85℃	20/5	Clockwise
HDCTD180T265G-B	18.0~26.5	FULL	1.0	14	1.5	-55~+85℃	20/5	Counter Clockwise

Product Appearance



3.1.3 SMD Circulator(SMT)

0.336~0.344GHz

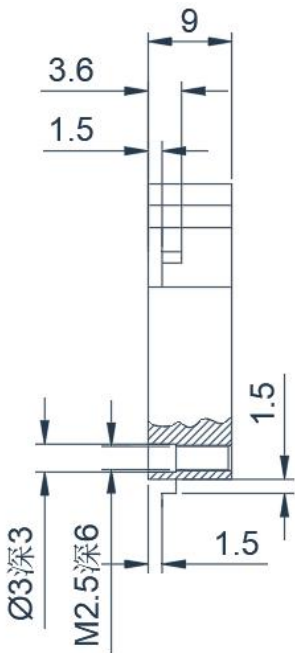
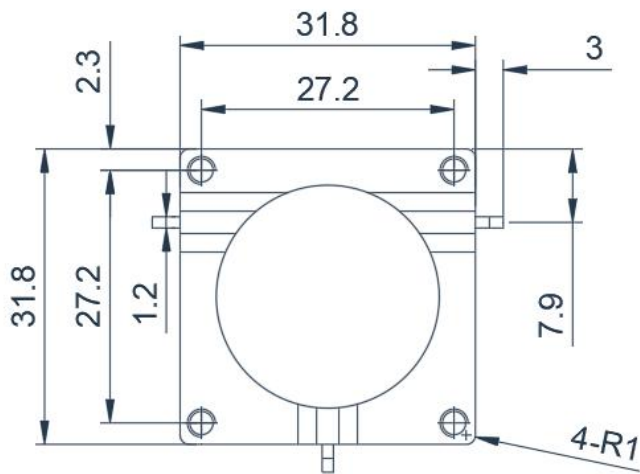
Product Overview

The following products are SMT Circulators for the UHF-Band. They are based on the Drop-In Circulator with bent pins, making it convenient to install the circulator without the need to carve out a special slot in the installation area. This kind of product can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC336T344M	0.336~0.344	FULL	0.40	18	1.29	-40~+125	2000/200	Clockwise
HDCTD336T344M	0.336~0.344	FULL	0.40	18	1.29	-40~+125	2000/200	Counter Clockwise

Product Appearance



Unit:mm

1.8~3.6GHz

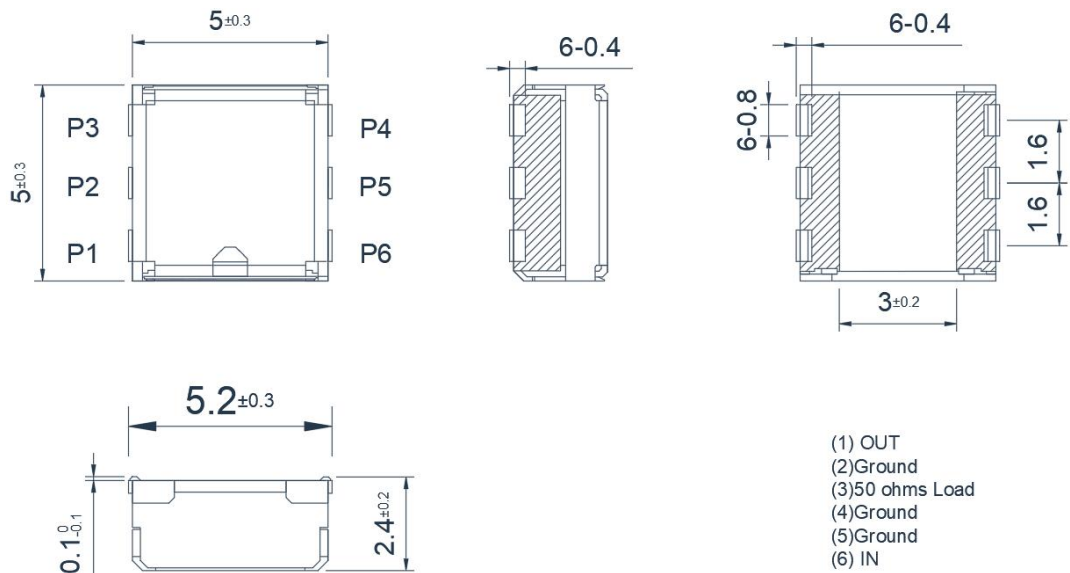
Product Overview

The following products belong to the Miniaturized SMT Summarized Parameter Circulators. They have 6 ports, with 3 grounds, and 3 customizable ports. The dimensions are as small as 5x5mm, but they have relatively poor specifications and limited power capacity. This kind of product can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)
HLCU1805T1880M	1.805~1.88	FULL	0.75(-35~+125°C)	13.0(-35~+125°C)	1.58(-35~+125°C)	-40~125°C	10/2
HLCU2110T2170M	2.11~2.17	FULL	0.6(-35~+85°C) 0.65(+85~+125°C)	13.0(-35~+125°C)	1.58(-35~+125°C)	-40~125°C	10/2
HLCU2500T2700M	2.5~2.7	FULL	1.3(-40~+125°C)	11.0(-40~+125°C)	1.78(-40~+125°C)	-40~125°C	10/2
HLCU3300T3600M	3.3~3.6	FULL	0.8(-10~+85°C) 1.0(+85~+105°C)	12.0(-10~+85°C)	1.67(-10~+85°C)	-40~125°C	10/2

Product Appearance



Unit:mm

- The product's operating temperature can reach from -40°C to 125°C.
- The transmission direction is independent of the model and can be adjusted clockwise or counterclockwise according to customer requirements.
- Currently, the height can be achieved at 2.5mm or below, and specific dimensions can be customized according to customer requirements.

2.0~2.1GHz

Product Overview

The following is an S-band SMD circulator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCE20T21M	2.0~2.1	FULL	0.4	20	1.4	-55~+85	/80	Clockwise
HDCF20T21M	2.0~2.1	FULL	0.4	20	1.4	-55~+85	/80	Counter Clockwise

Product Appearance



Unit:mm

2.496~3.8GHz

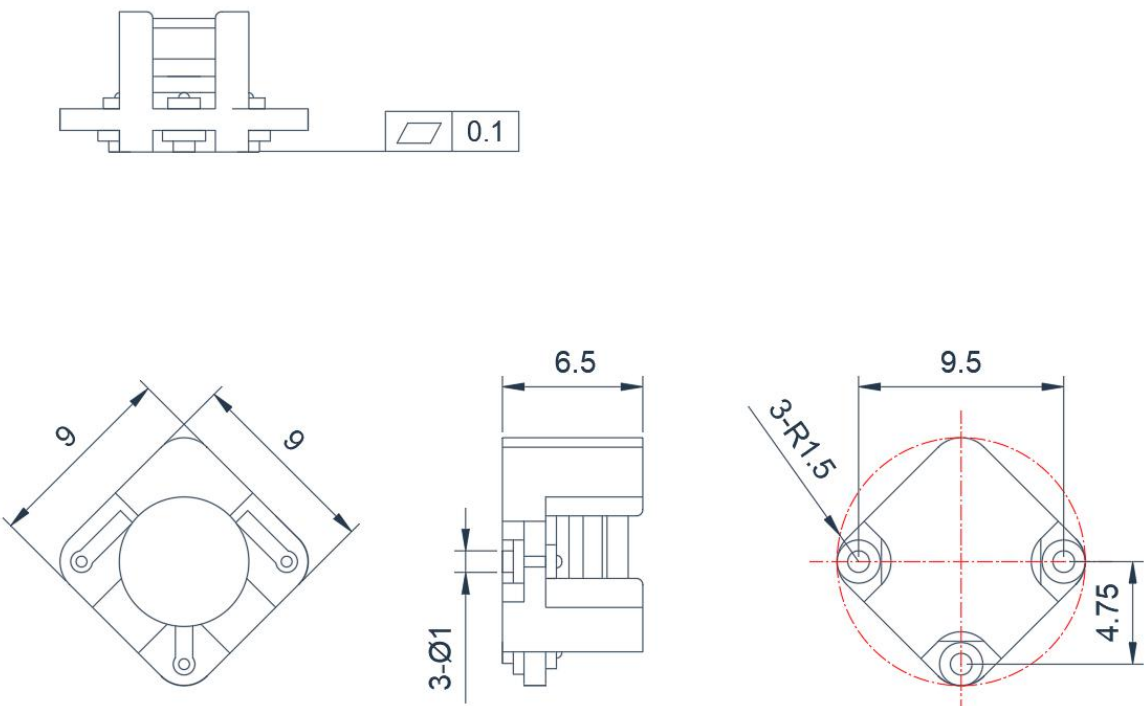
Product Overview

The following is an S-band SMD circulator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCE2496T2960M	2.496~2.96	FULL	0.35(0.3)	18(20)	1.29 (1.22)	-40~+125	200/50	Clockwise
HDCF2496T2960M	2.496~2.96	FULL	0.35(0.3)	18(20)	1.29 (1.22)	-40~+125	200/50	Counter Clockwise
HDCE34T37G	3.4~3.7	FULL	0.3(0.28/0.33)	20(18/22)	1.22 (1.29 /1.17)	-40~+125	200/50	Clockwise
HDCF34T37G	3.4~3.7	FULL	0.3(0.28/0.33)	20(18/22)	1.22 (1.29 /1.17)	-40~+125	200/50	Counter Clockwise
HDCE34T38G	3.4~3.8	FULL	0.35(0.3)	18(20)	1.29 (1.22)	-40~+125	200/50	Clockwise
HDCF34T38G	3.4~3.8	FULL	0.35(0.3)	18(20)	1.29 (1.22)	-40~+125	200/50	Counter Clockwise

Product Appearance



Unit:mm

3.4~3.6GHz

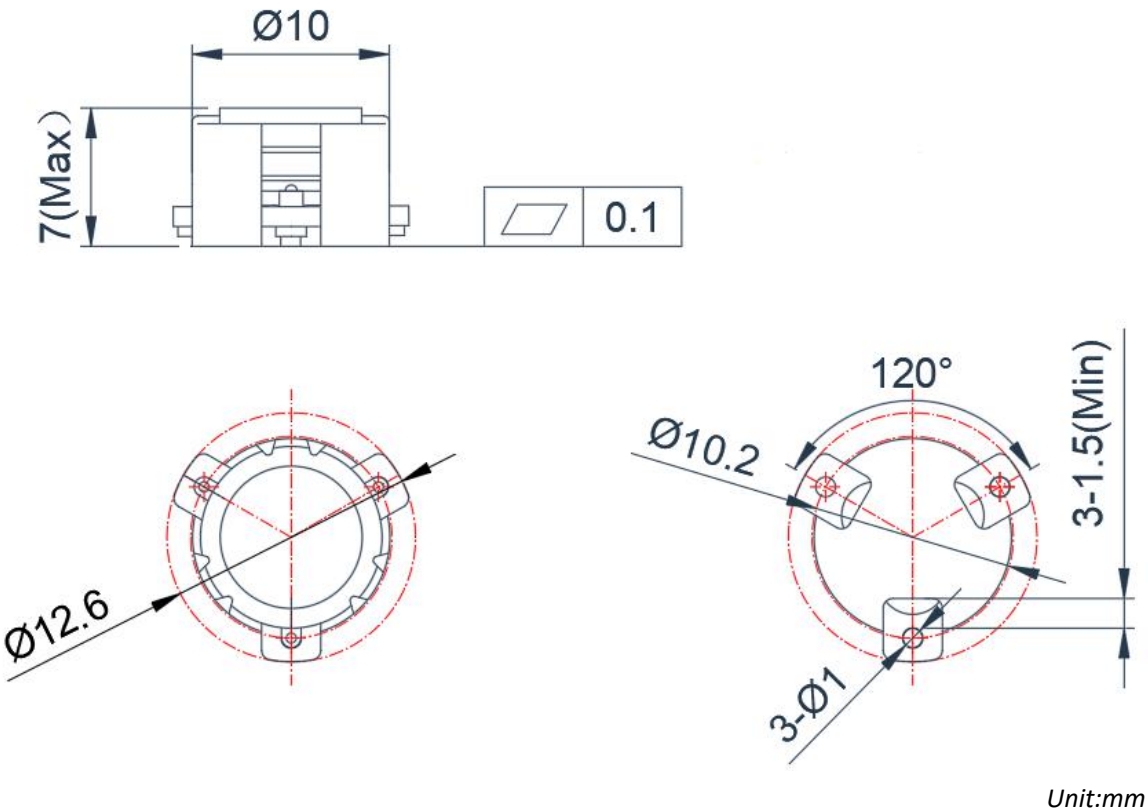
Product Overview

The following is an S-band SMD circulator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature ℃)	PK/CW (Watt)	Direction
HDCE34T36G	3.4~3.6	FULL	0.25	20(22)	1.22 (1.17)	-40~+125	200/50	Clockwise
HDCF34T36G	3.4~3.6	FULL	0.25	20(22)	1.22 (1.17)	-40~+125	200/50	Counter Clockwise

Product Appearance



3.4~5.0GHz

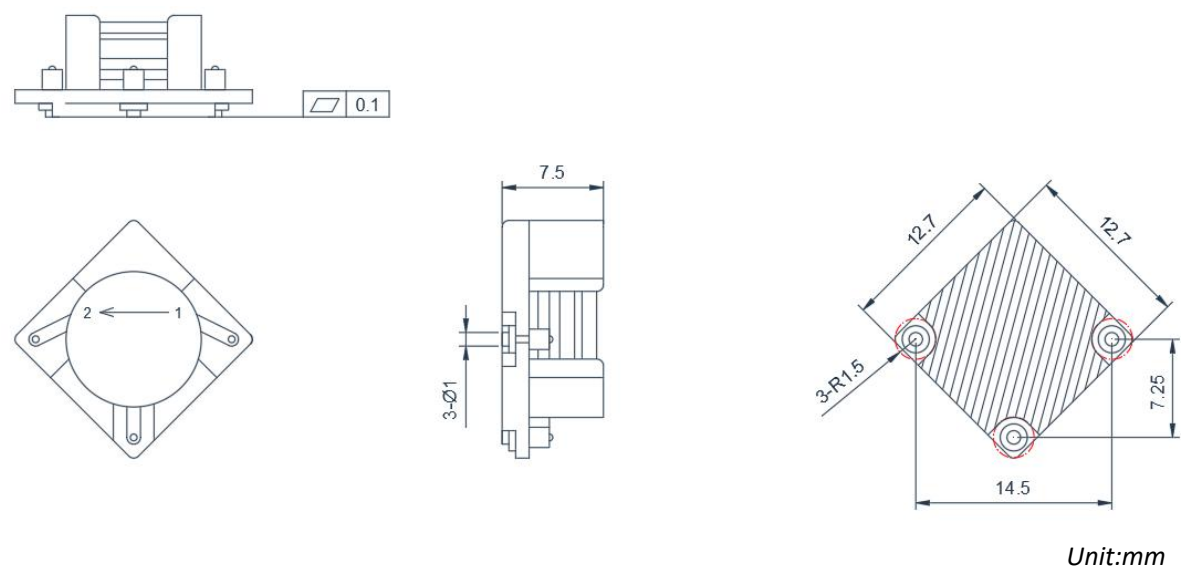
Product Overview

The following is an S-band to C-band SMD circulator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDCE34T38G	3.4~3.8	FULL	0.3(0.28/0.35)	20(18/22)	1.22 (1.29 /1.17)	-40~+125	800/80	Clockwise
HDCF34T38G	3.4~3.8	FULL	0.3(0.28/0.35)	20(18/22)	1.22 (1.29 /1.17)	-40~+125	800/80	Counter Clockwise
HDCE46T50G	4.6~5.0	FULL	0.3(0.28/0.33)	20(19/23)	1.22 (1.25 /1.15)	-40~+125	800/150	Clockwise
HDCF46T50G	4.6~5.0	FULL	0.3(0.28/0.33)	20(19/23)	1.22 (1.25 /1.15)	-40~+125	800/150	Counter Clockwise

Product Appearance



5.0~6.0GHz

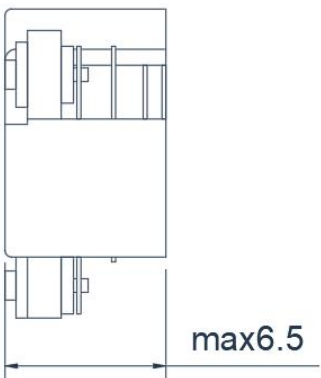
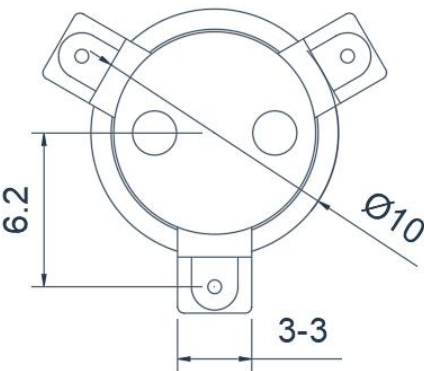
Product Overview

The following is an C-band SMD circulator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCE50T60G	5.0~6.0	FULL	0.35	22	1.20	-55~+85	/50	Clockwise
HDCF50T60G	5.0~6.0	FULL	0.35	22	1.20	-55~+85	/50	Counter Clockwise

Product Appearance



Unit:mm

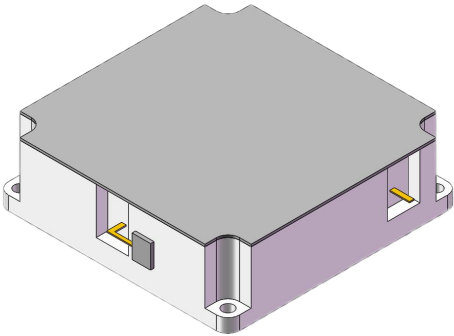
3.2 Drop-in Isolator

3.2.1 Typical Drop-in Isolator

0.05~0.3GHz

Product Overview

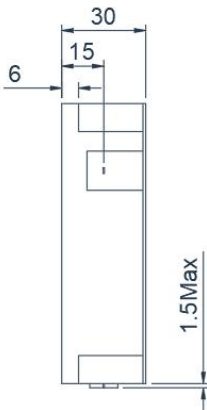
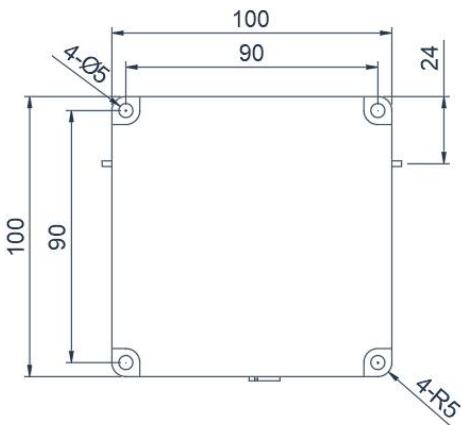
Here are commonly used products of Drop-in Isolator. This product covers the VHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC50T300M	0.05~0.3	10%	0.4	20	1.20	-55~+85℃	1000/100	Clockwise
HDITD50T300M	0.05~0.3	10%	0.4	20	1.20	-55~+85℃	1000/100	Counter Clockwise
HDITC50T300M	0.05~0.3	20%	0.5	20	1.25	-55~+85℃	1000/100	Clockwise
HDITD50T300M	0.05~0.3	20%	0.5	20	1.25	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

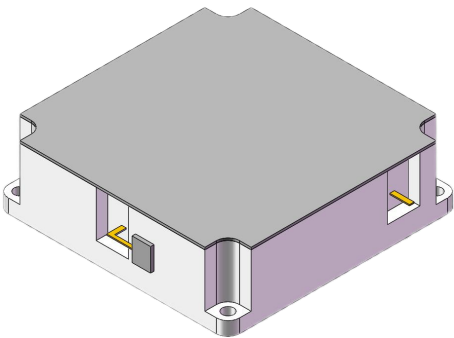


Unit:mm

0.15~0.4GHz

Product Overview

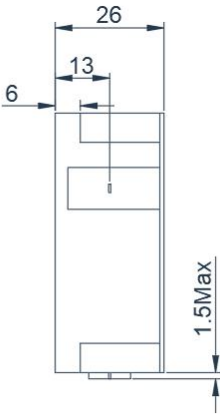
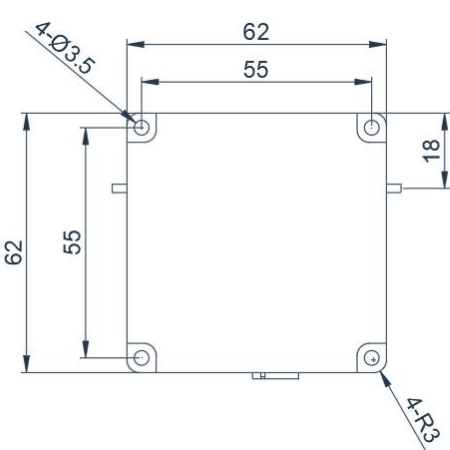
Here are commonly used products of Drop-in Isolator. This product covers the VHF~UHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC150T400M	0.15~0.4	10%	0.3	20	1.20	-55~+85℃	1000/100	Clockwise
HDITD150T400M	0.15~0.4	10%	0.3	20	1.20	-55~+85℃	1000/100	Counter Clockwise
HDITC150T400M	0.15~0.4	20%	0.4	20	1.25	-55~+85℃	1000/100	Clockwise
HDITD150T400M	0.15~0.4	20%	0.4	20	1.25	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

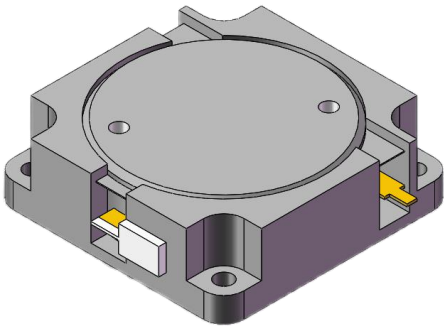


Unit:mm

0.25~0.6GHz

Product Overview

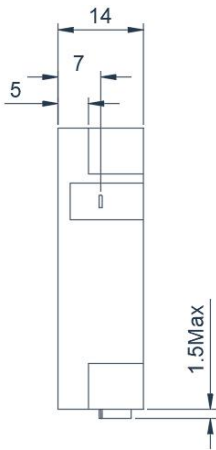
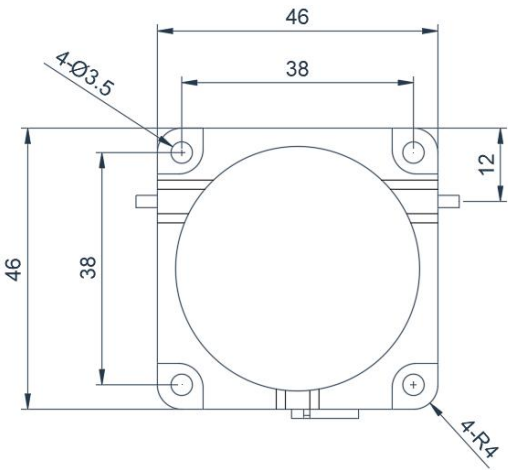
Here are commonly used products of Drop-in Isolator. This product covers the VHF~UHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC250T600M	0.25~0.6	10%	0.3	20	1.20	-55~+85℃	1000/100	Clockwise
HDITD250T600M	0.25~0.6	10%	0.3	20	1.20	-55~+85℃	1000/100	Counter Clockwise
HDITC250T600M	0.25~0.6	20%	0.4	20	1.25	-55~+85℃	1000/100	Clockwise
HDITD250T600M	0.25~0.6	20%	0.4	20	1.25	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

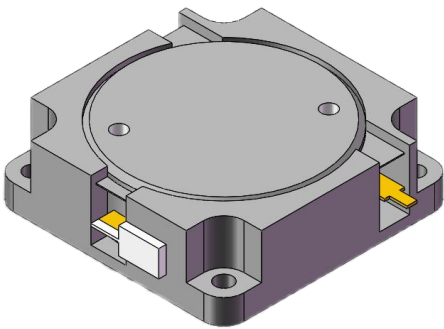


Unit:mm

0.45~1.0GHz

Product Overview

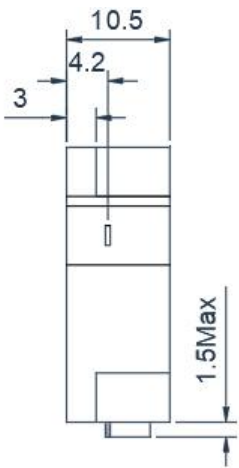
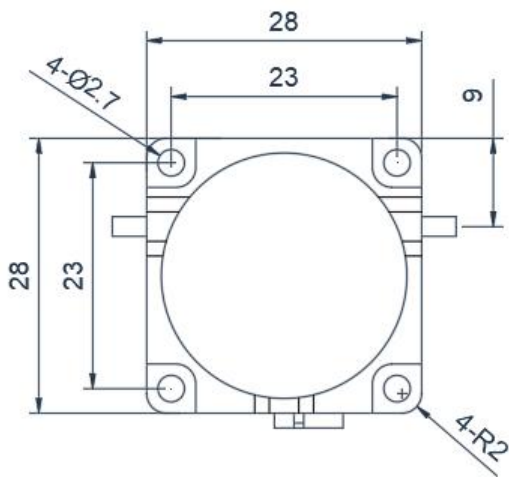
Here are commonly used products of Drop-in Isolator. This product covers the UHF band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC450T1000M	0.45~1.0	10%	0.3	20	1.20	-55~+85℃	1000/100	Clockwise
HDITD450T1000M	0.45~1.0	10%	0.3	20	1.20	-55~+85℃	1000/100	Counter Clockwise
HDITC450T1000M	0.45~1.0	20%	0.4	20	1.25	-55~+85℃	1000/100	Clockwise
HDITD450T1000M	0.45~1.0	20%	0.4	20	1.25	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

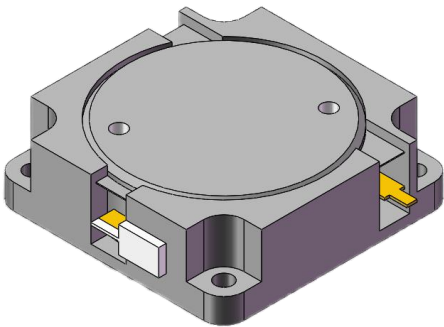


Unit:mm

0.8~3.5GHz

Product Overview

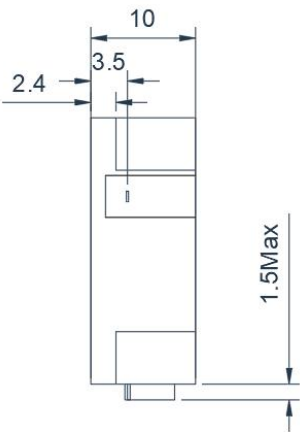
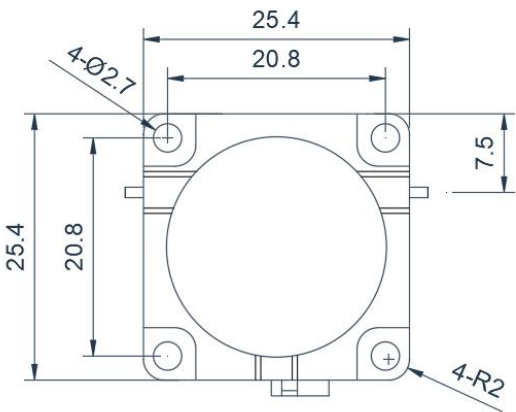
Here are commonly used products of Drop-in Isolator. This product covers the UHF~S band range with a relative bandwidth of up to 10~20%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC08T35G	0.8~3.5	10%	0.3	20	1.20	-55~+85℃	500/100	Clockwise
HDITD08T35G	0.8~3.5	10%	0.3	20	1.20	-55~+85℃	500/100	Counter Clockwise
HDITC08T35G	0.8~3.5	20%	0.4	20	1.25	-55~+85℃	500/100	Clockwise
HDITD08T35G	0.8~3.5	20%	0.4	20	1.25	-55~+85℃	500/100	Counter Clockwise

Product Appearance

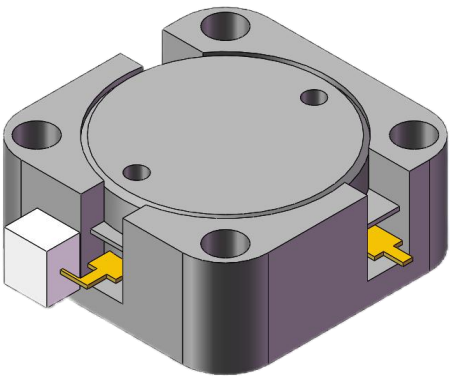


Unit:mm

1.0~3.5GHz

Product Overview

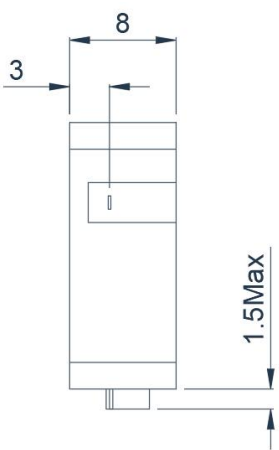
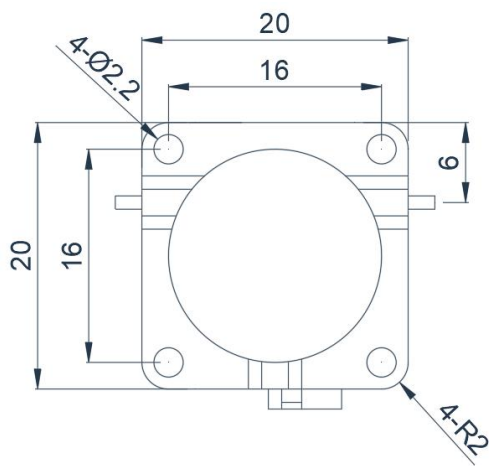
Here are commonly used products of Drop-in Isolator. This product covers the L~S band range with a relative bandwidth of up to 15~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC10T35G	1.0~3.5	10%	0.3	20	1.20	-55~+85℃	500/100	Clockwise
HDITD10T35G	1.0~3.5	10%	0.3	20	1.20	-55~+85℃	500/100	Counter Clockwise
HDITC10T35G	1.0~3.5	15%	0.4	20	1.25	-55~+85℃	500/100	Clockwise
HDITD10T35G	1.0~3.5	15%	0.4	20	1.25	-55~+85℃	500/100	Counter Clockwise

Product Appearance

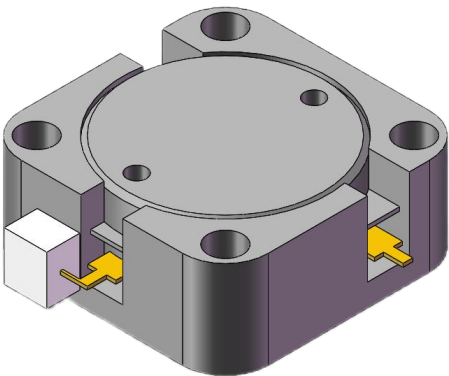


Unit:mm

1.2~1.4GHz

Product Overview

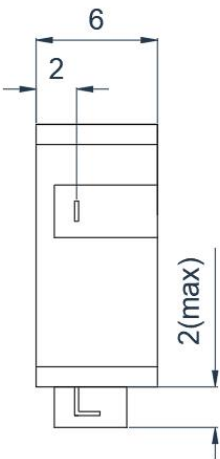
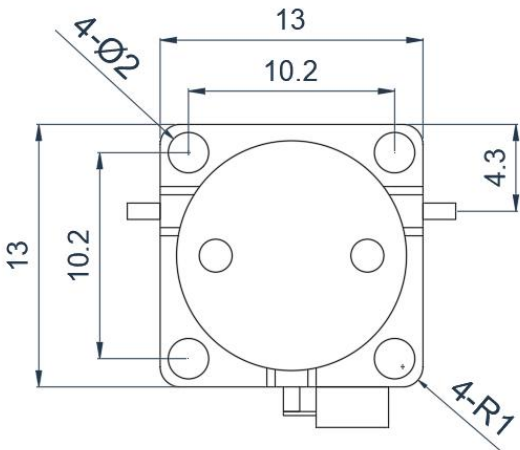
Here are commonly used products of Drop-in Isolator. This product covers the L band range with a relative bandwidth of up to 15%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC12T14G	1.2~1.4	FULL	0.5	20	1.20	-55~+85℃	/100	Clockwise
HDITD12T14G	1.2~1.4	FULL	0.5	20	1.20	-55~+85℃	/100	Counter Clockwise

Product Appearance

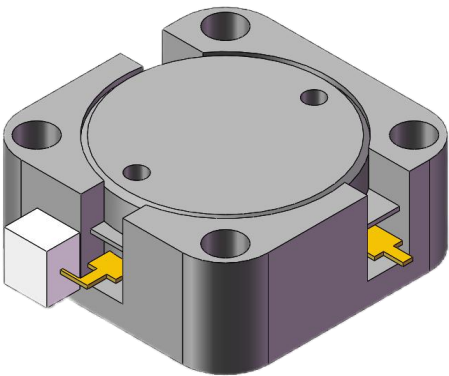


Unit:mm

1.8~3.5GHz

Product Overview

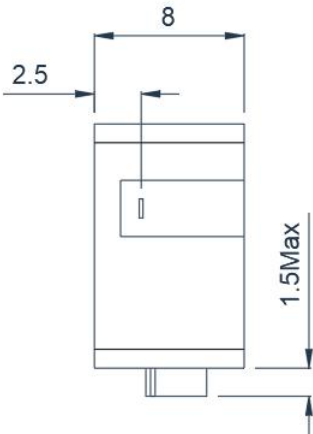
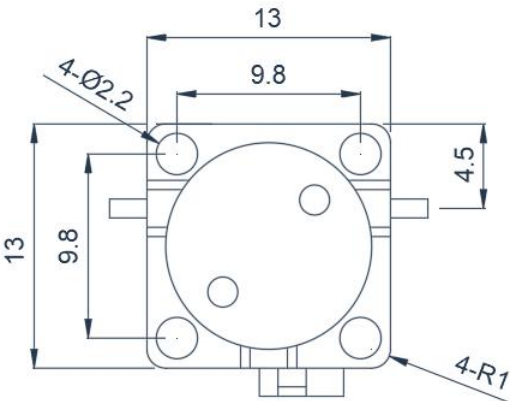
Here are commonly used products of Drop-in Isolator. This product covers the L~S band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC18T35G	1.8~3.5	5%	0.3	20	1.2	-55~+85℃	500/50	Clockwise
HDITD18T35G	1.8~3.5	5%	0.3	20	1.2	-55~+85℃	500/50	Counter Clockwise
HDITC18T35G	1.8~3.5	10%	0.4	20	1.25	-55~+85℃	500/50	Clockwise
HDITD18T35G	1.8~3.5	10%	0.4	20	1.25	-55~+85℃	500/50	Counter Clockwise

Product Appearance



Unit:mm

2.0~3.5GHz

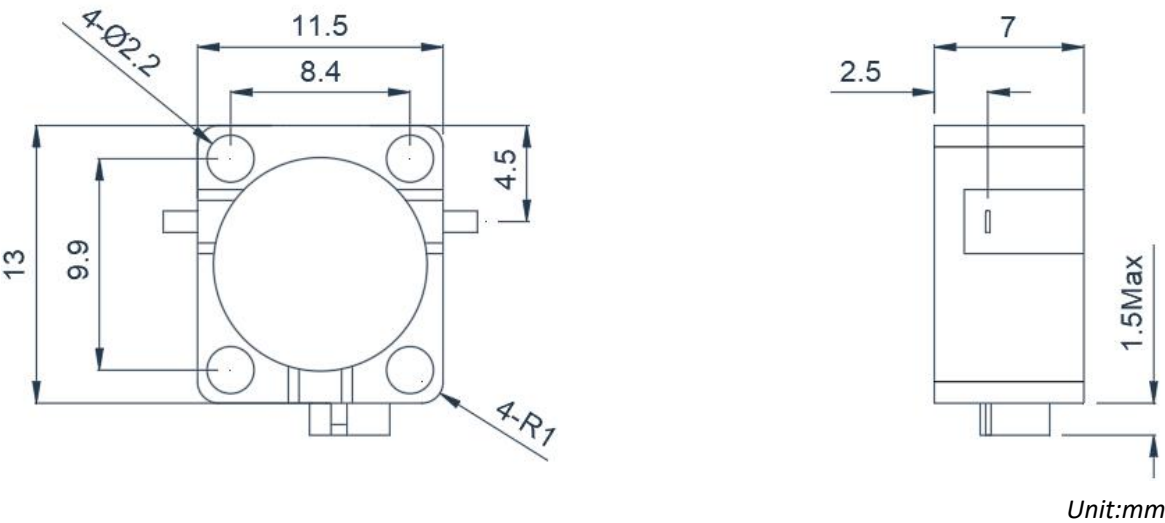
Product Overview

Here are commonly used products of Drop-in Isolator. This product covers the S band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC20T35G	2.0~3.5	10%	0.5	20	1.25	-55~+85℃	200/40	Clockwise
HDITD20T35G	2.0~3.5	10%	0.5	20	1.25	-55~+85℃	200/40	Counter Clockwise
HDITC20T35G	2.0~3.5	5%	0.4	20	1.2	-55~+85℃	200/40	Clockwise
HDITD20T35G	2.0~3.5	5%	0.4	20	1.2	-55~+85℃	200/40	Counter Clockwise

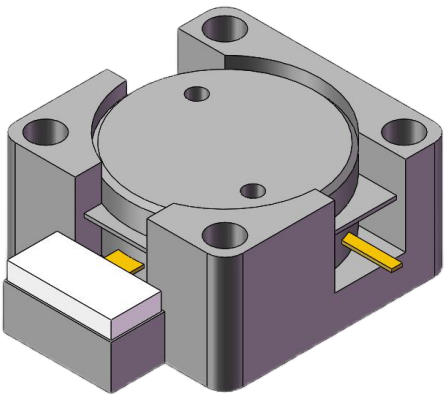
Product Appearance



2.5~5.0GHz

Product Overview

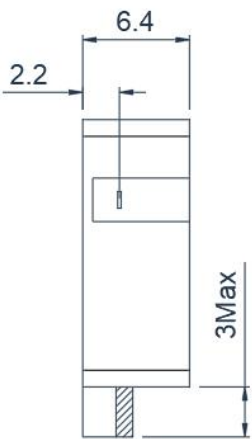
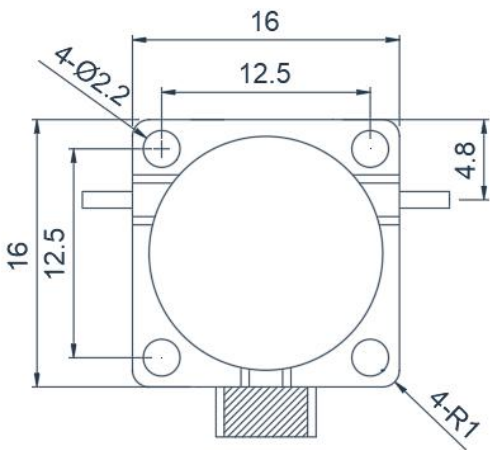
Here are commonly used products of Drop-in Isolator. This product covers the S~C band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC25T50G	2.5~5.0	10%	0.4	20	1.25	-55~+85℃	200/50	Clockwise
HDITD25T50G	2.5~5.0	10%	0.4	20	1.25	-55~+85℃	200/50	Counter Clockwise
HDITC25T50G	2.5~5.0	5%	0.35	20	1.2	-55~+85℃	200/50	Clockwise
HDITD25T50G	2.5~5.0	5%	0.35	20	1.2	-55~+85℃	200/50	Counter Clockwise

Product Appearance



Unit:mm

2.6~4.0GHz

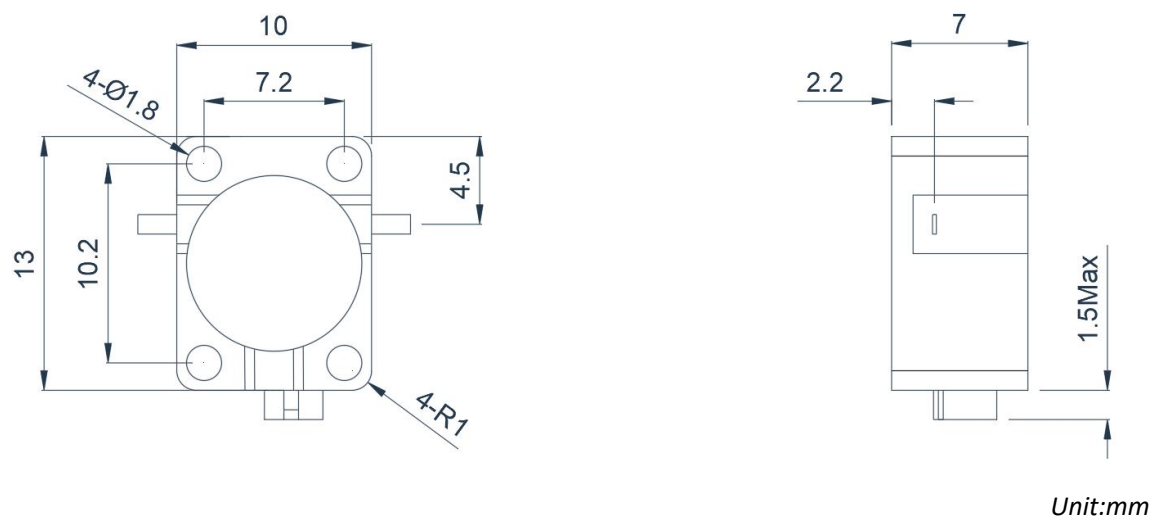
Product Overview

Here are commonly used products of Drop-in isolator. This product covers the S band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC26T40G	2.6~4.0	10%	0.5	20	1.25	-55~+85℃	200/20	Clockwise
HDITD26T40G	2.6~4.0	10%	0.5	20	1.25	-55~+85℃	200/20	Counter Clockwise
HDITC26T40G	2.6~4.0	5%	0.4	20	1.2	-55~+85℃	200/20	Clockwise
HDITD26T40G	2.6~4.0	5%	0.4	20	1.2	-55~+85℃	200/20	Counter Clockwise

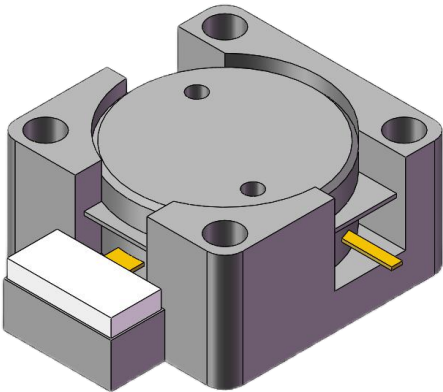
Product Appearance



4.0~8.0GHz

Product Overview

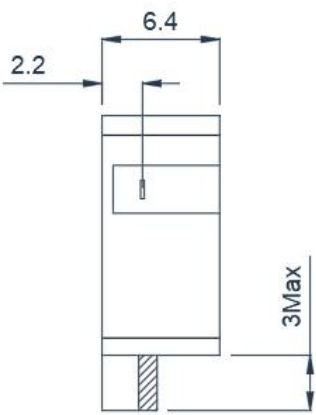
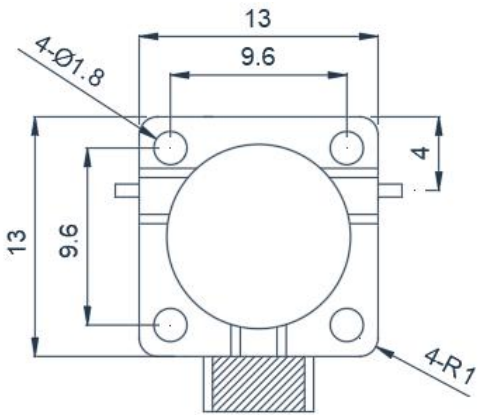
Here are commonly used products of Drop-in Isolator. This product covers the C band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC40T80G	4.0~8.0	10%	0.4	20	1.25	-55~+85℃	200/50	Clockwise
HDITD40T80G	4.0~8.0	10%	0.4	20	1.25	-55~+85℃	200/50	Counter Clockwise
HDITC40T80G	4.0~8.0	5%	0.35	20	1.2	-55~+85℃	200/50	Clockwise
HDITD40T80G	4.0~8.0	5%	0.35	20	1.2	-55~+85℃	200/50	Counter Clockwise

Product Appearance

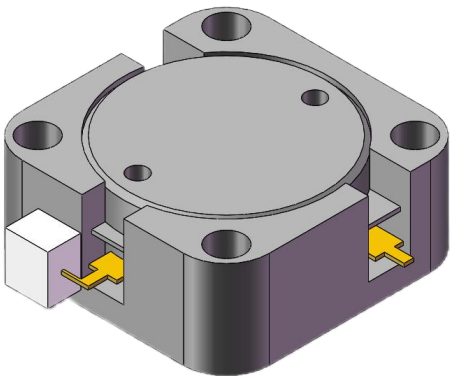


Unit:mm

5.0~6.0GHz

Product Overview

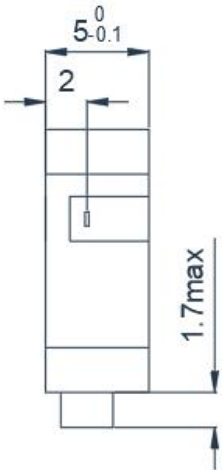
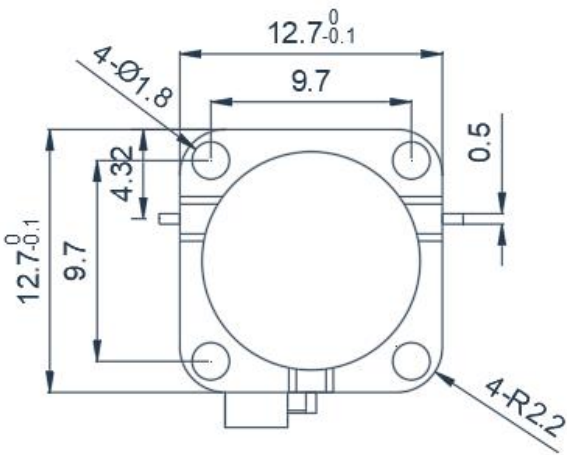
Here are commonly used products of Drop-in Isolator. This product covers the C band range with a relative bandwidth of up to 18%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC50T60G	5.0~6.0	FULL	0.4	20	1.20	-55~+85℃	/50	Clockwise
HDITD50T60G	5.0~6.0	FULL	0.4	20	1.20	-55~+85℃	/50	Counter Clockwise

Product Appearance

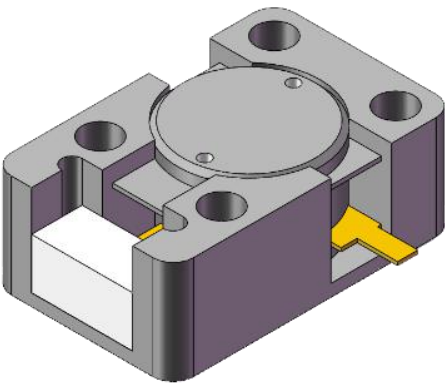


Unit:mm

6.0~18.0GHz

Product Overview

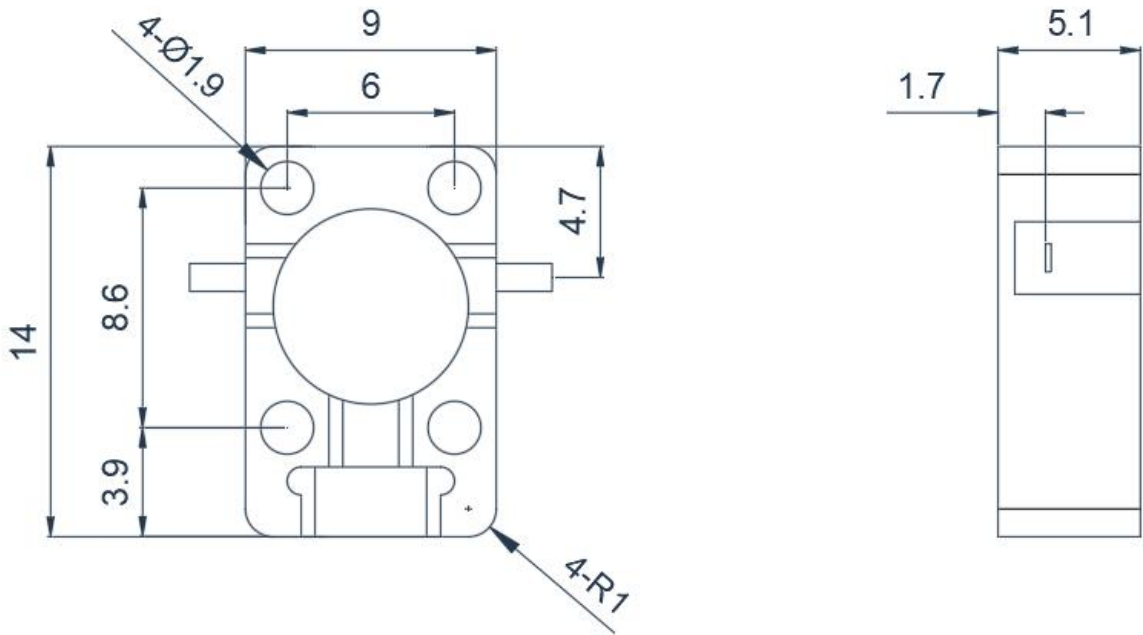
Here are commonly used products of Drop-in Isolator. This product covers the C~Ku band range with a relative bandwidth of up to 5~10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC60T180G	6.0~18.0	5%	0.35	20	1.20	-55~+85℃	100/20	Clockwise
HDITD60T180G	6.0~18.0	5%	0.35	20	1.20	-55~+85℃	100/20	Counter Clockwise
HDITC60T180G	6.0~18.0	10%	0.4	20	1.25	-55~+85℃	100/20	Clockwise
HDITD60T180G	6.0~18.0	10%	0.4	20	1.25	-55~+85℃	100/20	Counter Clockwise

Product Appearance

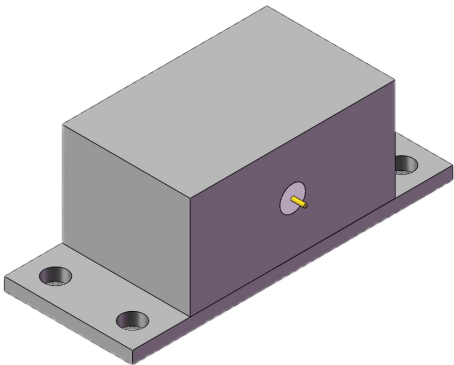


Unit:mm

18.0~40.0GHz

Product Overview

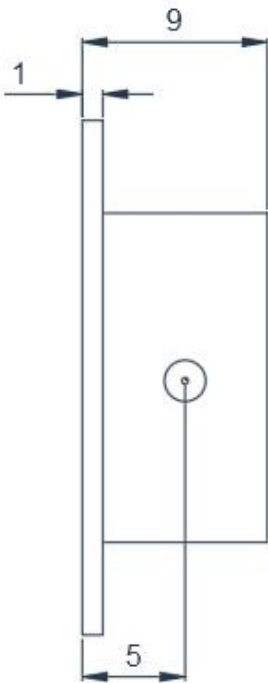
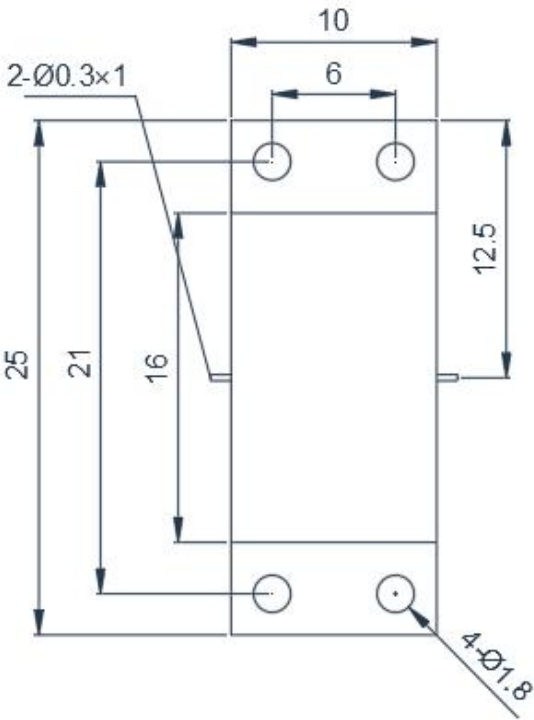
Here are commonly used products of Drop-in Isolator. This product covers the K~Ka band range with a relative bandwidth of up to 10%. Dimensions and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC180T400G	18.0~40.0	10%	0.6	18	1.35	-55~+85℃	20/5	Clockwise
HDITD180T400G	18.0~40.0	10%	0.6	18	1.35	-55~+85℃	20/5	Counter Clockwise

Product Appearance



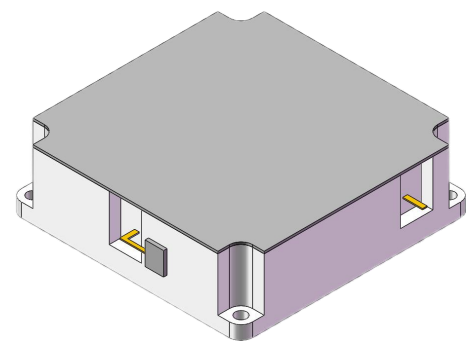
Unit:mm

3.2.2 Broadband Drop-in Isolator

0.1~0.4GHz

Product Overview

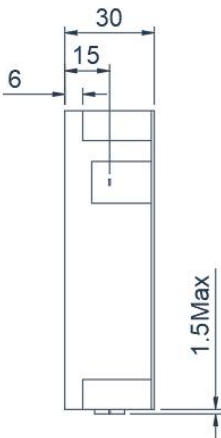
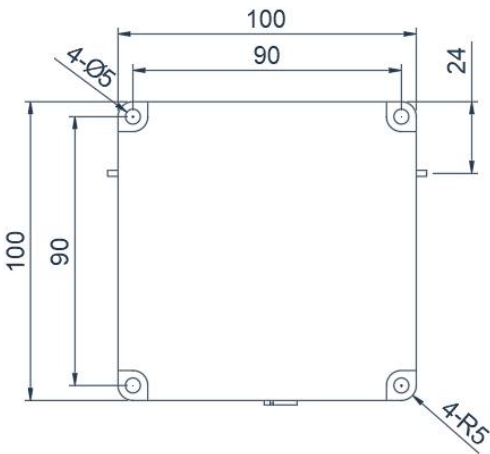
The following products are Broadband Drop-in Isolator, covering the frequency range from VHF to UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC100T400M-B	0.1~0.4	40%	0.6	15	1.5	-55~+85℃	1000/100	Clockwise
HDITD100T400M-B	0.1~0.4	40%	0.6	15	1.5	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

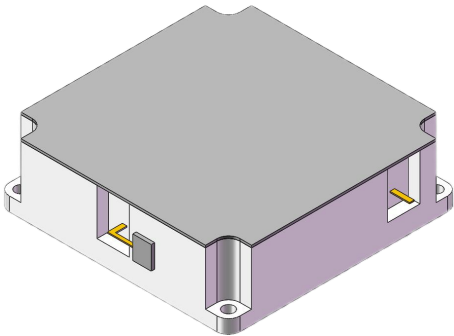


Unit:mm

0.3~0.6GHz

Product Overview

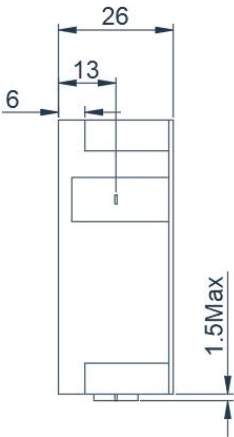
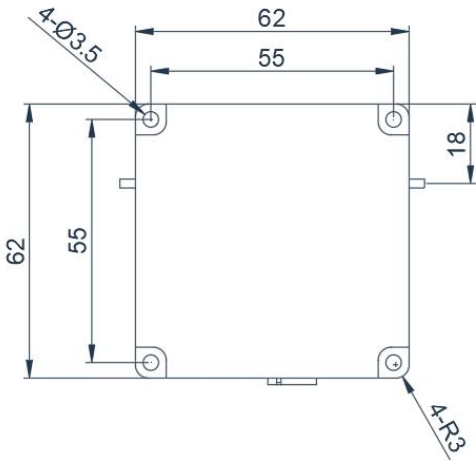
The following products are Broadband Drop-in Isolator, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC300T600M-B	0.3~0.6	40%	0.6	15	1.5	-55~+85℃	1000/100	Clockwise
HDITD300T600M-B	0.3~0.6	40%	0.6	15	1.5	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

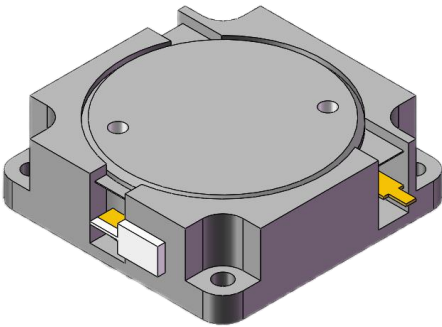


Unit:mm

0.5~1.0GHz

Product Overview

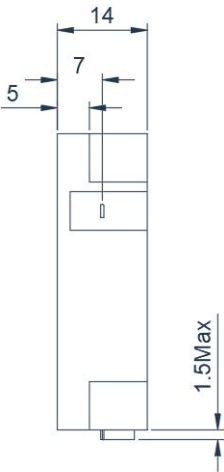
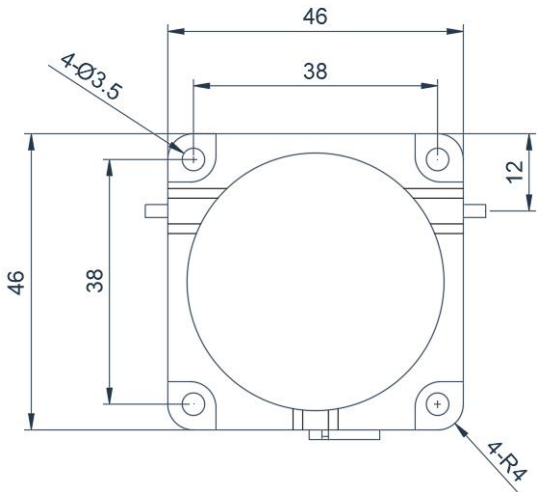
The following products are Broadband Drop-in Isolator, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC05T10G-B	0.5~1.0	40%	0.6	15	1.5	-55~+85℃	1000/100	Clockwise
HDITD05T10G-B	0.5~1.0	40%	0.6	15	1.5	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

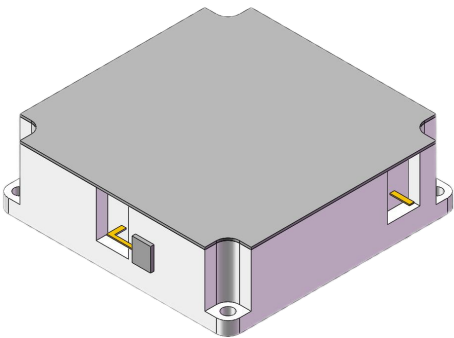


Unit:mm

1.0~2.0GHz

Product Overview

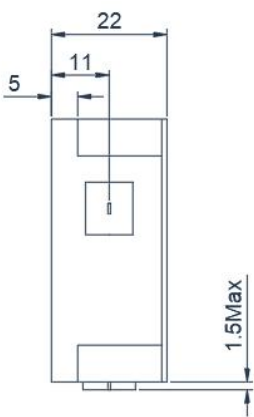
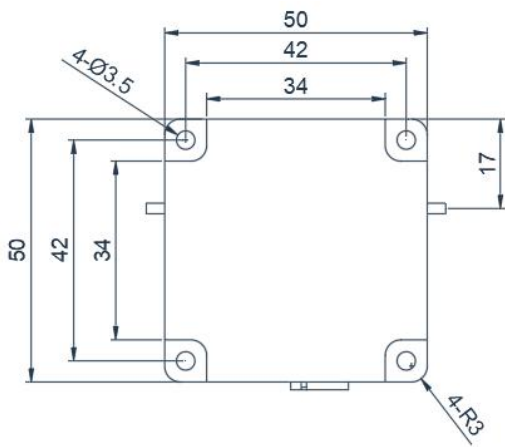
The following products are Broadband Drop-in Isolator covering the entire L-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC10T20G-B	1.0~2.0	FULL	0.7(1.0)	16(14)	1.5(1.6)	0~+60℃	-/100	Clockwise
HDITD10T20G-B	1.0~2.0	FULL	0.7(1.0)	16(14)	1.5(1.6)	0~+60℃	-/100	Counter Clockwise

Product Appearance

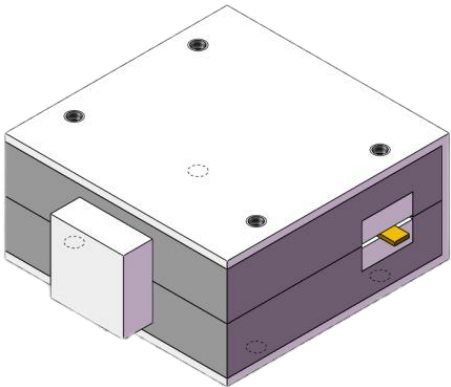


Unit:mm

2.0~6.0GHz

Product Overview

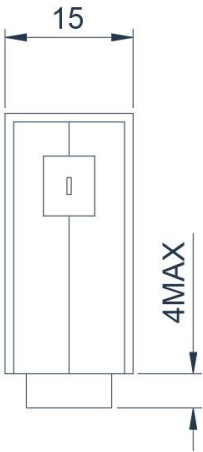
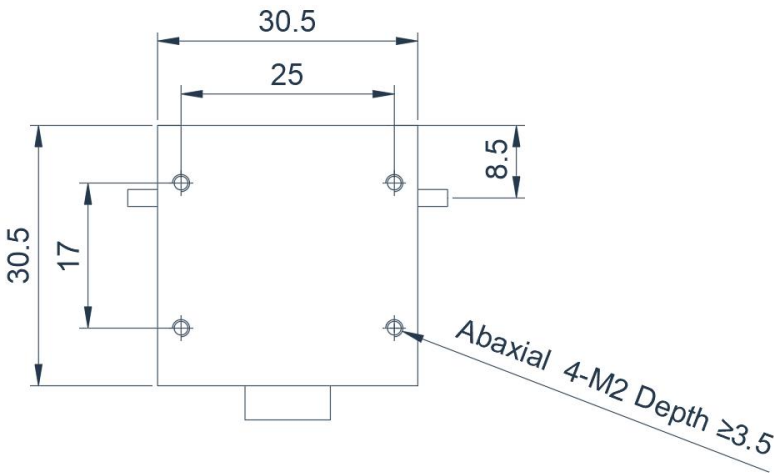
The following products are Broadband Drop-in Isolator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 66.6% ro 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	-55~+85℃	/80	Clockwise
HDITD20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	-55~+85℃	/80	Counter Clockwise
HDITC20T60G-B	2.0~6.0	FULL	1.0(1.2)	11	1.65(1.75)	-55~+85℃	/80	Clockwise
HDITD20T60G-B	2.0~6.0	FULL	1.0(1.2)	11	1.65(1.75)	-55~+85℃	/80	Counter Clockwise

Product Appearance

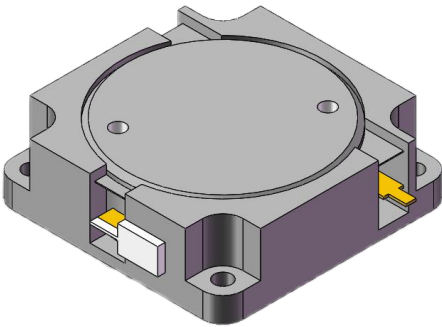


Unit:mm

2.0~6.0GHz

Product Overview

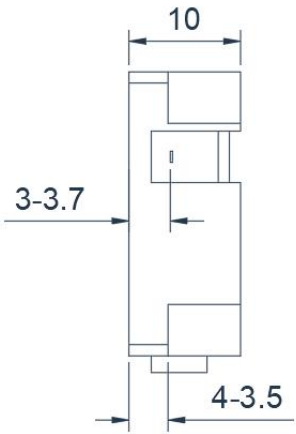
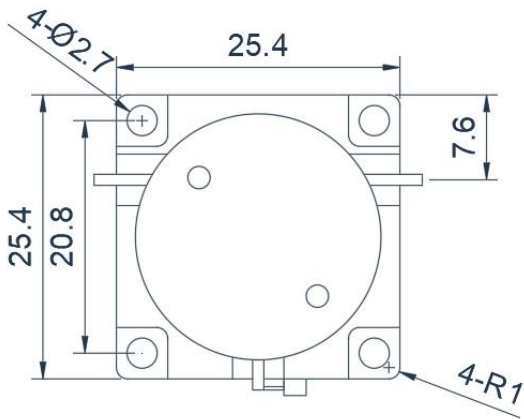
The following products are Broadband Drop-in Isolator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC20T60G-B	2.0~6.0	FULL	1.0(1.2)	11(10)	1.7(1.8)	-55~+85℃	-/50	Clockwise
HDITD20T60G-B	2.0~6.0	FULL	1.0(1.2)	11(10)	1.7(1.8)	-55~+85℃	-/50	Counter Clockwise

Product Appearance

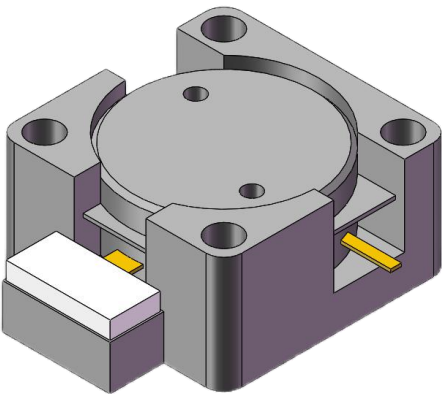


Unit:mm

4.0~8.0GHz

Product Overview

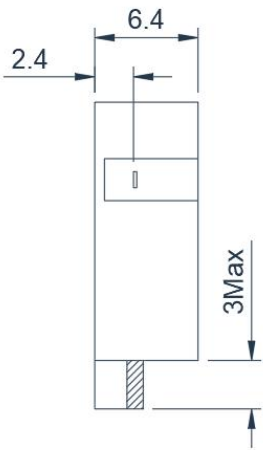
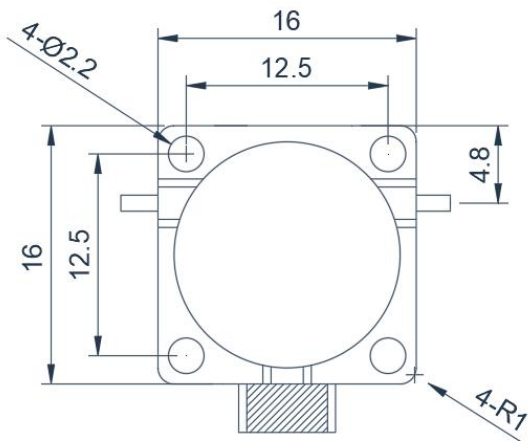
The following products are Broadband Drop-in Isolator covering the entire C-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDCTC40T80G-B	4.0~8.0	FULL	0.5	17	1.35	-55~+85℃	/60	Clockwise
HDCTD40T80G-B	4.0~8.0	FULL	0.5	17	1.35	-55~+85℃	/60	Counter Clockwise

Product Appearance

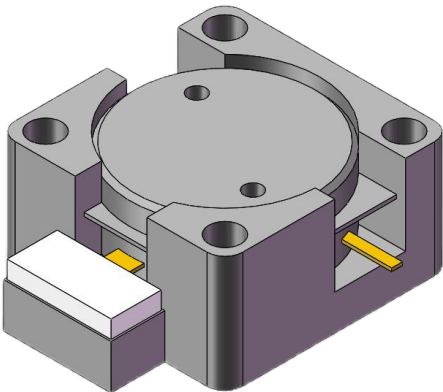


Unit:mm

6.0~18.0GHz

Product Overview

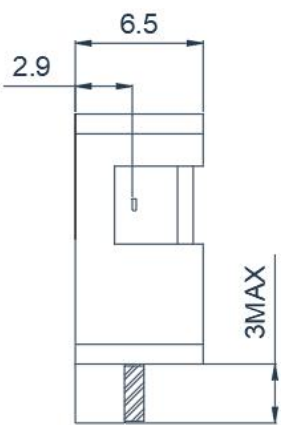
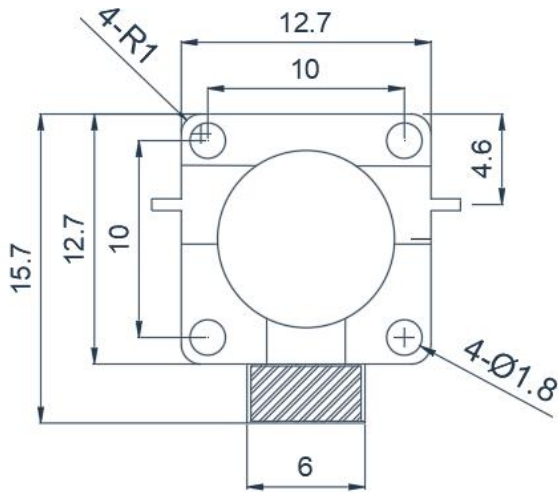
The following products are Broadband Drop-in Isolator, covering the frequency range from C to Ku bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC60T180G-B	6.0~18.0	FULL	1.2	11	1.7	-55~+85℃	/30	Clockwise
HDITD60T180G-B	6.0~18.0	FULL	1.2	11	1.7	-55~+85℃	/30	Counter Clockwise

Product Appearance

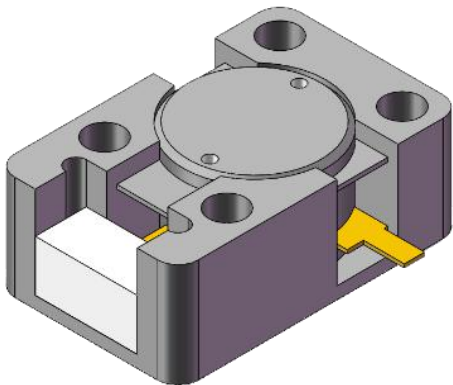


Unit:mm

8.0~18.0GHz

Product Overview

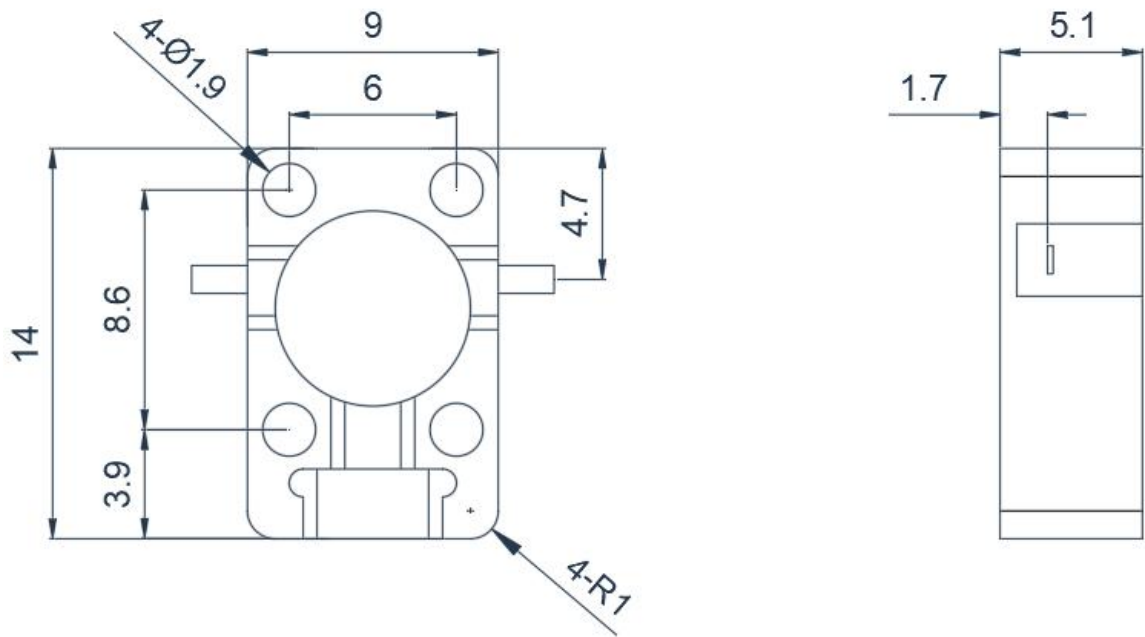
The following products are Broadband Drop-in Isolator covering the entire X-band or Ku-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC80T120G-B	8.0~12.0	FULL	0.5(0.6)	18(16)	1.3(1.35)	-55~+85℃	50/20	Clockwise
HDITD80T120G-B	8.0~12.0	FULL	0.5(0.6)	18(16)	1.3(1.35)	-55~+85℃	50/20	Counter Clockwise
HDITC120T180G-B	12.0~18.0	FULL	0.6(0.7)	16	1.35(1.4)	-55~+85℃	50/20	Clockwise
HDITD120T180G-B	12.0~18.0	FULL	0.6(0.7)	16	1.35(1.4)	-55~+85℃	50/20	Counter Clockwise

Product Appearance

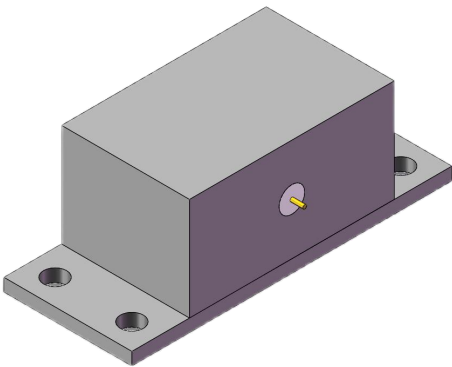


Unit:mm

18.0~26.5GHz

Product Overview

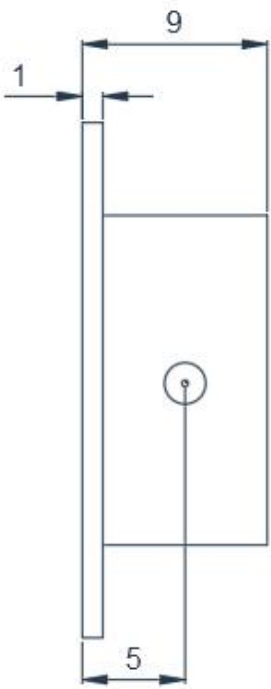
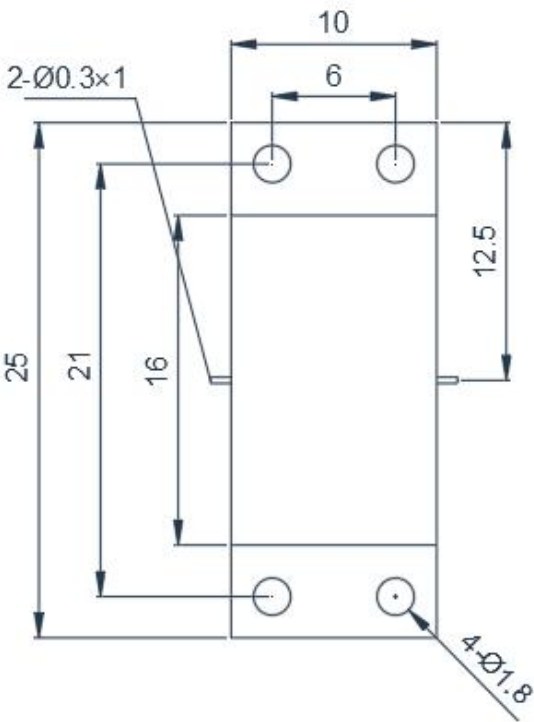
The following products are Broadband Drop-in Isolators covering the entire K-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC180T265G-B	18.0~26.5	FULL	1.0	14	1.5	-55~+85℃	20/5	Clockwise
HDITD180T265G-B	18.0~26.5	FULL	1.0	14	1.5	-55~+85℃	20/5	Counter Clockwise

Product Appearance



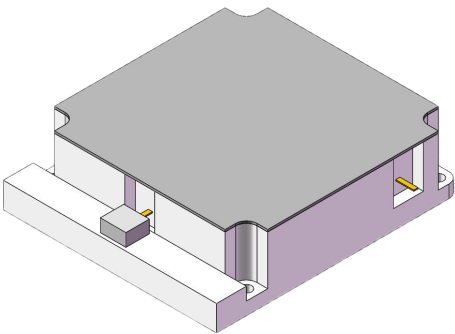
Unit:mm

3.2.3 High Power Drop-in Isolator

0.05~0.2GHz

Product Overview

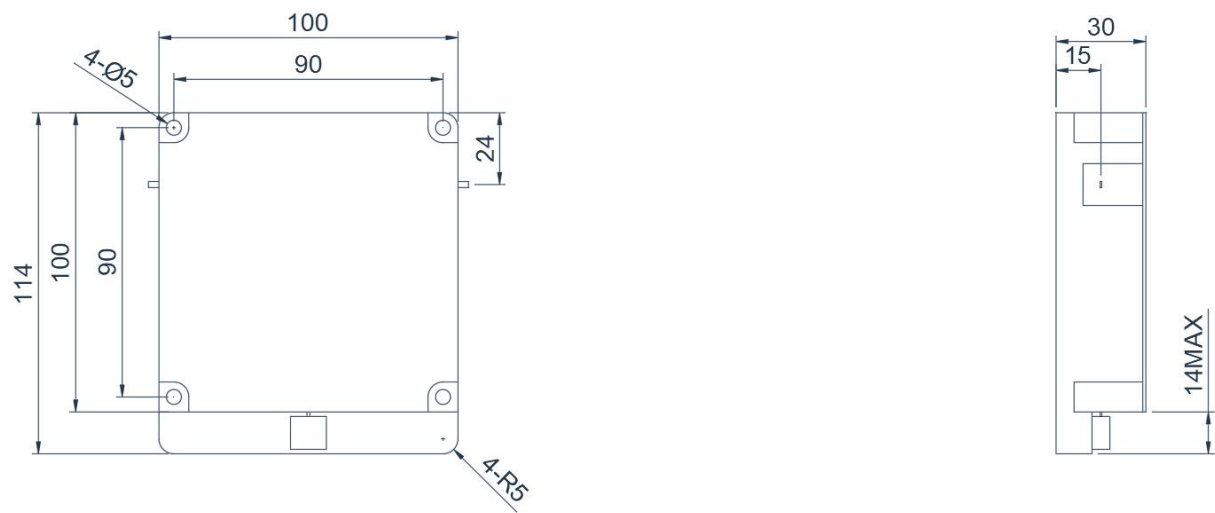
The following products are case examples of VHF band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC50T200M-H	0.05~0.2	10%	0.4	20	1.2	-55~+85℃	5000/500	Clockwise
HDITD50T200M-H	0.05~0.2	10%	0.4	20	1.2	-55~+85℃	5000/500	Counter Clockwise

Product Appearance

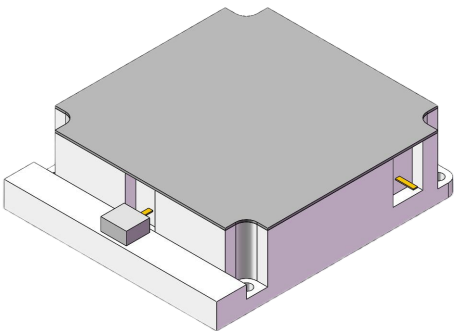


Unit:mm

0.1~0.3GHz

Product Overview

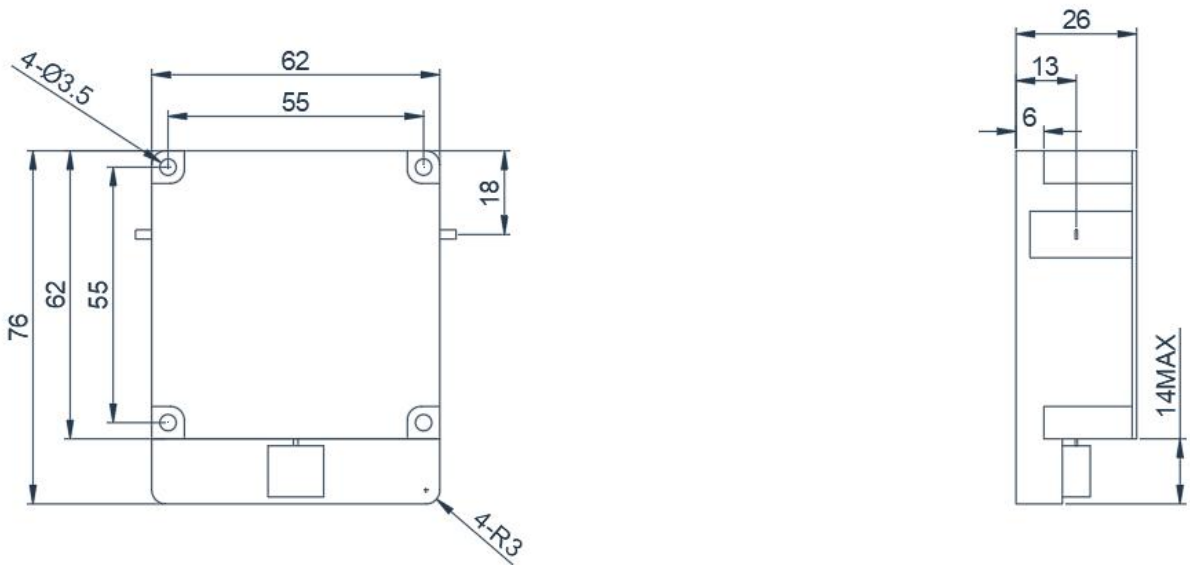
The following products are case examples of VHF band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC01T03G-H	0.1~0.3	10%	0.4	20	1.2	-55~+85℃	5000/500	Clockwise
HDITD01T03G-H	0.1~0.3	10%	0.4	20	1.2	-55~+85℃	5000/500	Counter Clockwise

Product Appearance



Unit:mm

0.25~0.6GHz

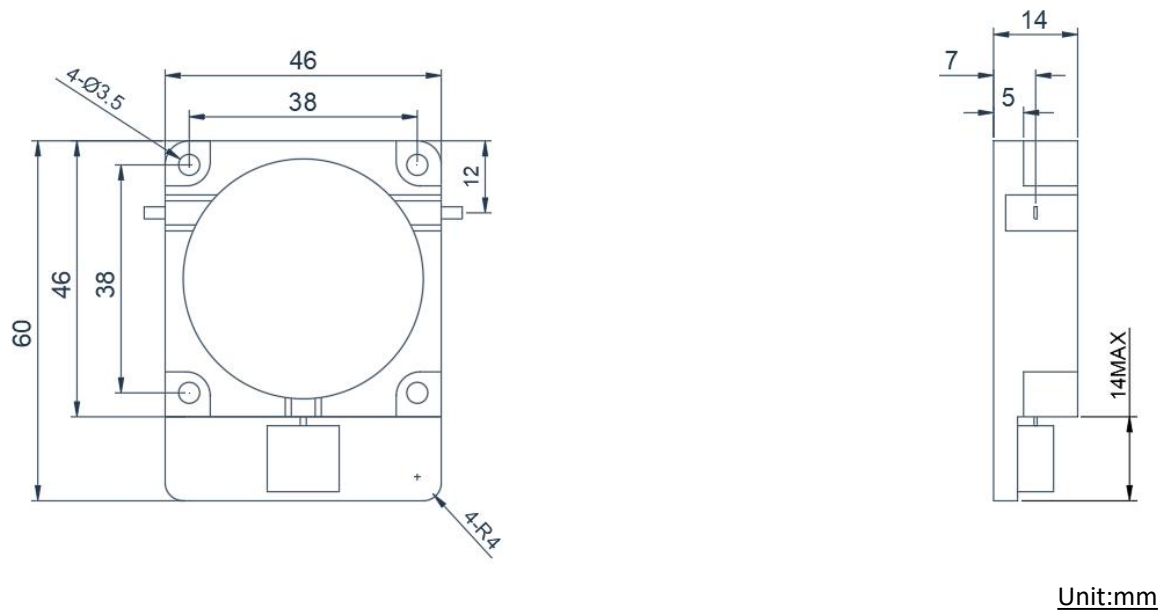
Product Overview

The following products are case examples of VHF to UHF band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC01T03G-H	0.25~0.6	10%	0.4	20	1.2	-55~+85℃	5000/500	Clockwise
HDITD01T03G-H	0.25~0.6	10%	0.4	20	1.2	-55~+85℃	5000/500	Counter Clockwise

Product Appearance



0.5~1.0GHz

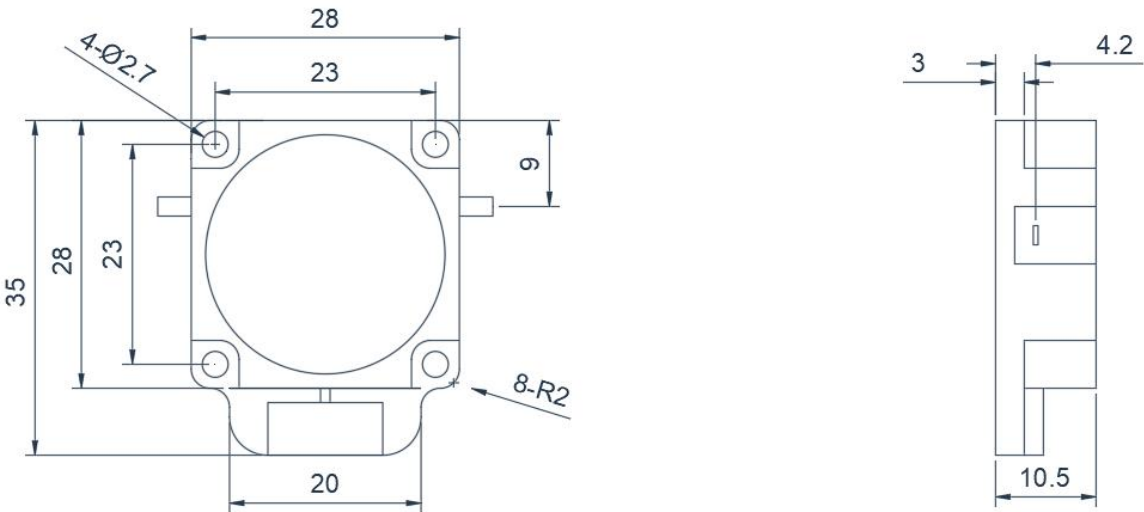
Product Overview

The following products are case examples of UHF band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC05T10G-H	0.5~1.0	10%	0.4	20	1.2	-55~+85℃	2000/200	Clockwise
HDITD05T10G-H	0.5~1.0	10%	0.4	20	1.2	-55~+85℃	2000/200	Counter Clockwise

Product Appearance



Unit:mm

1.0~6.0GHz

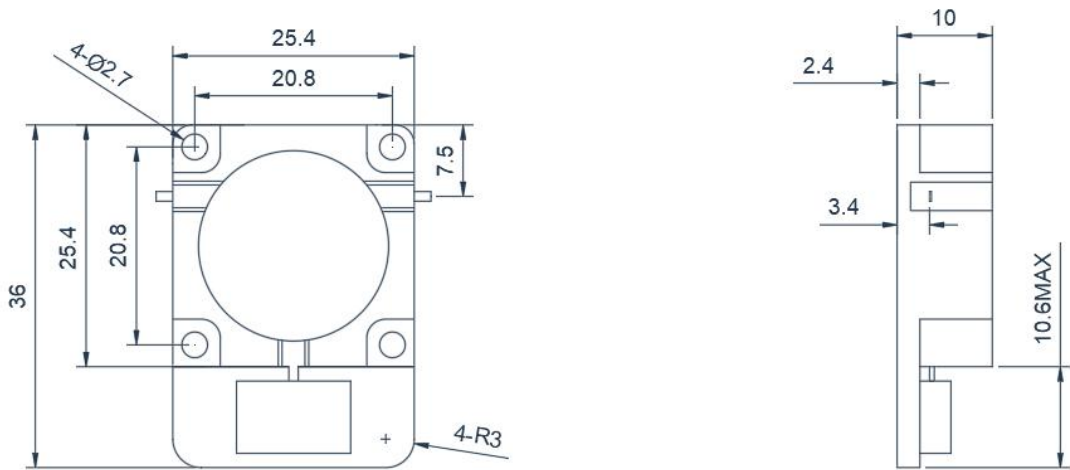
Product Overview

The following products are case examples of L~C band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC10T60G-H	1.0~6.0	10%	0.4	20	1.2	-40~+70℃	2000/200	Clockwise
HDITD10T60G-H	1.0~6.0	10%	0.4	20	1.2	-40~+70℃	2000/200	Counter Clockwise

Product Appearance



Unit:mm

1.0~6.0GHz

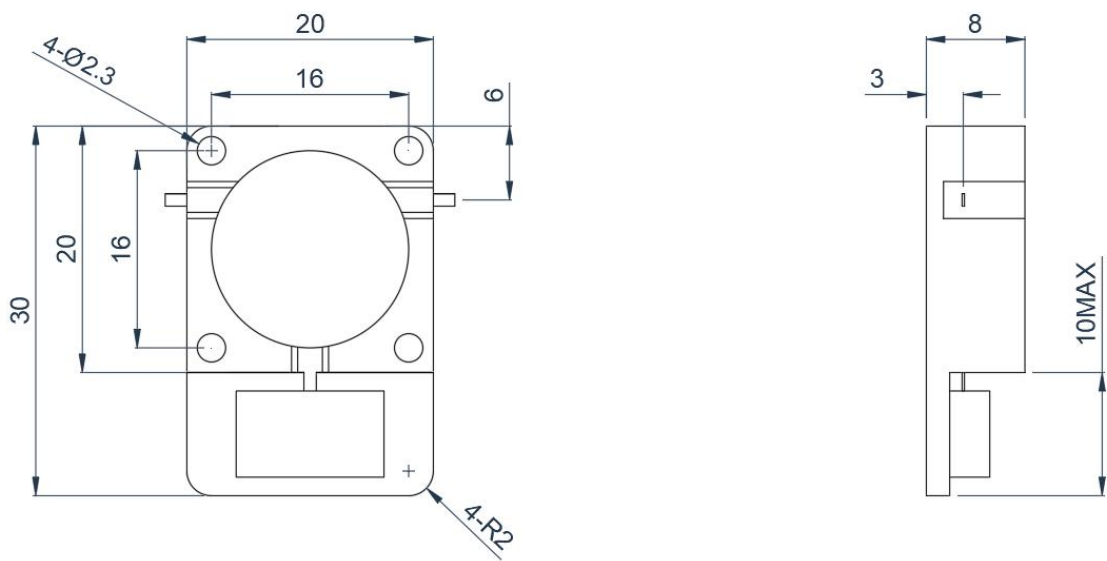
Product Overview

The following products are case examples of L~C band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HDITC10T60G-H	1.0~6.0	10%	0.4	20	1.2	-40~+70℃	1000/100/100	Clockwise
HDITD10T60G-H	1.0~6.0	10%	0.4	20	1.2	-40~+70℃	1000/100/100	Counter Clockwise

Product Appearance



Unit:mm

1.6~3.4GHz

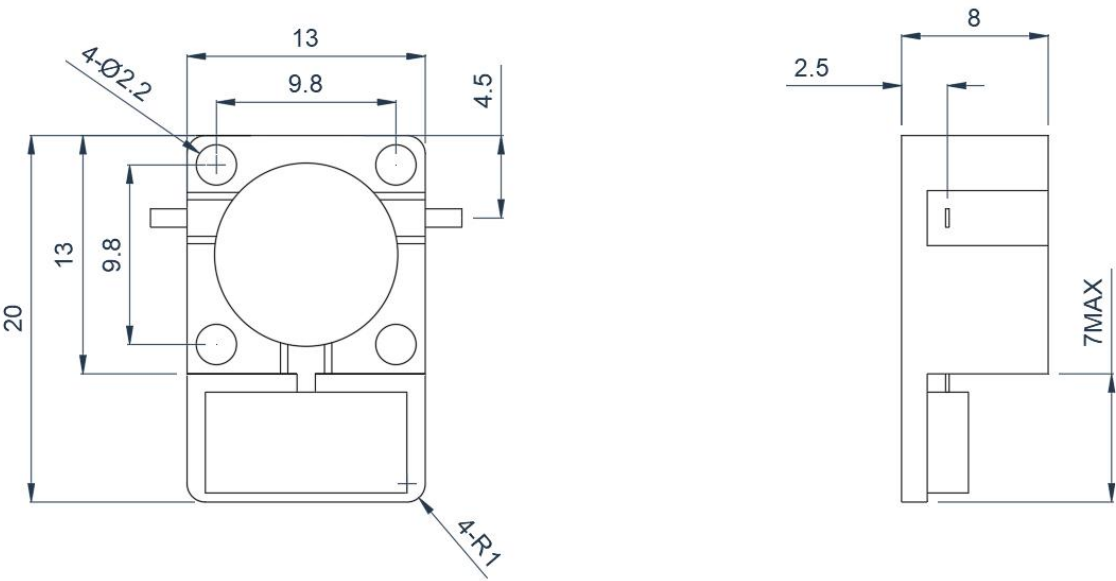
Product Overview

The following products are case examples of L~S band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC40T60G-H	1.6~3.4	10%	0.4	20	1.2	-40~+70℃	1000/100	Clockwise
HDITD40T60G-H	1.6~3.4	10%	0.4	20	1.2	-40~+70℃	1000/100	Counter Clockwise

Product Appearance



Unit:mm

4.0~6.0GHz

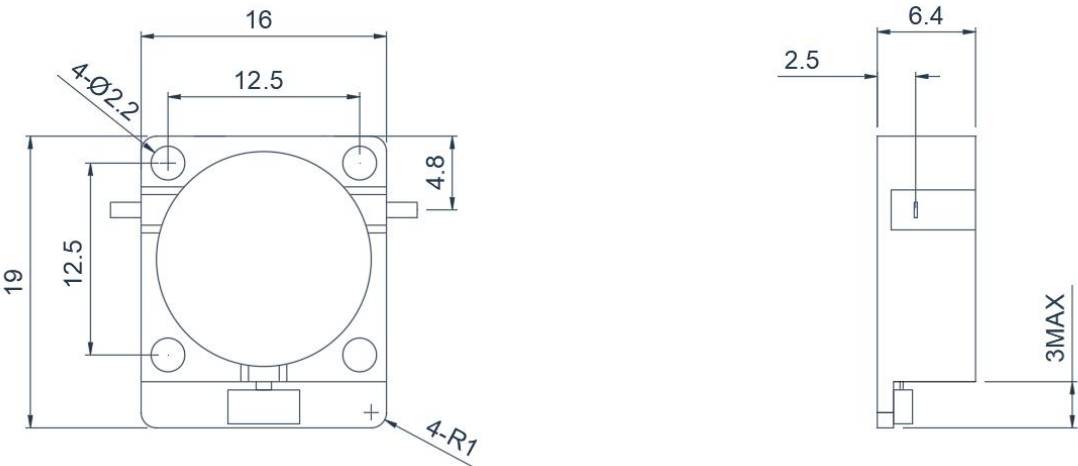
Product Overview

The following products are case examples of C band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC40T60G-H	4.0~6.0	10%	0.4	20	1.2	-40~+70℃	500/80	Clockwise
HDITD40T60G-H	4.0~6.0	10%	0.4	20	1.2	-40~+70℃	500/80	Counter Clockwise

Product Appearance



Unit:mm

5.0~12.0GHz

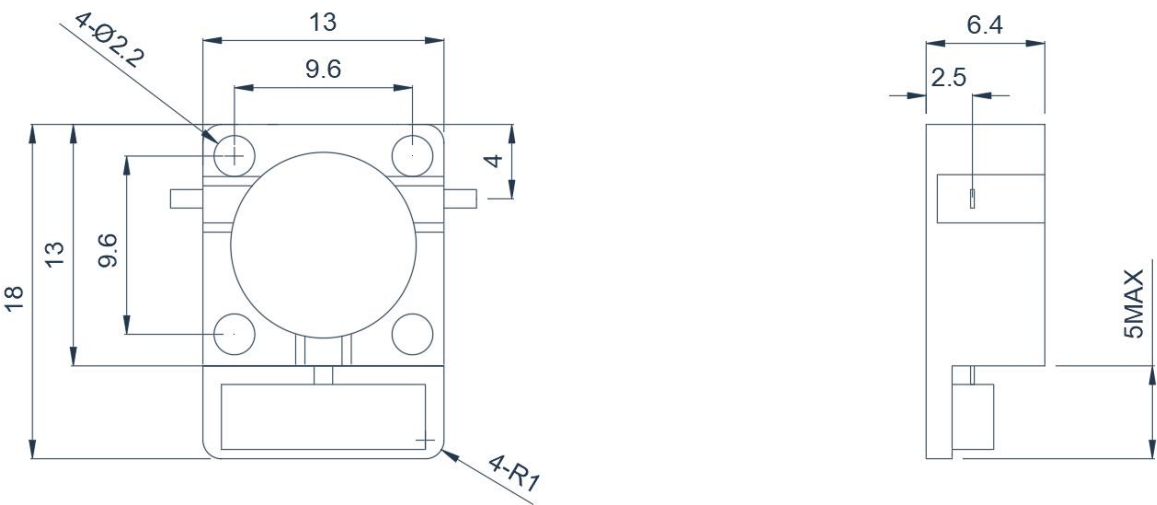
Product Overview

The following products are case examples of C~X band High Power Drop-in Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDITC50T120G-H	5.0~12.0	10%	0.4	20	1.2	-40~+70℃	500/80	Clockwise
HDITD50T120G-H	5.0~12.0	10%	0.4	20	1.2	-40~+70℃	200/50	Counter Clockwise

Product Appearance



Unit:mm

3.2.4 SMD Isolator(SMT)

0.46~1.88GHz

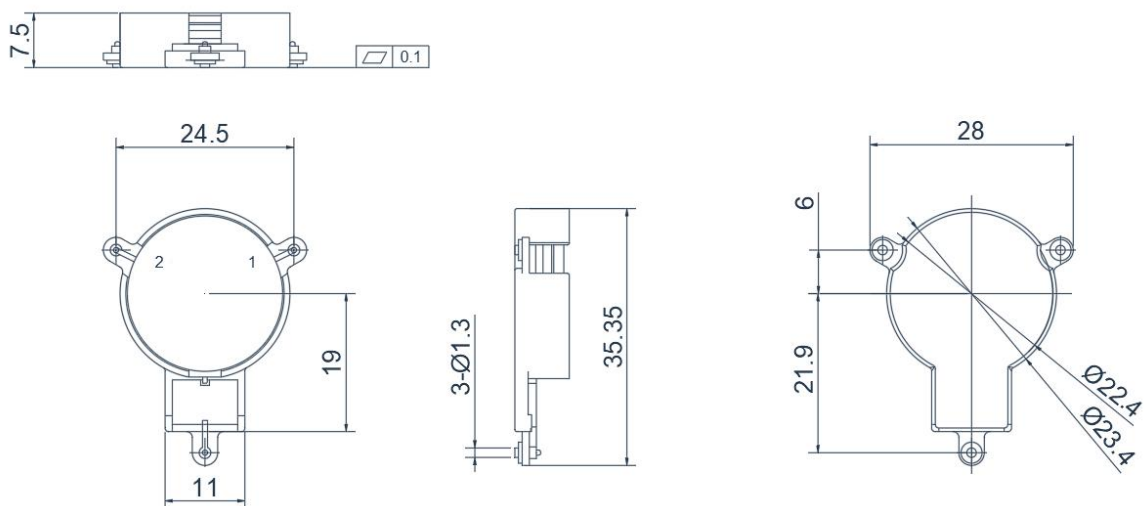
Product Overview

The following is an UHF-band to L-band SMD Isolator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDIE460T470M	0.46~0.47	FULL	0.35(0.3)	19(22)	1.25(1.17)	-40~+125	2500/250	Clockwise
HDIF460T470M	0.46~0.47	FULL	0.35(0.3)	19(22)	1.25(1.17)	-40~+125	2500/250	Counter Clockwise
HDIE758T821M	0.758~0.821	FULL	0.30(0.25)	23(24)	1.22(1.15/1.12)	-40~+125	2500/250	Clockwise
HDIF758T821M	0.758~0.821	FULL	0.30(0.25)	23(24)	1.22(1.15/1.12)	-40~+125	2500/250	Counter Clockwise
HDIE1805T1880M	1.805~1.88	FULL	0.25(0.2)	23(25)	1.22(1.15/1.12)	-40~+125	2500/250	Clockwise
HDIF1805T1880M	1.805~1.88	FULL	0.25(0.2)	23(25)	1.22(1.15/1.12)	-40~+125	2500/250	Counter Clockwise

Product Appearance



Unit:mm

0.758~0.821GHz

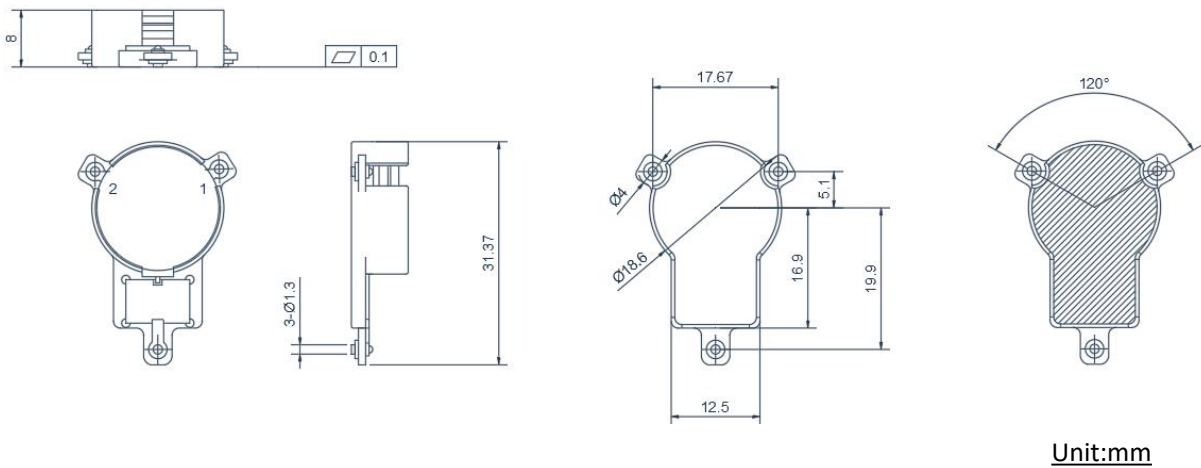
Product Overview

The following is an UHF-band SMD Isolator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDIE758T821M	0.758~0.821	FULL	0.20(0.15)	20(23/25)	1.22(1.15/1.12)	-40~+125	2500/250	Clockwise
HDIF758T821M	0.758~0.821	FULL	0.20(0.15)	20(23/25)	1.22(1.15/1.12)	-40~+125	2500/250	Counter Clockwise

Product Appearance



1.805~2.17GHz

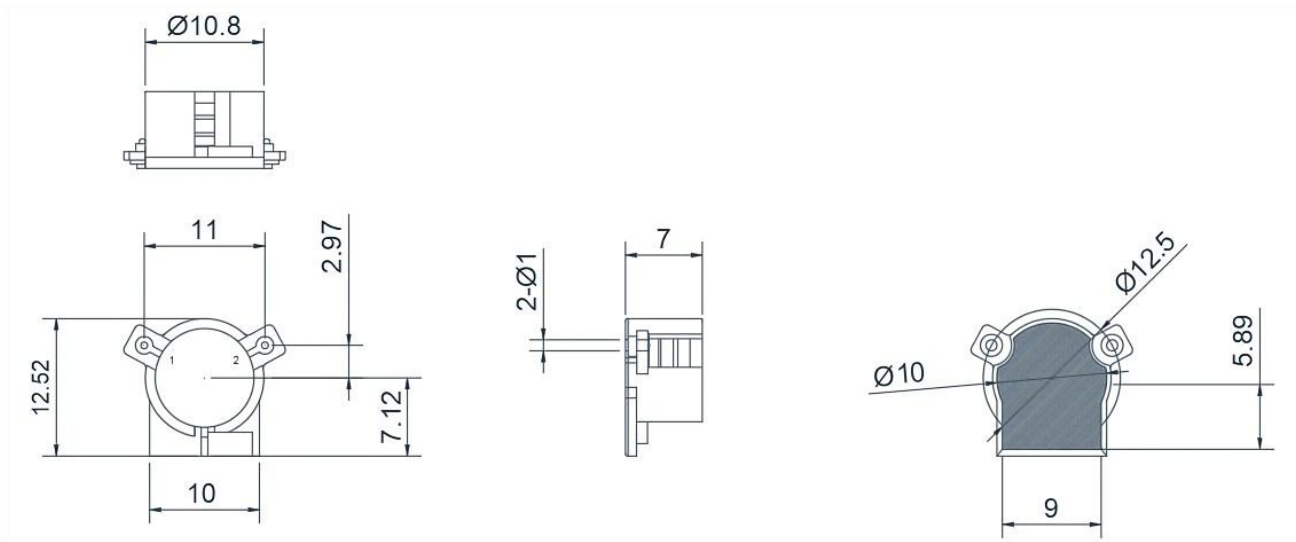
Product Overview

The following is an L-band to S-band SMD Isolator that can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)	Direction
HDIE1805T2170M	1.805~2.17	FULL	0.7(0.6)	14	1.5	-40~+125	120/20	Clockwise
HDIF1805T2170M	1.805~2.17	FULL	0.7(0.6)	14	1.5	-40~+125	120/20	Counter Clockwise

Product Appearance



Unit:mm

2.11~2.17GHz

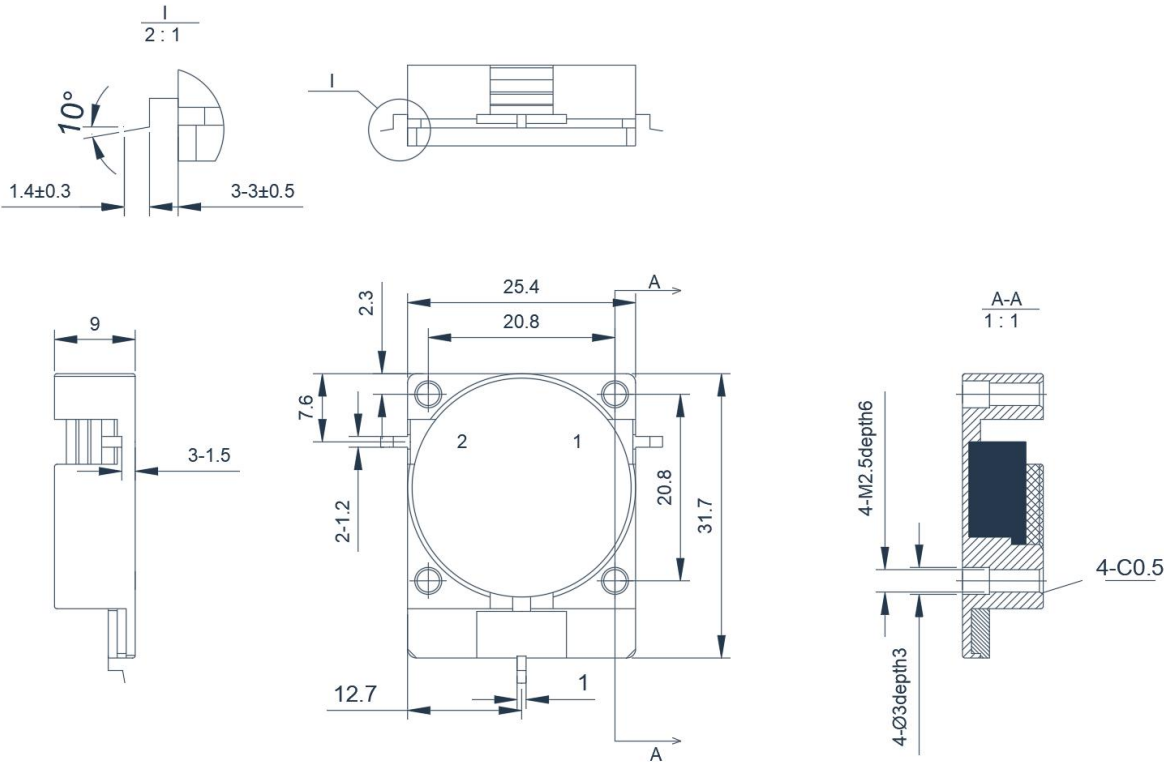
Product Overview

The following products are SMT Isolators for the S-Band. They are based on the Drop-In Isolator with bent pins, making it convenient to install the isoculator without the need to carve out a special slot in the installation area. This kind of product can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDIE2110T2170M	2.11~2.17	FULL	0.25(0.2)	23(25)	1.22(1.15/1.12)	-40~+125	2500/250	Clockwise
HDIF2110T2170M	2.11~2.17	FULL	0.25(0.2)	23(25)	1.22(1.15/1.12)	-40~+125	2500/250	Counter Clockwise

Product Appearance



Unit:mm

0.9~3.8GHz

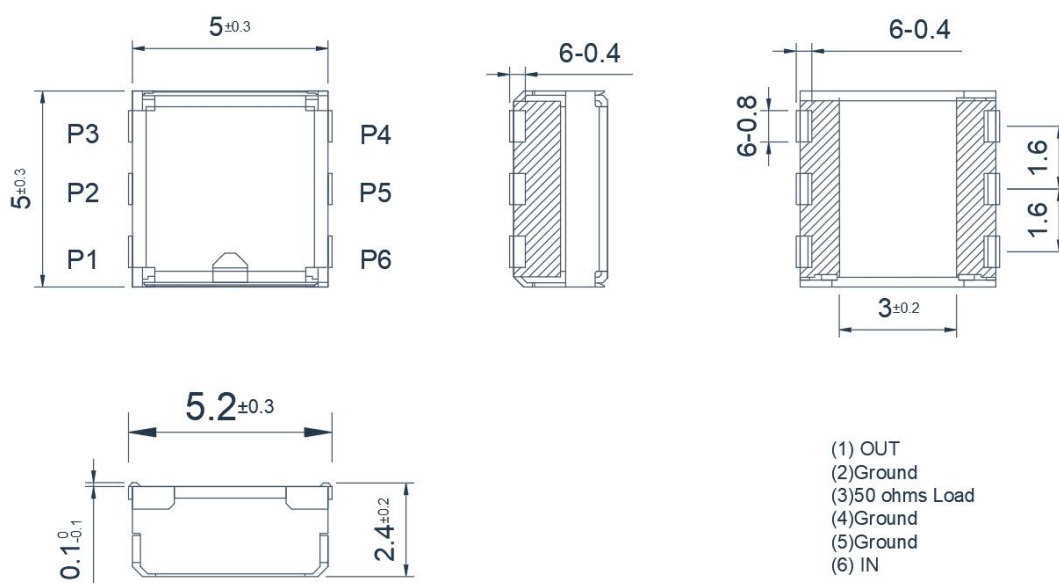
Product Overview

The following products belong to the Miniaturized SMT Summarized Parameter Isolators. They have 6 ports, with 4 grounds, and 2 customizable ports. The dimensions are as small as 5x5mm, but they have relatively poor specifications and limited power capacity. This kind of product can be customized according to your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (°C)	PK/CW (Watt)
HLIU925T960M	0.925~0.96	FULL	0.7(-35~+85℃) 0.9(+85~+115℃)	10(-40~+125℃)	1.92(-40~+125℃)	-40~+125℃	10/2
HLIU1427T1517M	1.427~1.517	FULL	0.8(-40~+125℃)	13(-40~+125℃)	1.58(-40~+125℃)	-40~+125℃	10/2
HLIU1610T1626M	1.61~1.626	FULL	0.6(-15~+35℃) 0.65(-35~+85℃)	15(-15~+35℃) 14(-35~+85℃)	1.40(-15~+35℃) 1.50 (-35~+85℃)	-40~+125℃	10/2
HLIU1805T1880M	1.805~1.88	FULL	0.6(-35~+85℃) 0.75(+85~+125℃)	14(-35~+85℃) 13(+85~+125℃)	1.50(-35~+85℃) 1.58(+85~+125℃)	-40~+125℃	10/2
HLIU2470T2730M	2.47~2.73	FULL	0.85(-40~+105℃) 0.95(+105~+125℃)	12(-40~+125℃)	1.67(-40~+125℃)	-40~+125℃	10/2
HLIU3400T3800M	3.4~3.8	FULL	1.0(-40~+85℃) 1.2(+85~+125℃)	10(-40~+85℃) 8(+85~+125℃)	1.92(-40~+85℃) 2.3(+85~+125℃)	-40~+125℃	10/2

Product Appearance



Unit:mm

- The product's operating temperature can reach from -40°C to 125°C.
- The transmission direction is independent of the model and can be adjusted clockwise or counterclockwise according to customer requirements.
- Currently, the height can be achieved at 2.5mm or below, and specific dimensions can be customized according to customer requirements.

3.3 Dual-Junction Circulator

3.3.1 Typical Drop-in Dual-Junction Circulator

1.2~1.4GHz

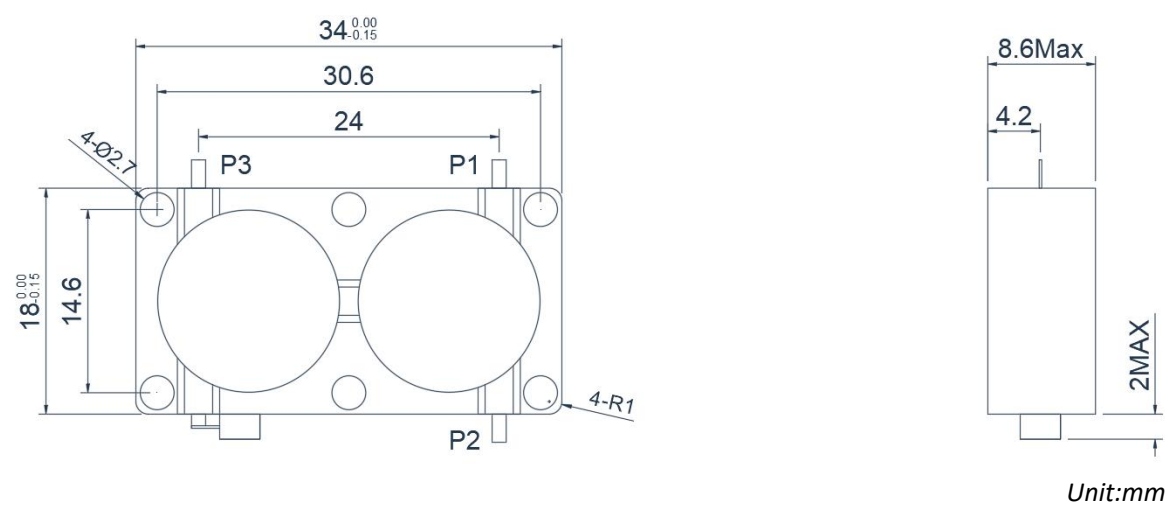
Product Overview

Here is an L-band Drop-in Dual-Junction Circulator. It can be customized for small size, high power, port positions, and transmission directions based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDDHA12T14G	1.2~1.4	FULL	0.4(P1-P2)	18.0(P2-P1)	1.35	-40~+70	200/50/20	Clockwise
			0.8(P2-P3)	35.0(P3-P2)				
HDDHB12T14G	1.2~1.4	FULL	0.4(P2-P1)	18.0(P1-P2)	1.35	-40~+70	200/50/20	Counter Clockwise
			0.8(P3-P2)	35.0(P2-P3)				

Product Appearance



5.3~5.9GHz

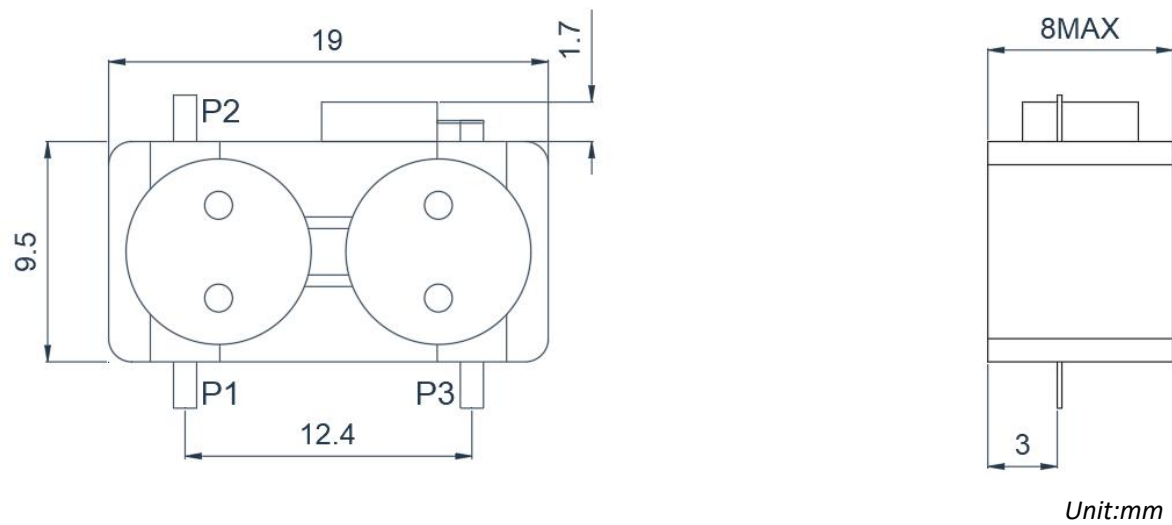
Product Overview

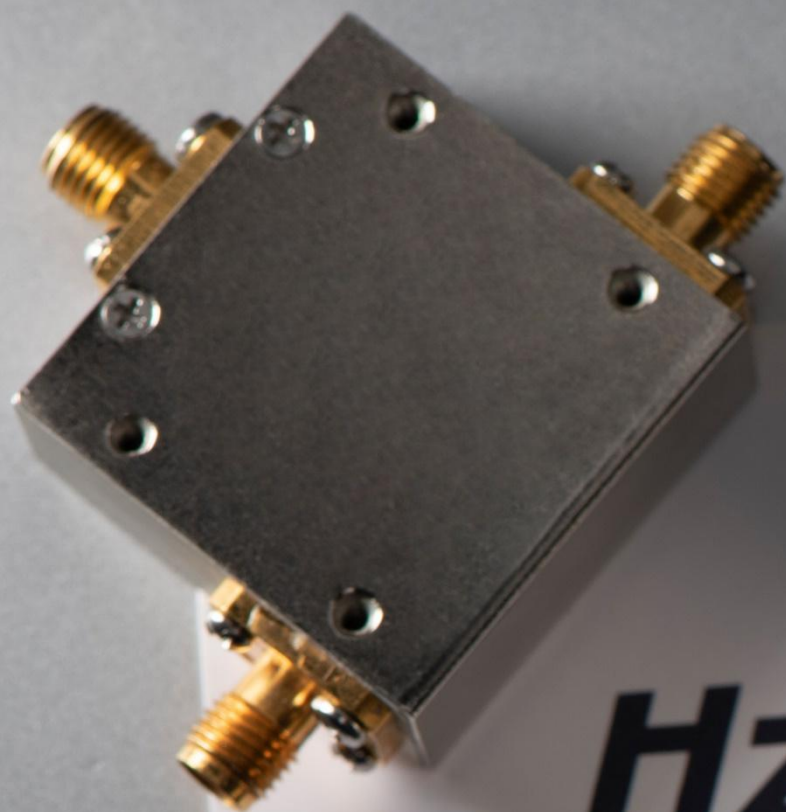
Here is an C-band Drop-in Dual-Junction Circulator. It can be customized for small size, high power, port positions, and transmission directions based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature (℃)	PK/CW (Watt)	Direction
HDDHA53T59G	5.3~5.9	FULL	0.45(P1-P2)	19.0(P2-P1/P3-P1)	1.25	-40~+70	100/20/20	Clockwise
			0.8(P2-P3)	38.0(P3-P2)				
HDDHB53T59G	5.3~5.9	FULL	0.45(P2-P1)	19.0(P1-P2/P1-P3)	1.25	-40~+70	100/20/20	Counter Clockwise
			0.8(P3-P2)	38.0(P2-P3)				

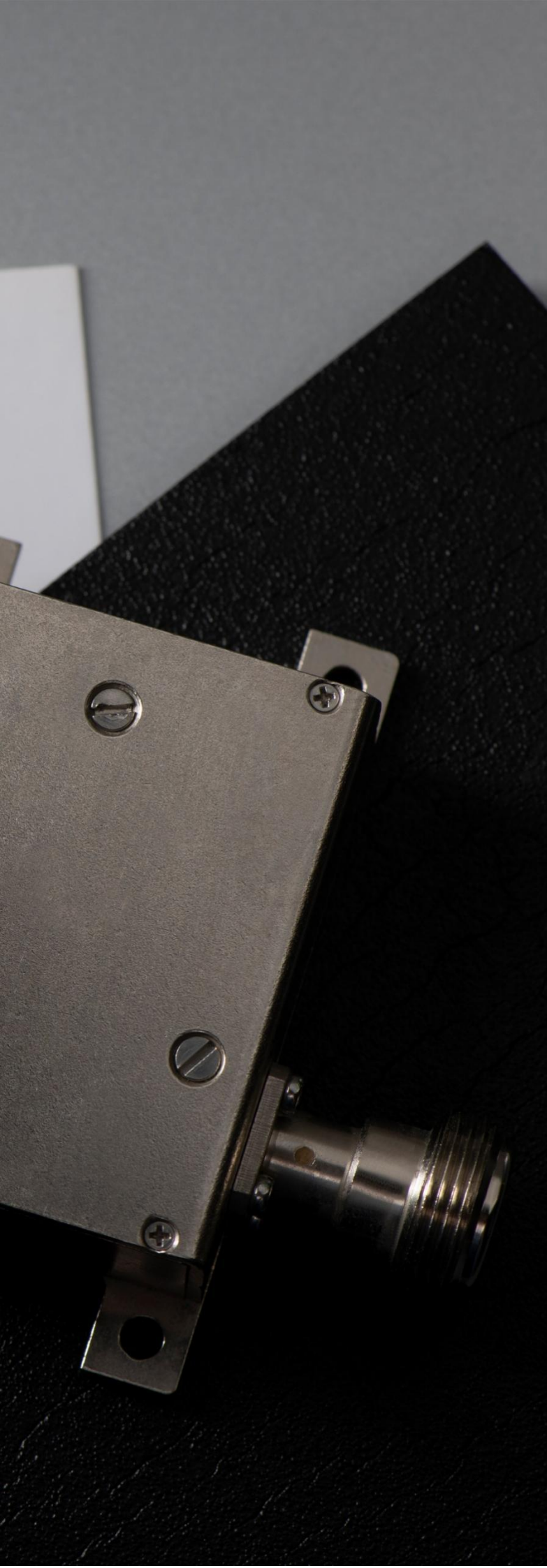
Product Appearance





HzBeat





Coaxial

Directory

Company Product

Microstrip products

Drop-in products

Coaxial products

Waveguide products

- Frequency range: 50MHz-40GHz
- The relative advantages of coaxial isolator and circulator are small size, light weight and easy installation.

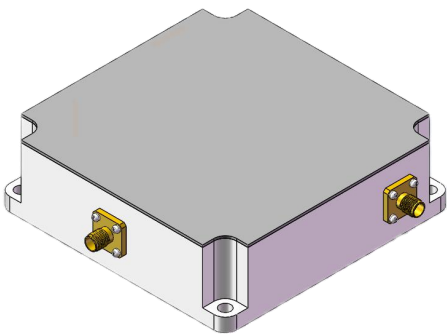
4.1 Coaxial Circulator

4.1.1 Typical Coaxial Circulator

0.1~0.4GHz

Product Overview

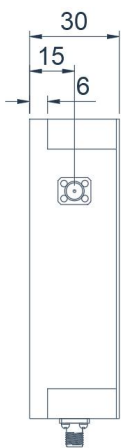
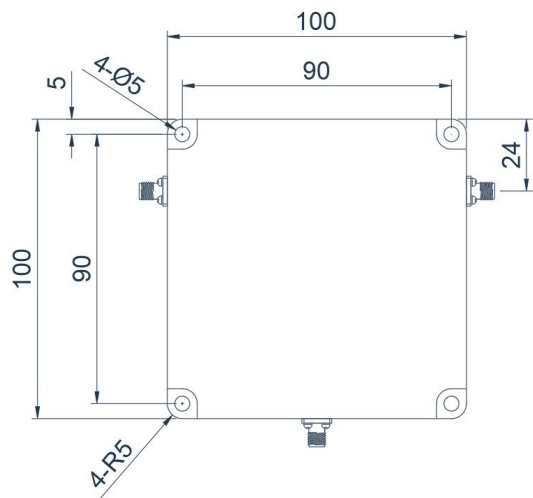
Here are commonly used products of Coaxial Circulator. This product covers the VHF to UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connec tor	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA01T04G	0.1~0.4	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Clockwise
HCDTB01T04G	0.1~0.4	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Counter Clockwise

Product Appearance

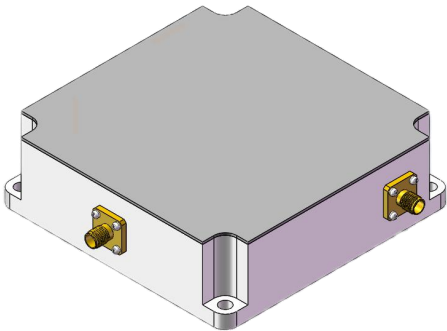


Unit:mm

0.2~0.6GHz

Product Overview

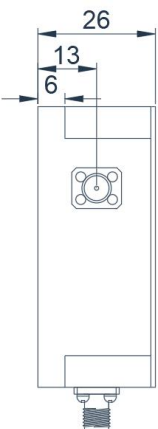
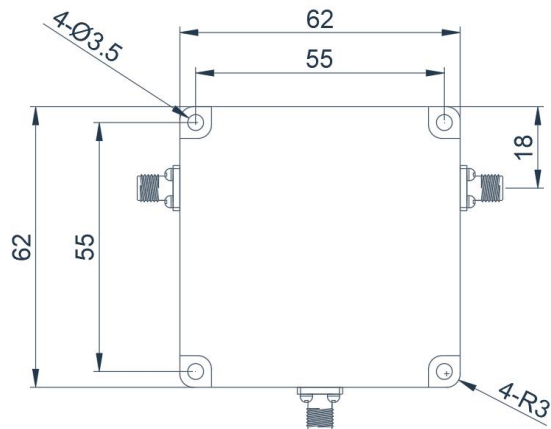
Here are commonly used products of Coaxial Circulator. This product covers the VHF to UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA02T06G	0.2~0.6	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Clockwise
HCCTB02T06G	0.2~0.6	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Counter Clockwise

Product Appearance

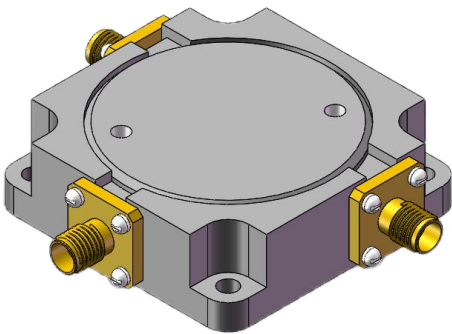


Unit:mm

0.4~1.0GHz

Product Overview

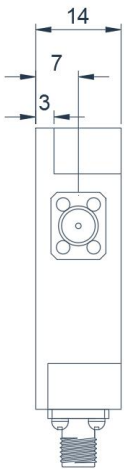
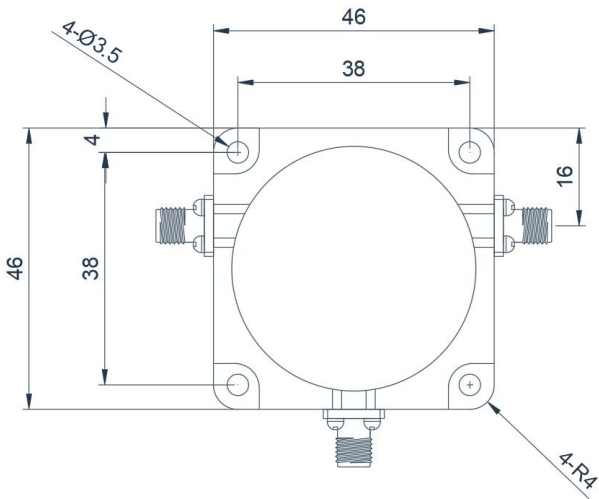
Here are commonly used products of Coaxial Circulator. This product covers the UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA04T10G	0.4~1.0	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Clockwise
HCCTB04T10G	0.4~1.0	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Counter Clockwise

Product Appearance

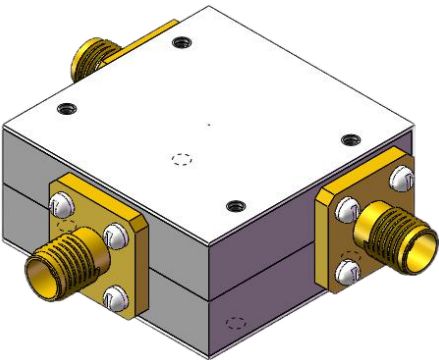


Unit:mm

0.8~2.5GHz

Product Overview

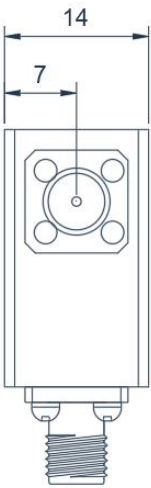
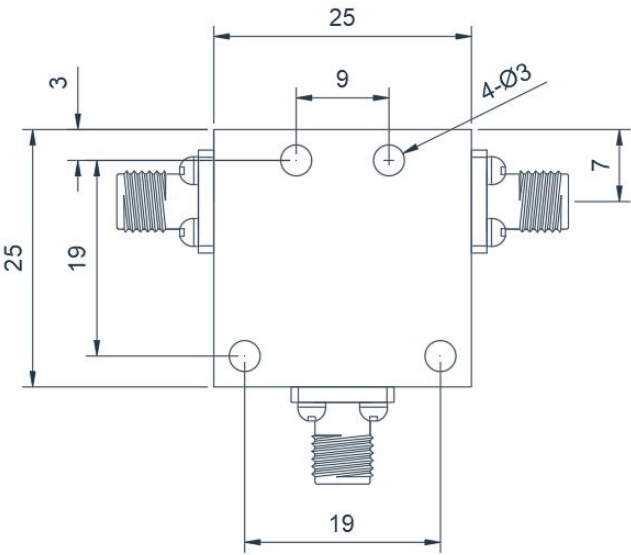
Here are commonly used products of Coaxial Circulator. This product covers the UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connec tor	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA08T25G	0.8~2.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Clockwise
HCCTB08T25G	0.8~2.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Counter Clockwise

Product Appearance

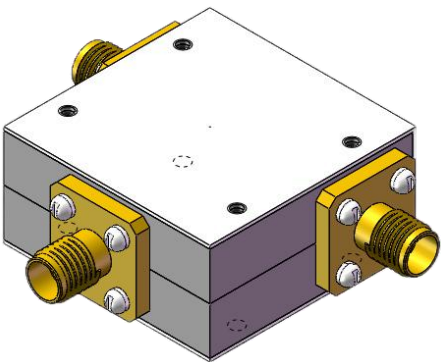


Unit:mm

1.5~3.5GHz

Product Overview

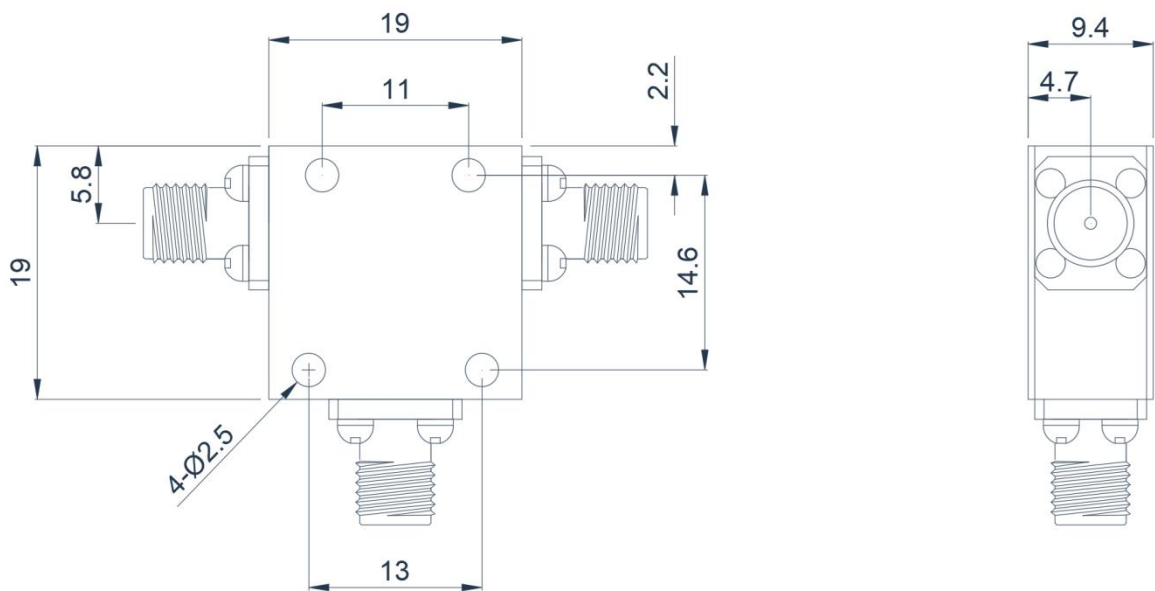
Here are commonly used products of CoaxialCirculator. This product covers the L~S band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA15T35G	1.5~3.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Clockwise
HCCTB15T35G	1.5~3.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50	Counter Clockwise

Product Appearance



Unit:mm

3.0~5.0GHz

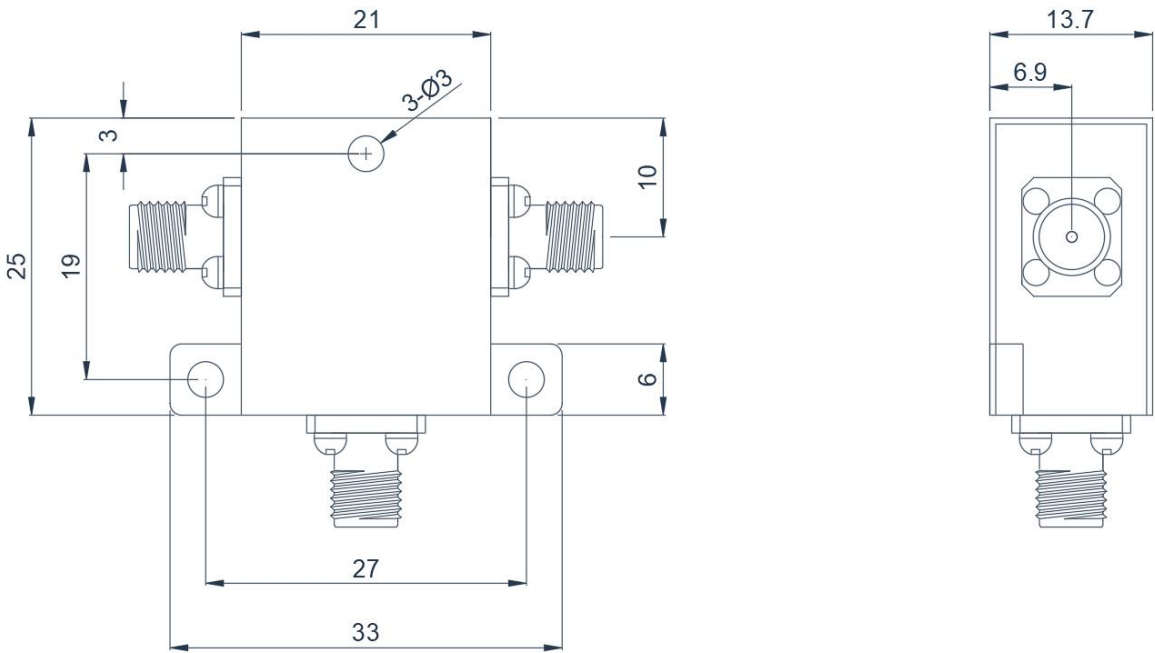
Product Overview

Here are commonly used products of Coaxial Circulator. This product covers the S~C band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA30T50G	3.0~5.0	10%	0.4	20	1.2	SMA	-55~+85℃	200/40	Clockwise
HCCTB30T50G	3.0~5.0	10%	0.4	20	1.2	SMA	-55~+85℃	200/40	Counter Clockwise

Product Appearance



Unit:mm

4.0~8.0GHz

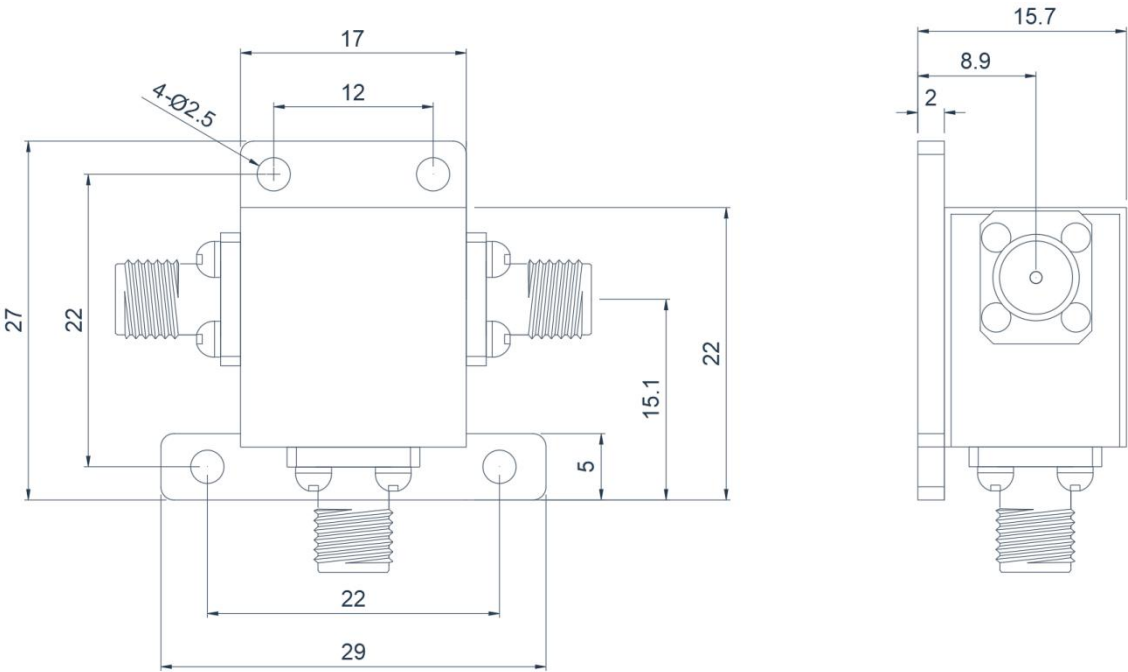
Product Overview

Here are commonly used products of Coaxial Circulator. This product covers the C- band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA40T80G	4.0~8.0	10%	0.4	20	1.2	SMA	-55~+85℃	200/40	Clockwise
HCCTB40T80G	4.0~8.0	10%	0.4	20	1.2	SMA	-55~+85℃	200/40	Counter Clockwise

Product Appearance



Unit:mm

8.0~19.0GHz

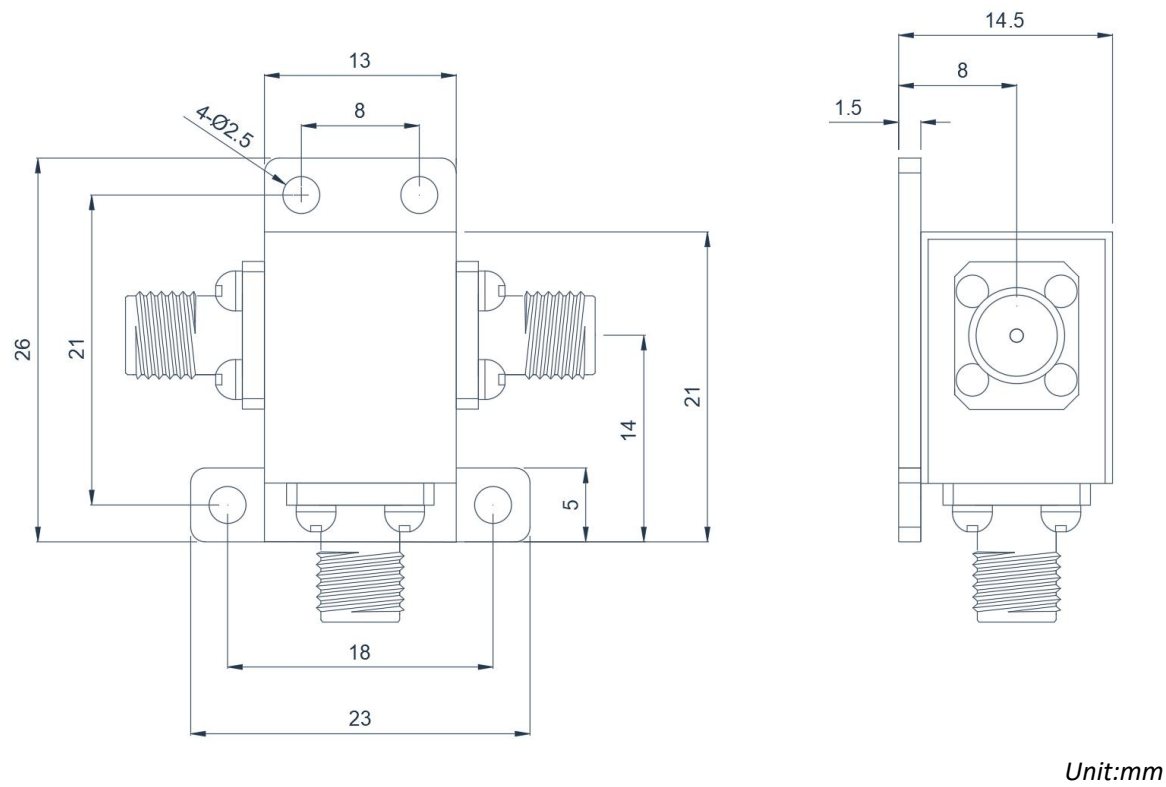
Product Overview

Here are commonly used products of Coaxial Circulator. This product covers the X Ku K- band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA80T190G	8.0~19.0	10%	0.4	20	1.25	SMA	-55~+85℃	200/40	Clockwise
HCCTB80T190G	8.0~19.0	10%	0.4	20	1.25	SMA	-55~+85℃	200/40	Counter Clockwise

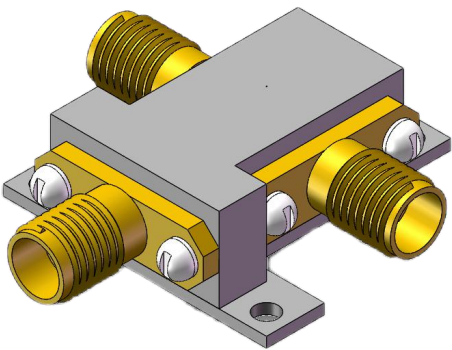
Product Appearance



18.0~40.0GHz

Product Overview

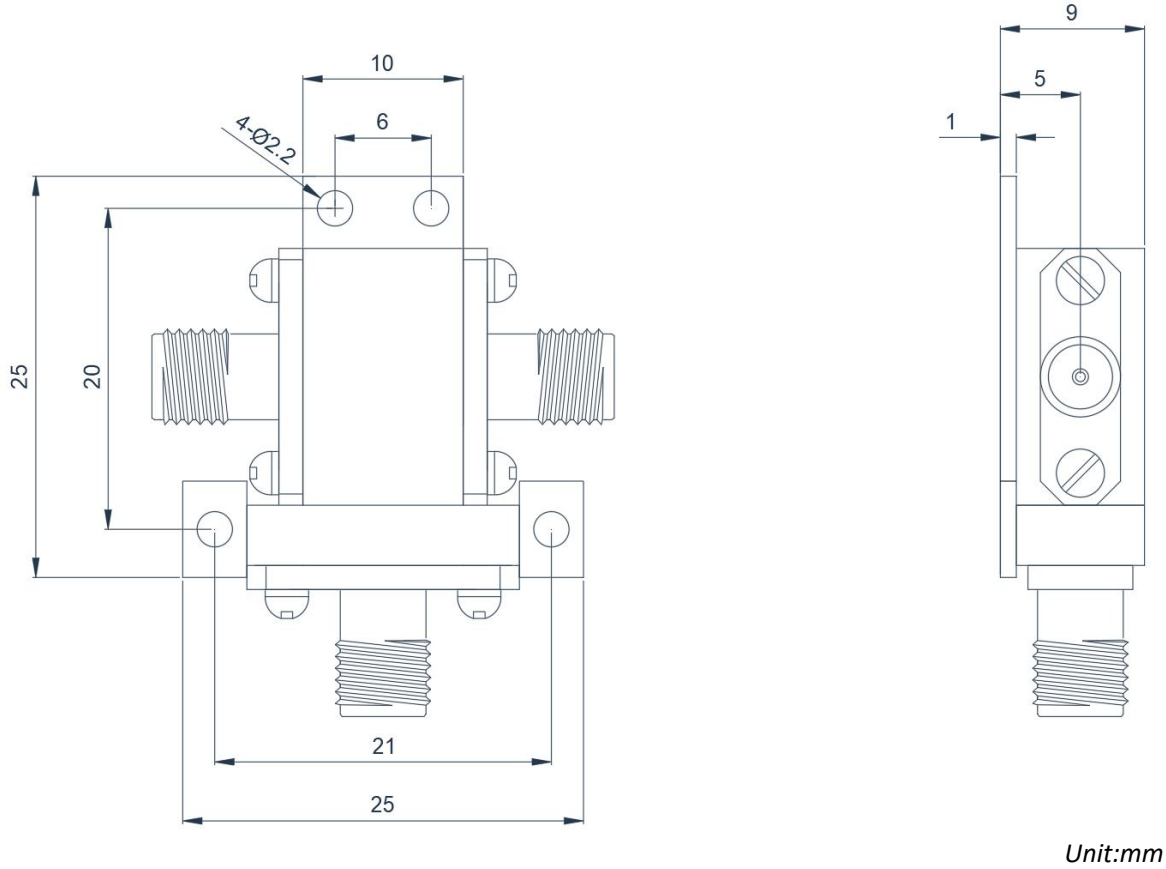
Here are commonly used products of Coaxial Circulator. This product covers the Ku K- band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connec tor	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA180T400G	18.0~40.0	10%	0.6	18	1.35	2.92-K	-55~+85℃	20/5	Clockwise
HCCTB180T400G	18.0~40.0	10%	0.6	18	1.35	2.92-K	-55~+85℃	20/5	Counter Clockwise

Product Appearance

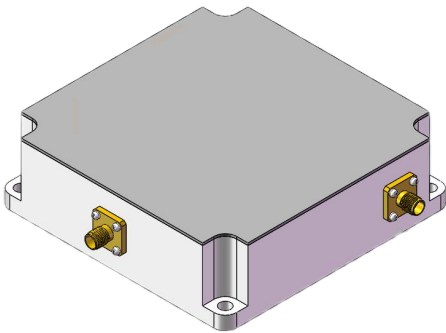


4.1.2 Broadband Coaxial Circulator

0.1~0.4GHz

Product Overview

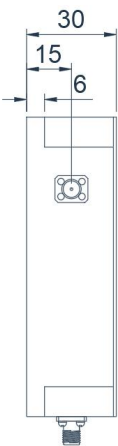
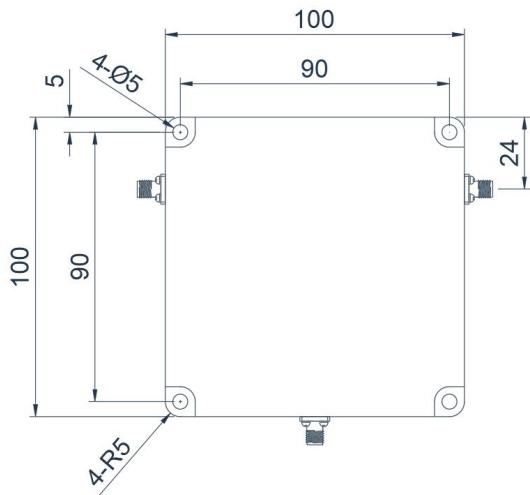
The following products are Broadband Coaxial Circulator, covering the frequency range from VHF to UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connec tor	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA01T04G-B	0.1~0.4	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100	Clockwise
HCCTB01T04G-B	0.1~0.4	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

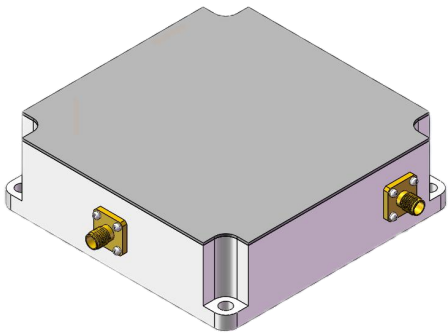


Unit:mm

0.3~0.6GHz

Product Overview

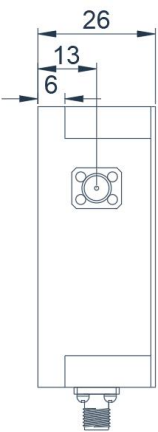
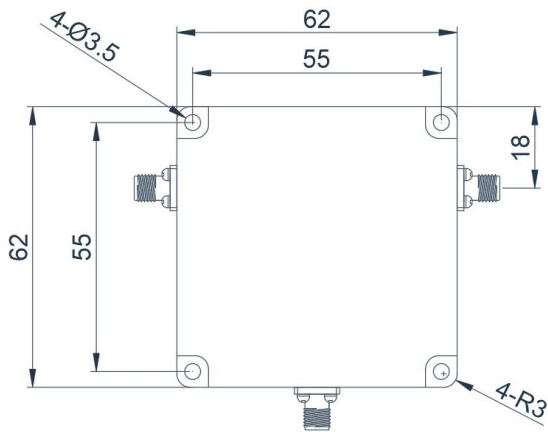
The following products are Broadband Coaxial Circulator, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA03T06G-B	0.3~0.6	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100	Clockwise
HCCTB03T06G-B	0.3~0.6	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

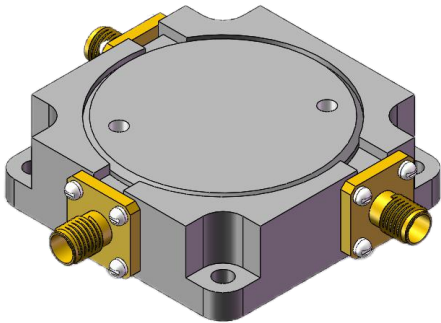


Unit:mm

0.5~1.0GHz

Product Overview

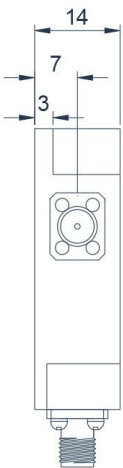
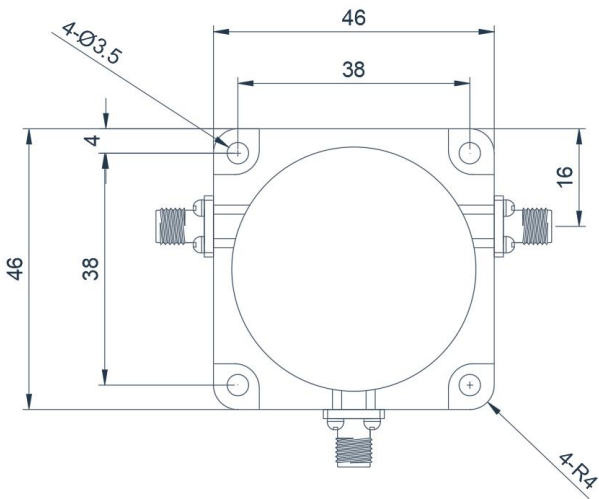
The following products are Broadband Coaxial Circulator, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA05T10G-B	0.5~1.0	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100	Clockwise
HCCTB05T10G-B	0.5~1.0	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100	Counter Clockwise

Product Appearance

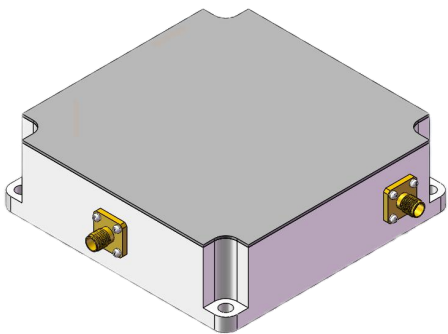


Unit:mm

1.0~2.0GHz

Product Overview

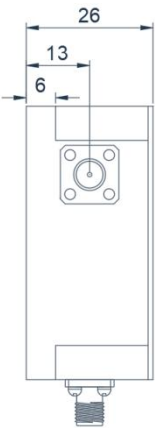
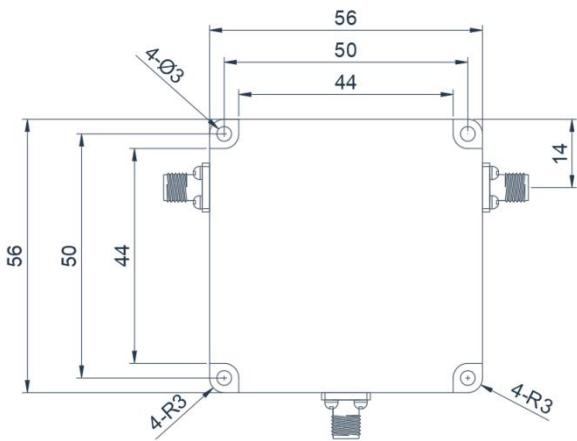
The following products are Broadband Coaxial Circulator covering the entire L-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA10T20G-B	1.0~2.0	FULL	0.7(1.0)	16(14)	1.5(1.6)	SMA	-20~+60℃	-/100	Clockwise
HCCTB10T20G-B	1.0~2.0	FULL	0.7(1.0)	16(14)	1.5(1.6)	SMA	-20~+60℃	-/100	Counter Clockwise

Product Appearance

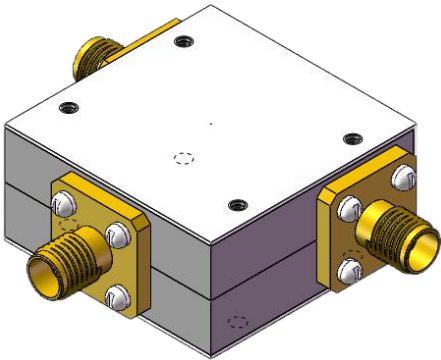


Unit:mm

2.0~6.0GHz

Product Overview

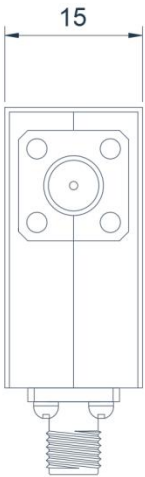
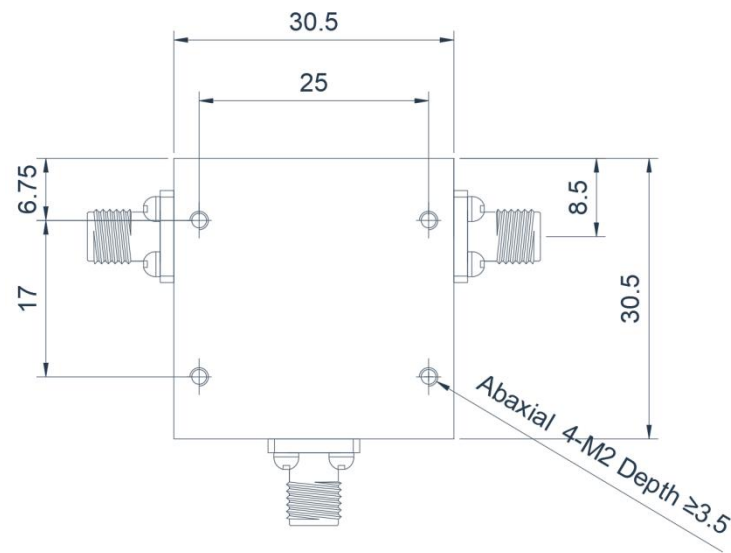
The following products are Broadband Coaxial Circulator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	SMA	-55~+85℃	-/80	Clockwise
HCCTB20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	SMA	-55~+85℃	-/80	Counter Clockwise
HCCTA20T60G-B	2.0~6.0	FULL	1(1.2)	11(10)	1.7	SMA	-55~+85℃	-/80	Clockwise
HCCTB20T60G-B	2.0~6.0	FULL	1(1.2)	11(10)	1.7	SMA	-55~+85℃	-/80	Counter Clockwise

Product Appearance

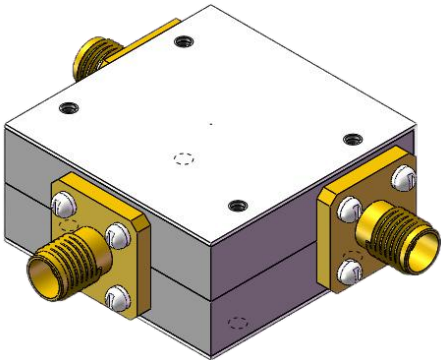


Unit:mm

3.0~6.0GHz

Product Overview

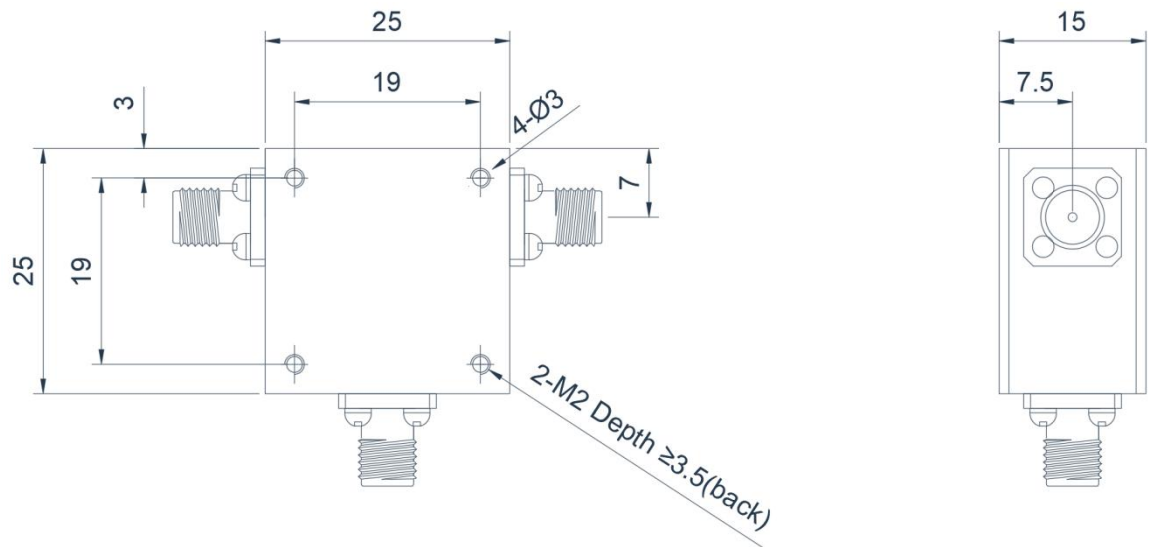
The following products are Broadband Coaxial Circulator, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 66.66%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connec tor	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA30T60G-B	3.0~6.0	FULL	0.6	16.0	1.35	SMA	-40~+70℃	100/100	Clockwise
HCCTB30T60G-B	3.0~6.0	FULL	0.6	16.0	1.35	SMA	-40~+70℃	100/100	Counter Clockwise

Product Appearance

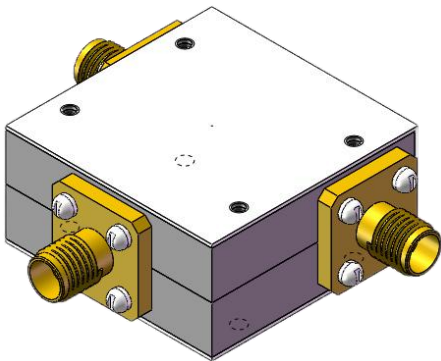


Unit:mm

4.0~8.0GHz

Product Overview

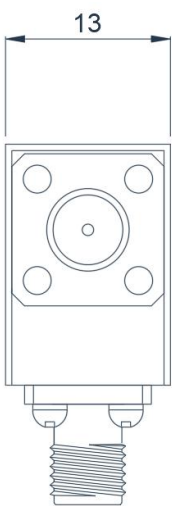
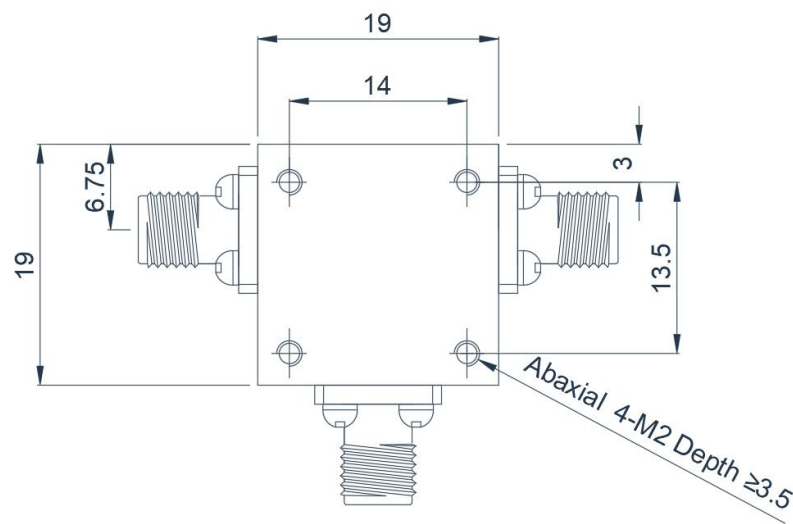
The following products are Broadband Coaxial Circulator covering the entire C-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA40T80G-B	4.0~8.0	FULL	0.5	17	1.35	SMA	-55~+85℃	-/80	Clockwise
HCCTB40T80G-B	4.0~8.0	FULL	0.5	17	1.35	SMA	-55~+85℃	-/80	Counter Clockwise

Product Appearance



Unit:mm

6.0~18.0GHz

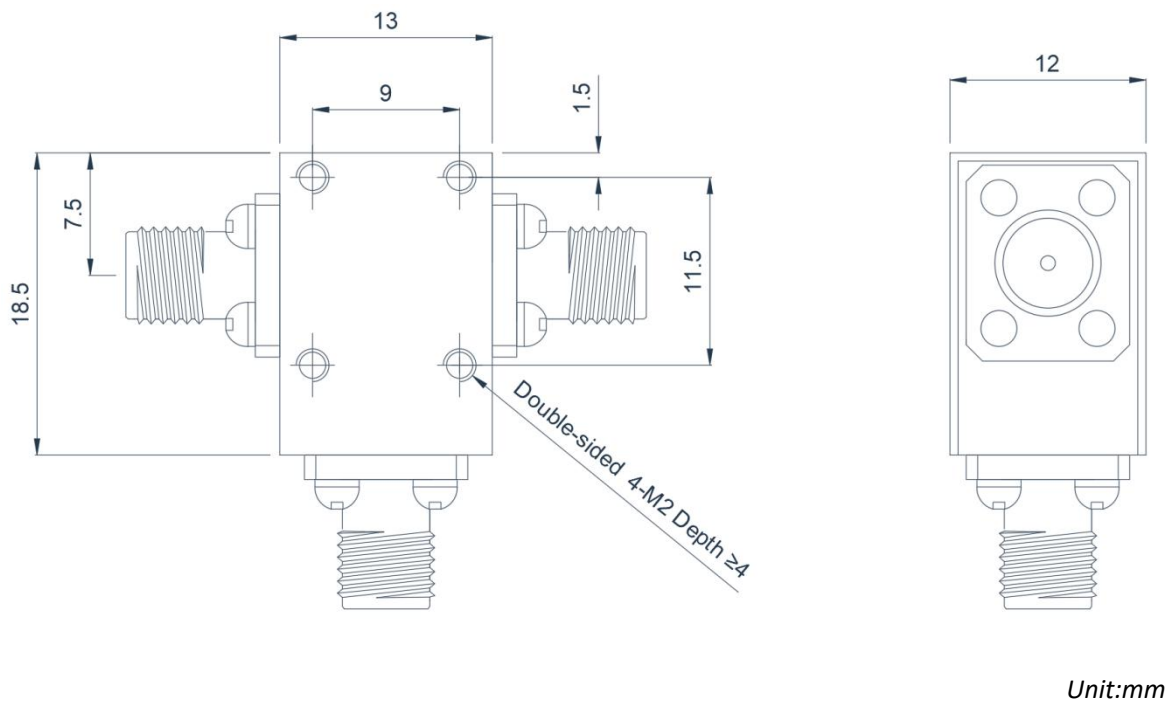
Product Overview

The following products are Broadband Coaxial Circulator, covering the frequency range from C to Ku bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA60T180G-B	6.0~18.0	FULL	1.2	11	1.7	SMA	-55~+85℃	50/20	Clockwise
HCCTB60T180G-B	6.0~18.0	FULL	1.2	11	1.7	SMA	-55~+85℃	50/20	Counter Clockwise

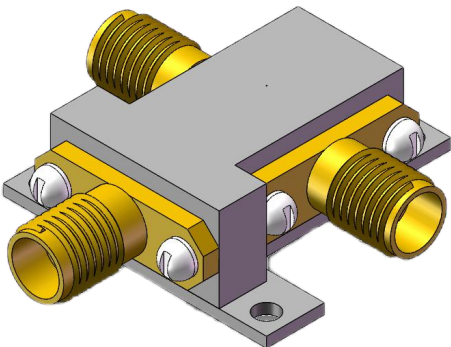
Product Appearance



18.0~26.5GHz

Product Overview

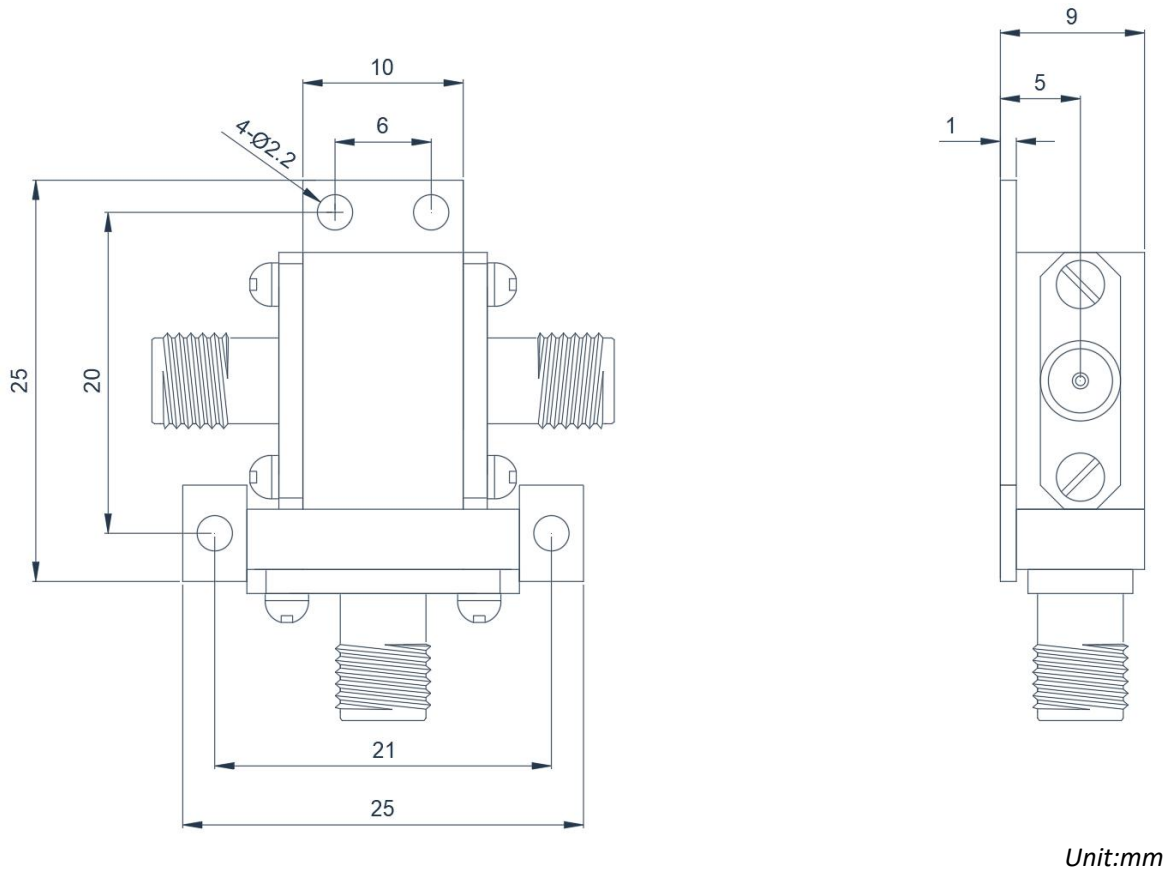
The following products are Broadband Coaxial Circulator covering the entire K-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA180T265G-B	18.0~26.5	FULL	1.0	14	1.5	2.92-K	-55~+85℃	20/5	Clockwise
HCCTB180T265G-B	18.0~26.5	FULL	1.0	14	1.5	2.92-K	-55~+85℃	20/5	Counter Clockwise

Product Appearance

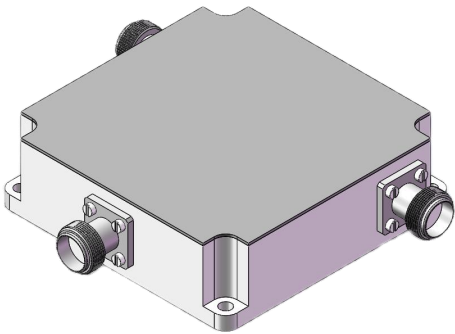


4.1.3 High Power Coaxial Circulator

0.1~0.4GHz

Product Overview

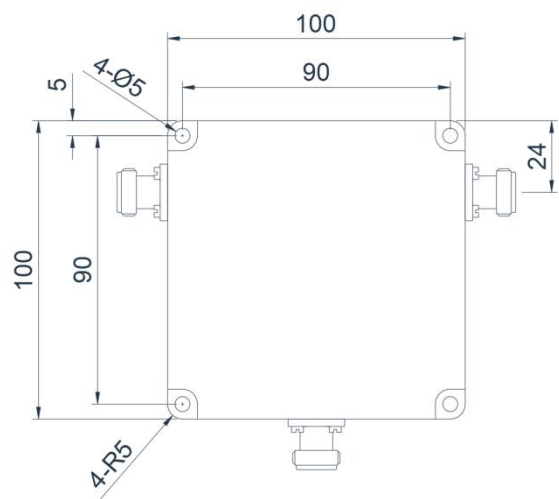
The following products are case examples of VHF~UHF-band High Power Coaxial Circulators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA01T04G	0.1~0.4	10%	0.4	20	1.2	N-K	-55~+85℃	5000/500	Clockwise
HCCTB01T04G	0.1~0.4	10%	0.4	20	1.2	N-K	-55~+85℃	5000/500	Counter Clockwise

Product Appearance

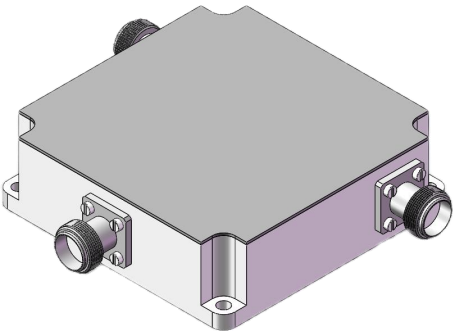


Unit:mm

0.2~0.6GHz

Product Overview

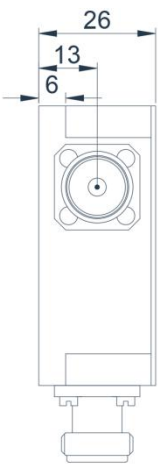
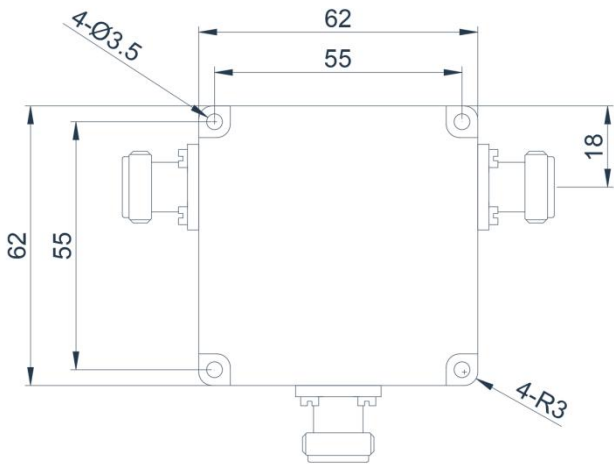
The following products are case examples of VHF to UHF band High Power Coaxial Circulators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA02T06G	0.2~0.6	10%	0.4	20	1.2	N-K	-55~+85℃	3000/300	Clockwise
HCCTB02T06G	0.2~0.6	10%	0.4	20	1.2	N-K	-55~+85℃	3000/300	Counter Clockwise

Product Appearance

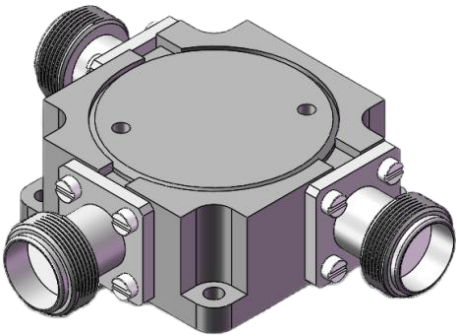


Unit:mm

0.4~1.0GHz

Product Overview

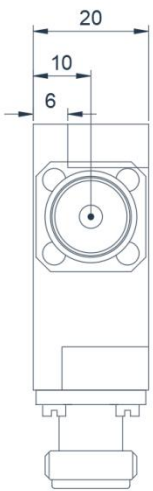
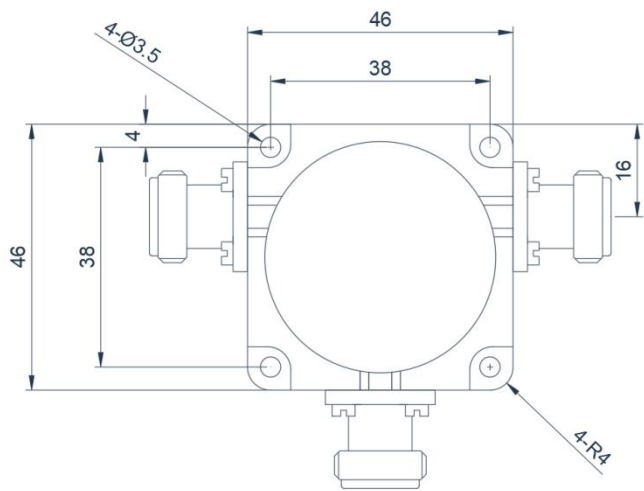
The following products are case examples of UHF-band High Power Coaxial Circulators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA04T10G	0.4~1.0	10%	0.4	20	1.2	N-K	-55~+85℃	2000/200	Clockwise
HCCTB04T10G	0.4~1.0	10%	0.4	20	1.2	N-K	-55~+85℃	2000/200	Counter Clockwise

Product Appearance



Unit:mm

0.8~2.5GHz

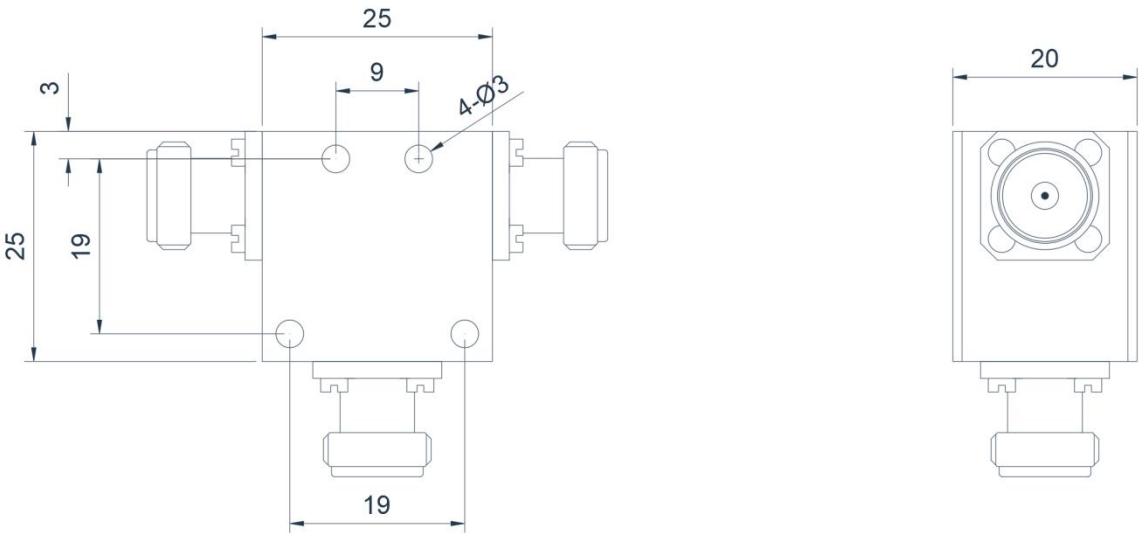
Product Overview

The following products are case examples of UHF to S band High Power Coaxial Circulators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA08T25G	0.8~2.5	10%	0.4	20	1.2	N-K	-55~+85℃	1500/150	Clockwise
HCCTB08T25G	0.8~2.5	10%	0.4	20	1.2	N-K	-55~+85℃	1500/150	Counter Clockwise

Product Appearance



Unit:mm

2.0~4.0GHz

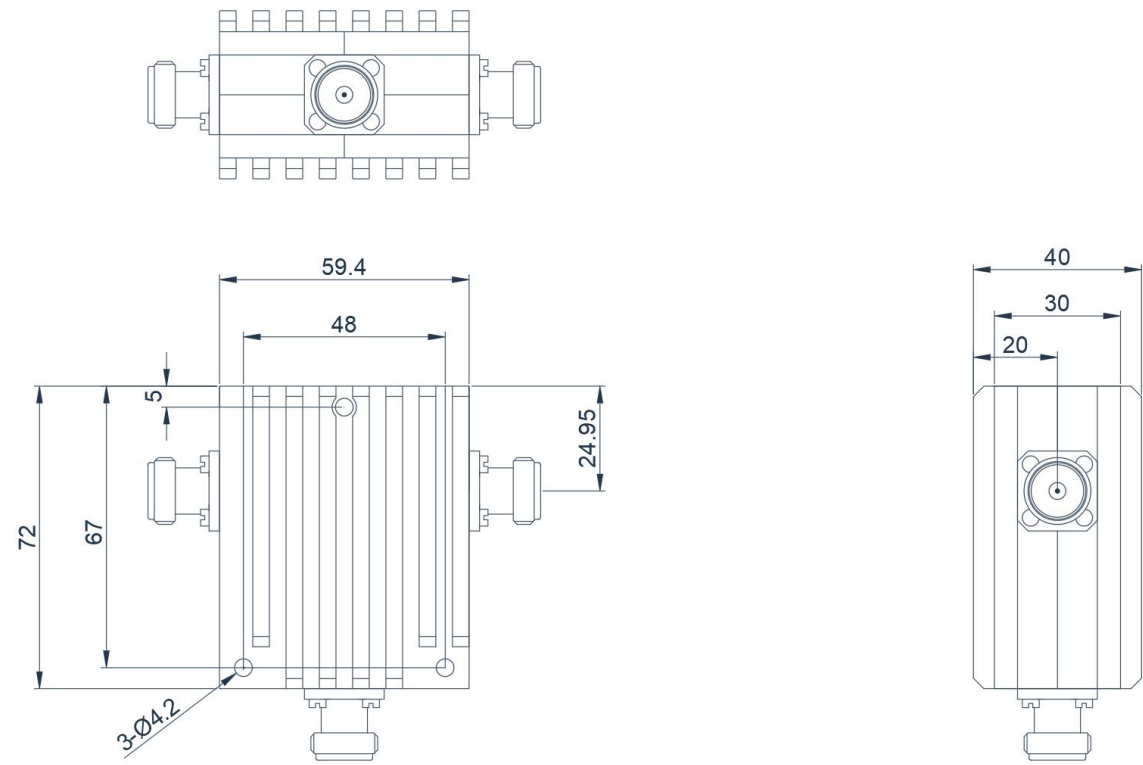
Product Overview

The following products are S-band broadband high-power coaxial circulators, designed using high-power materials and improved heat dissipation solutions.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW (Watt)	Direction
HCCTA20T40G	2.0~4.0	FULL	0.8	15.0	1.5	N-K	-40~+70	-/500	Clockwise
HCCTB20T40G	2.0~4.0	FULL	0.8	15.0	1.5	N-K	-40~+70	-/500	Counter Clockwise

Product Appearance



Unit:mm

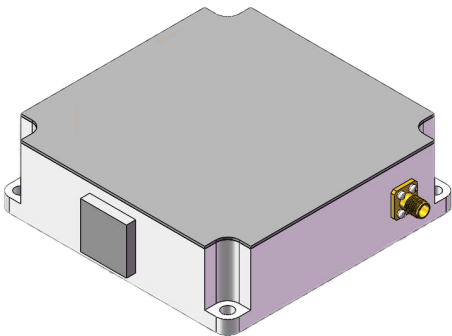
4.2 Coaxial Isolator

4.2.1 Typical Coaxial Isolator

0.1~0.4GHz

Product Overview

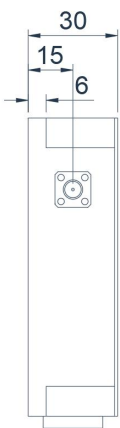
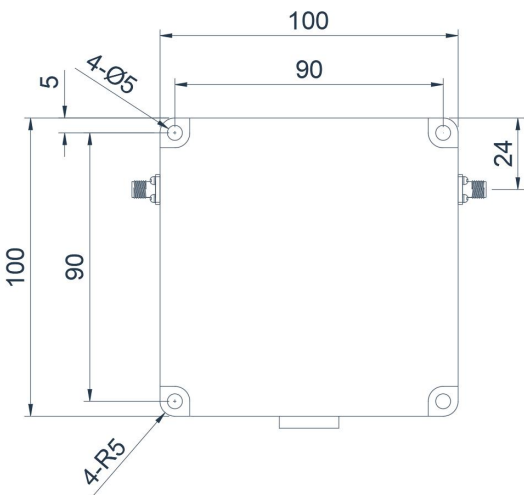
Here are commonly used products of Coaxial Isolators. This product covers the VHF to UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA01T04G	0.1~0.4	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Clockwise
HCITB01T04G	0.1~0.4	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Counter Clockwise

Product Appearance

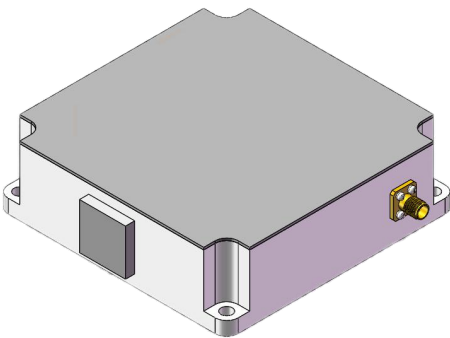


Unit:mm

0.2~0.6GHz

Product Overview

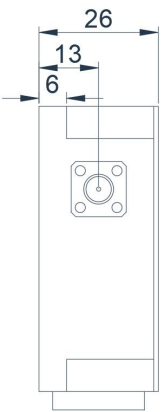
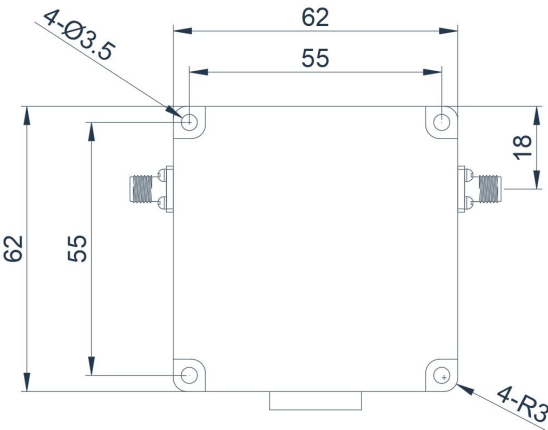
Here are commonly used products of Coaxial Isolators. This product covers the VHF to UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA02T06G	0.2~0.6	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Clockwise
HCITB02T06G	0.2~0.6	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Counter Clockwise

Product Appearance

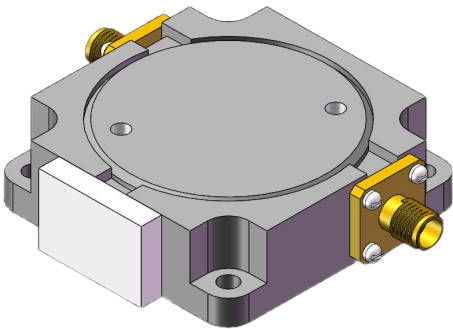


Unit:mm

0.4~1.0GHz

Product Overview

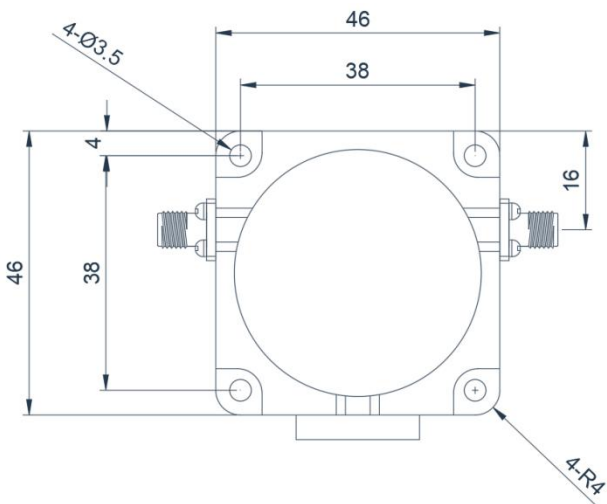
Here are commonly used products of Coaxial Isolators. This product covers the UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA04T10G	0.4~1.0	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Clockwise
HCITB04T10G	0.4~1.0	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Counter Clockwise

Product Appearance

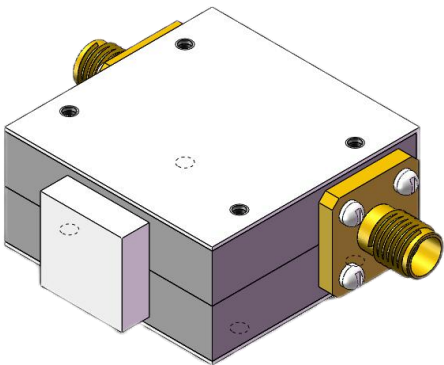


Unit:mm

0.8~2.5GHz

Product Overview

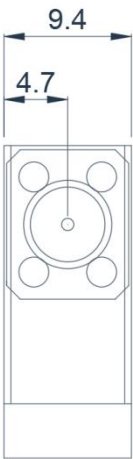
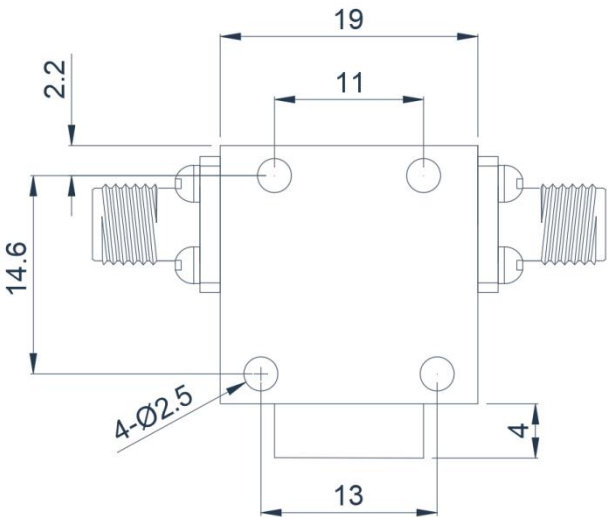
Here are commonly used products of Coaxial Isolators. This product covers the UHF band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA08T25G	0.8~2.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Clockwise
HCITB08T25G	0.8~2.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Counter Clockwise

Product Appearance

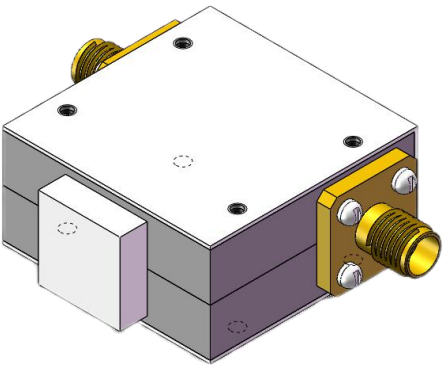


Unit:mm

1.5~3.5GHz

Product Overview

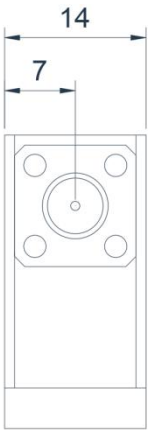
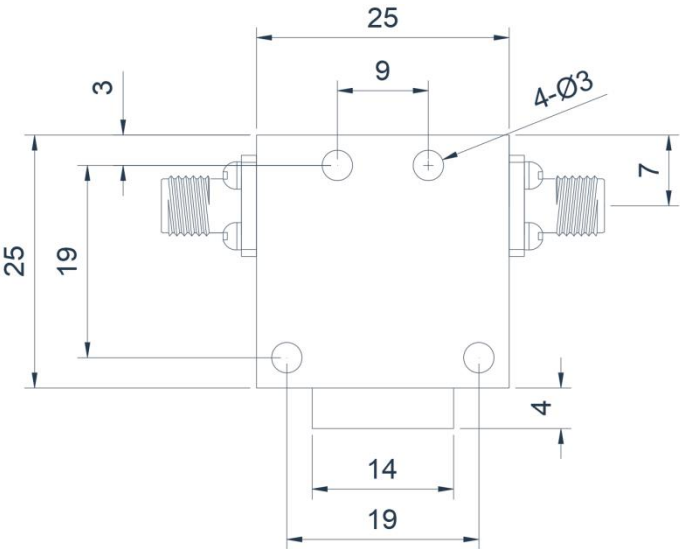
Here are commonly used products of Coaxial Isolators. This product covers the L~S band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA15T35G	1.5~3.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Clockwise
HCITB15T35G	1.5~3.5	10%	0.4	20	1.2	SMA	-55~+85℃	500/50/15	Counter Clockwise

Product Appearance



Unit:mm

3.0~5.0GHz

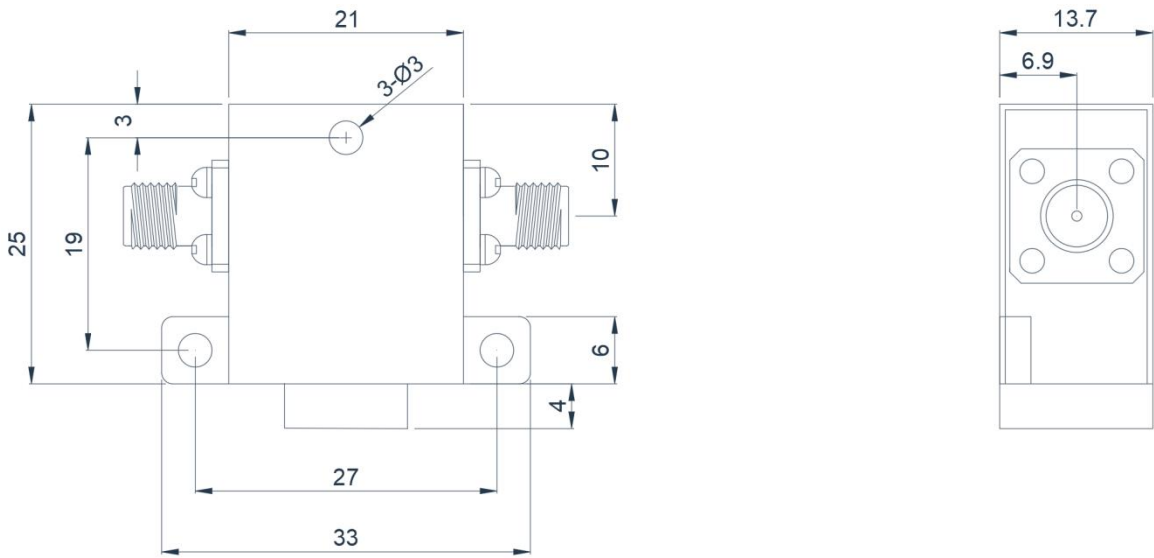
Product Overview

Here are commonly used products of Coaxial Isolators. This product covers the S~C band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA30T50G	3.0~5.0	10%	0.4	20	1.2	SMA	-55~+85℃	200/40/15	Clockwise
HCITB30T50G	3.0~5.0	10%	0.4	20	1.2	SMA	-55~+85℃	200/40/15	Counter Clockwise

Product Appearance



Unit:mm

4.0~8.0GHz

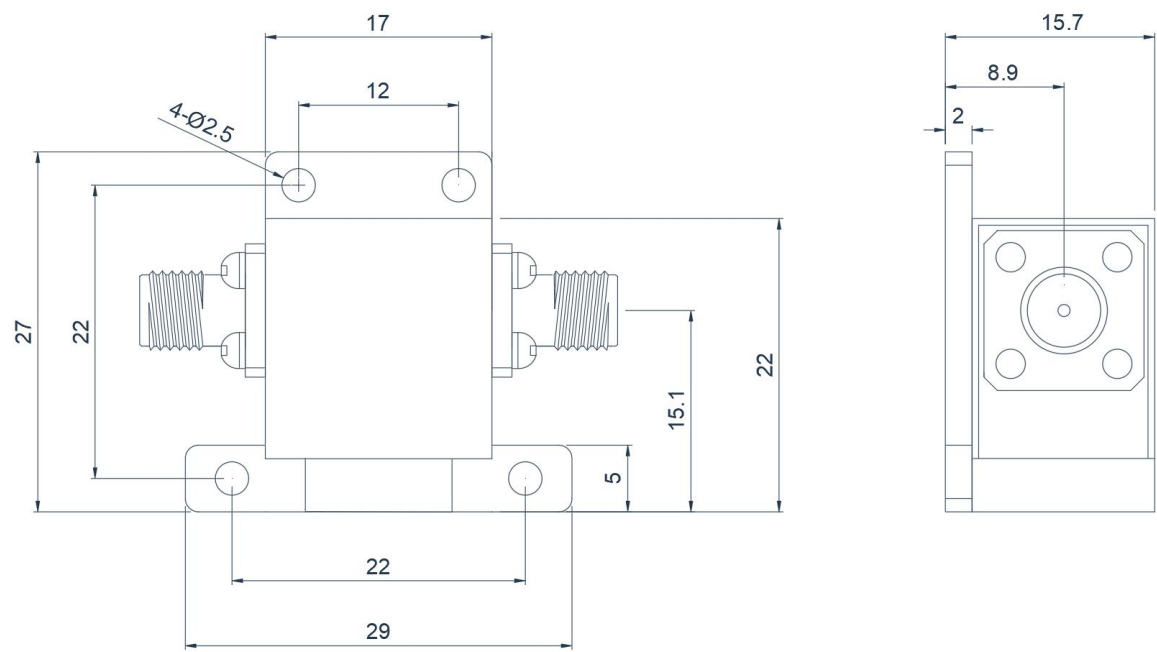
Product Overview

Here are commonly used products of Coaxial Isolators. This product covers the C- band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA40T80G	4.0~8.0	10%	0.4	20	1.2	SMA	-55~+85℃	400/40/15	Clockwise
HCITB40T80G	4.0~8.0	10%	0.4	20	1.2	SMA	-55~+85℃	400/40/15	Counter Clockwise

Product Appearance



Unit:mm

8.0~19.0GHz

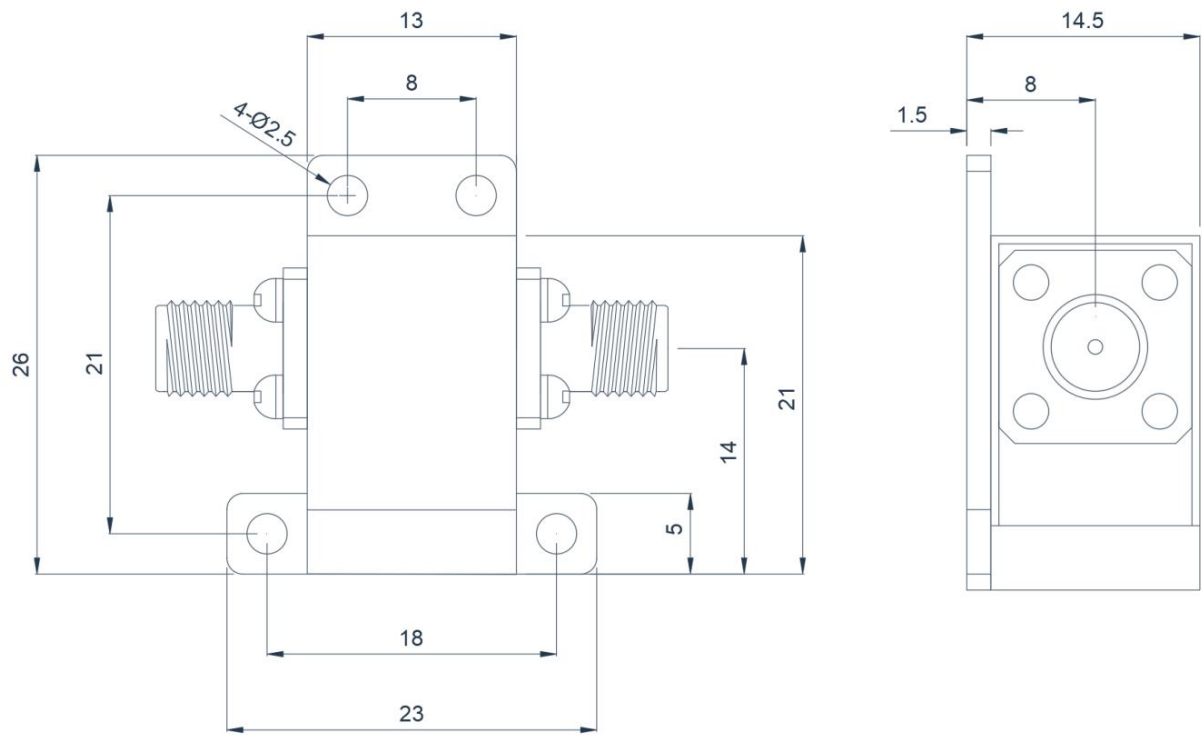
Product Overview

Here are commonly used products of Coaxial Isolators. This product covers the X Ku K- band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA80T190G	8.0~19.0	10%	0.4	20	1.25	SMA	-55~+85℃	200/40/15	Clockwise
HCITB80T190G	8.0~19.0	10%	0.4	20	1.25	SMA	-55~+85℃	200/40/15	Counter Clockwise

Product Appearance



Unit:mm

20.0~25.0GHz

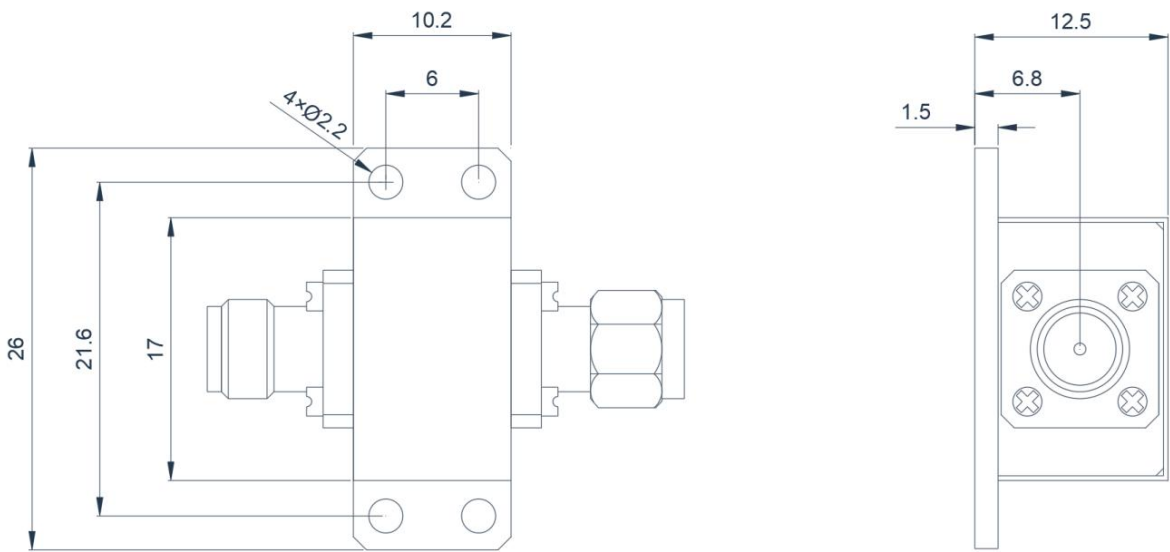
Product Overview

Here are commonly used products of Coaxial Isolators. This product covers the K- band range with a relative bandwidth of up to 22.22%. Dimensions, ports, and frequency bands can be customized based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA200T250G	20.0~25.0	FULL	1.1	23	1.25	SMA	-55~+85℃	-/10/-	Clockwise
HCITB200T250G	20.0~25.0	FULL	1.1	23	1.25	SMA	-55~+85℃	-/10/-	Counter Clockwise

Product Appearance

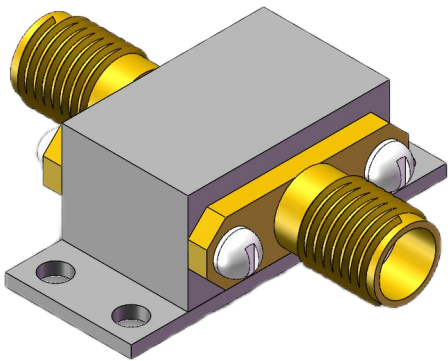


Unit:mm

18.0~40.0GHz

Product Overview

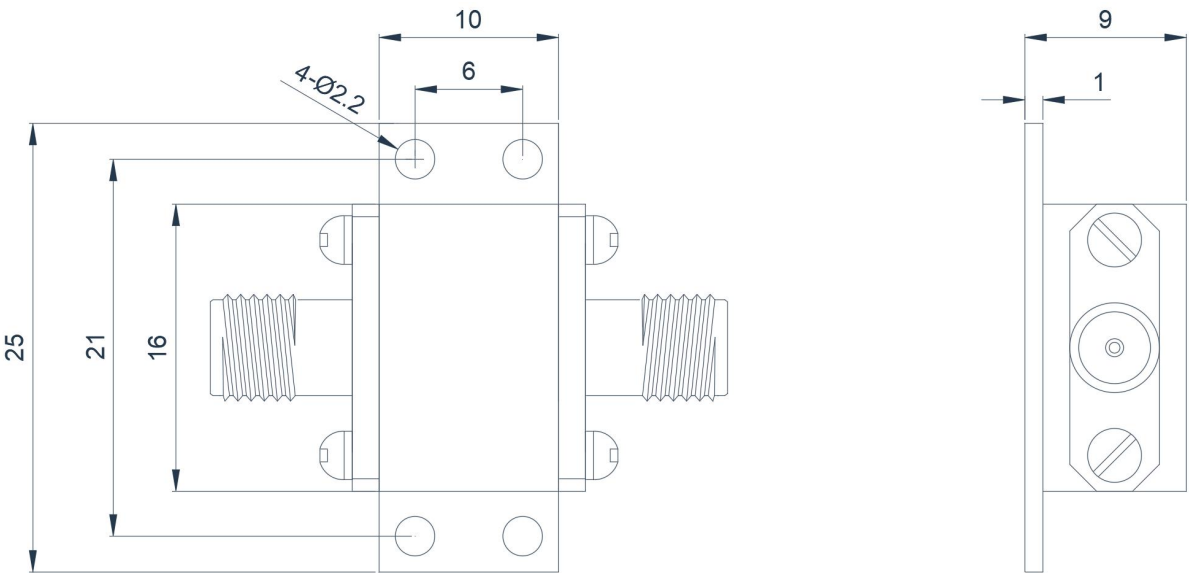
Here are commonly used products of Coaxial Isolators. This product covers the Ku K- band range with a relative bandwidth of up to 10%. Dimensions, ports, and frequency bands can be customized based on your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA180T400G	18.0~40.0	10%	0.6	18	1.35	2.92	-55~+85℃	20/5/1	Clockwise
HCITB180T400G	18.0~40.0	10%	0.6	18	1.35	2.92	-55~+85℃	20/5/1	Counter Clockwise

Product Appearance



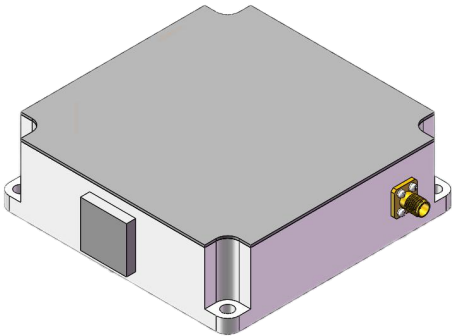
Unit:mm

4.2.2 Broadband Coaxial Isolator

0.1~0.4GHz

Product Overview

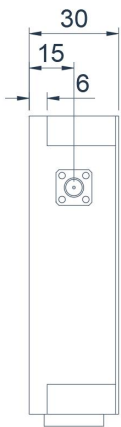
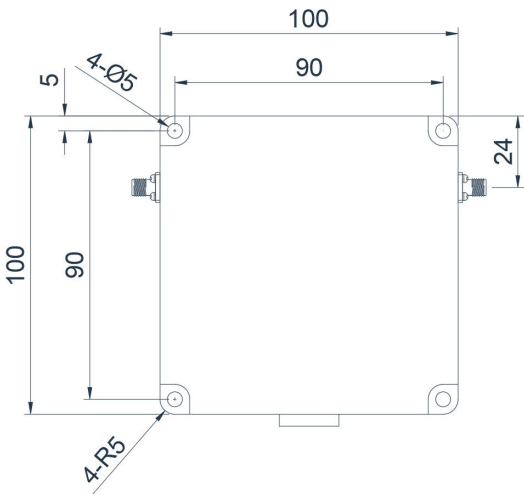
The following products are Broadband Coaxial Isolators, covering the frequency range from VHF to UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA01T04G-B	0.1~0.4	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100/15	Clockwise
HCITB01T04G-B	0.1~0.4	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100/15	Counter Clockwise

Product Appearance

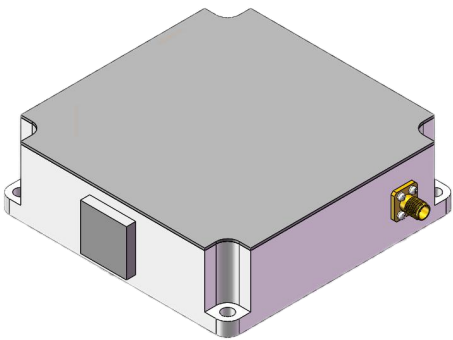


Unit:mm

0.3~0.6GHz

Product Overview

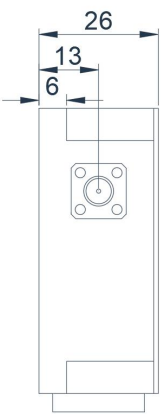
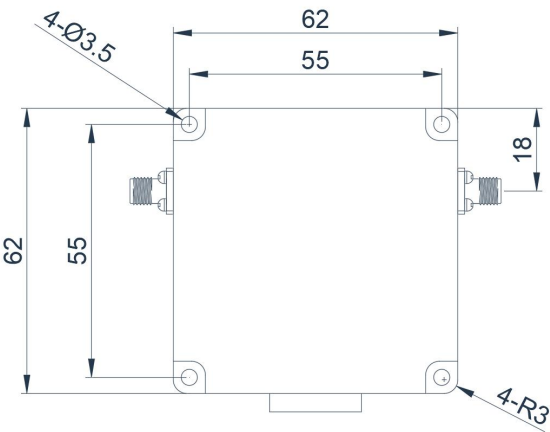
The following products are Broadband Coaxial Isolators, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA03T06G-B	0.3~0.6	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100/15	Clockwise
HCITB03T06G-B	0.3~0.6	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100/15	Counter Clockwise

Product Appearance

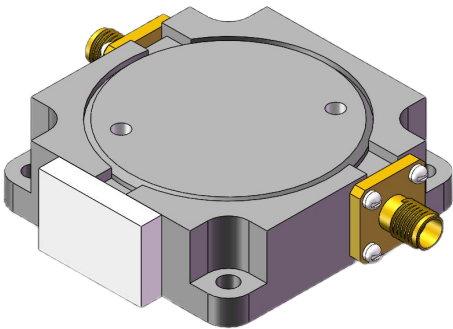


Unit:mm

0.5~1.0GHz

Product Overview

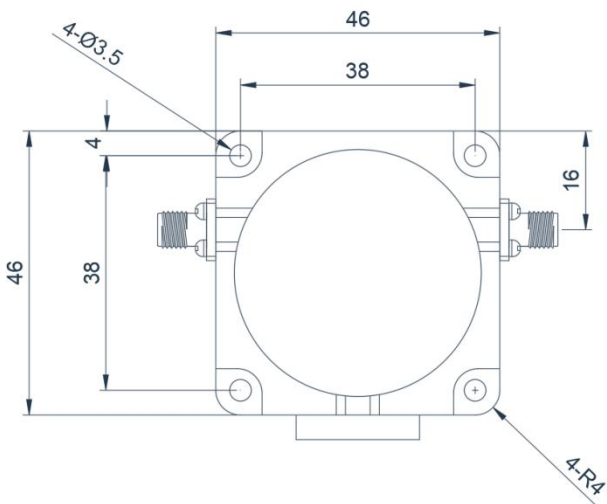
The following products are Broadband Coaxial Isolators, covering the frequency range from UHF bands, with a maximum relative bandwidth of up to 40%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA05T10G-B	0.5~1.0	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100/15	Clockwise
HCITB05T10G-B	0.5~1.0	40%	0.6	15	1.5	SMA	-55~+85℃	1000/100/15	Counter Clockwise

Product Appearance

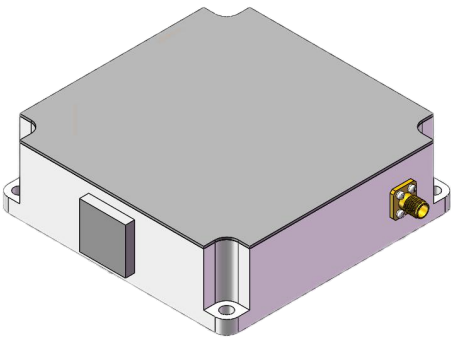


Unit:mm

1.0~2.0GHz

Product Overview

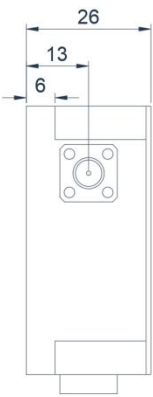
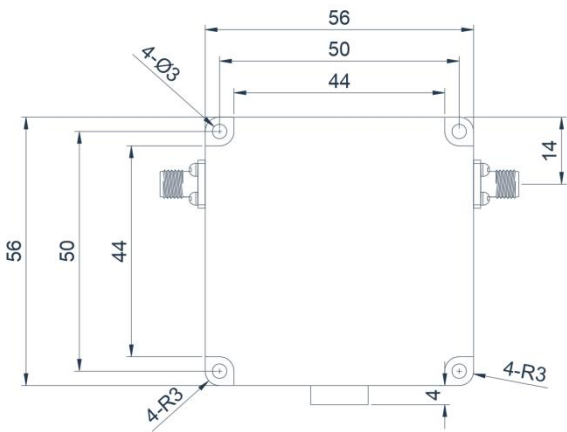
The following products are Broadband Coaxial Isolators covering the entire L-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA10T20G-B	1.0~2.0	FULL	0.7(1)	16(14)	1.5(1.6)	SMA	-20~+60℃	-/100/15	Clockwise
HCITB10T20G-B	1.0~2.0	FULL	0.7(1)	16(14)	1.5(1.6)	SMA	-20~+60℃	-/100/15	Counter Clockwise

Product Appearance

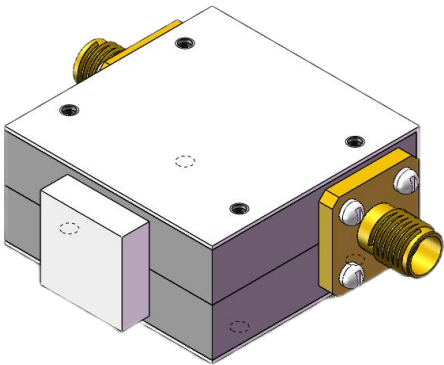


Unit:mm

2.0~6.0GHz

Product Overview

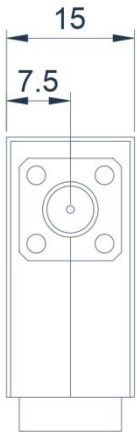
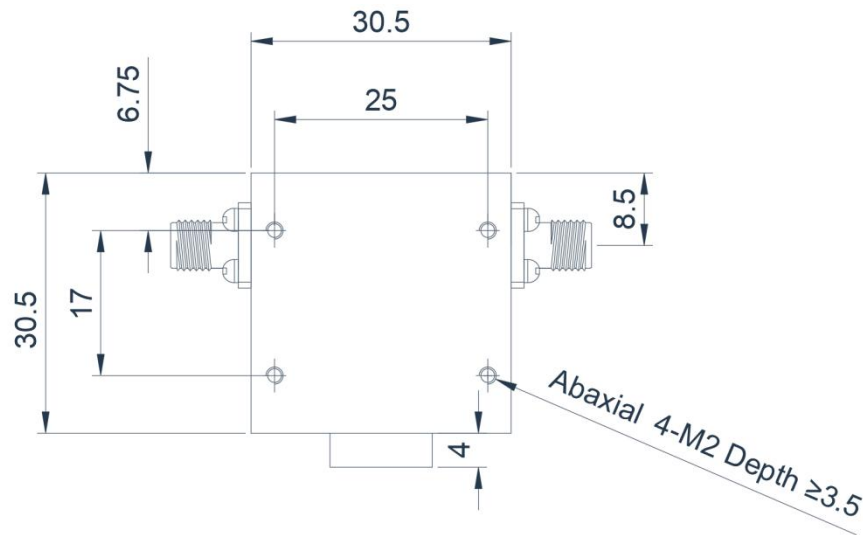
The following products are Broadband Coaxial Isolators, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Conn ector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	SMA	-55~+85℃	-/80/15	Clockwise
HCITB20T40G-B	2.0~4.0	FULL	0.5(0.8)	17(15)	1.35(1.4)	SMA	-55~+85℃	-/80/15	Counter Clockwise
HCITA20T60G-B	2.0~6.0	FULL	1.0(1.2)	11(10)	1.7	SMA	-55~+85℃	-/80/15	Clockwise
HCITB20T60G-B	2.0~6.0	FULL	1.0(1.2)	11(10)	1.7	SMA	-55~+85℃	-/80/15	Counter Clockwise

Product Appearance

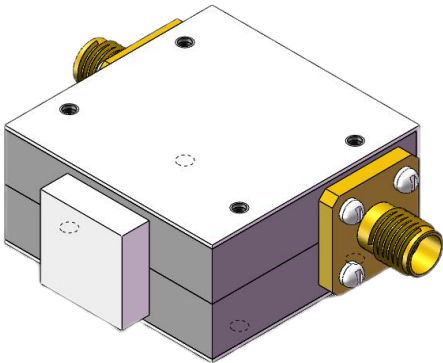


Unit:mm

3.0~6.0GHz

Product Overview

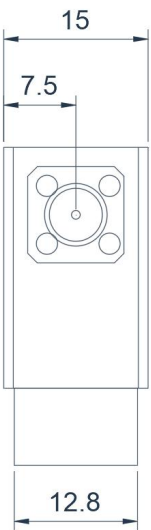
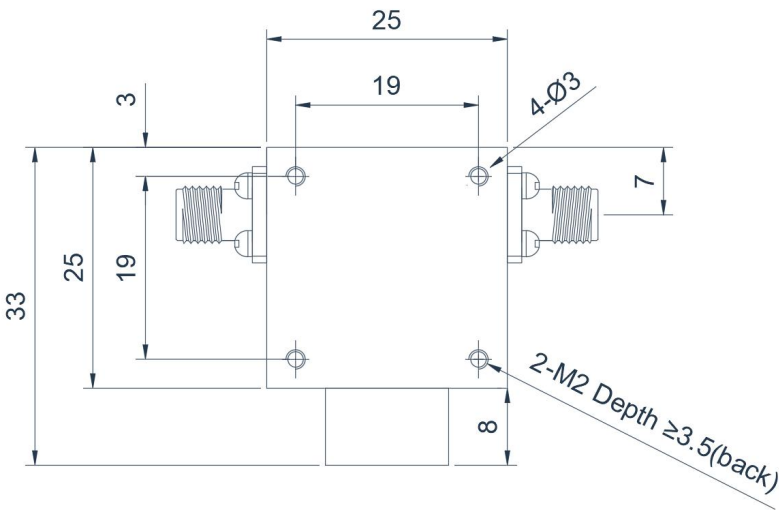
The following products are Broadband Coaxial Isolators, covering the frequency range from S to C bands, with a maximum relative bandwidth of up to 66.66%.Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA30T60G-B	3.0~6.0	FULL	0.6	16.0	1.35	SMA	-40~+70℃	-/60/60	Clockwise
HCITB30T60G-B	3.0~6.0	FULL	0.6	16.0	1.35	SMA	-40~+70℃	-/60/60	Counter Clockwise

Product Appearance

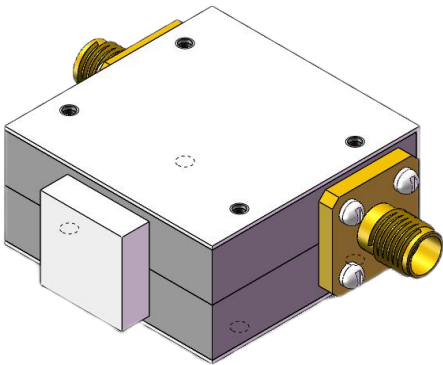


Unit:mm

4.0~8.0GHz

Product Overview

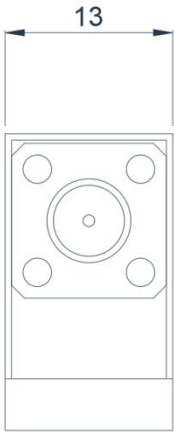
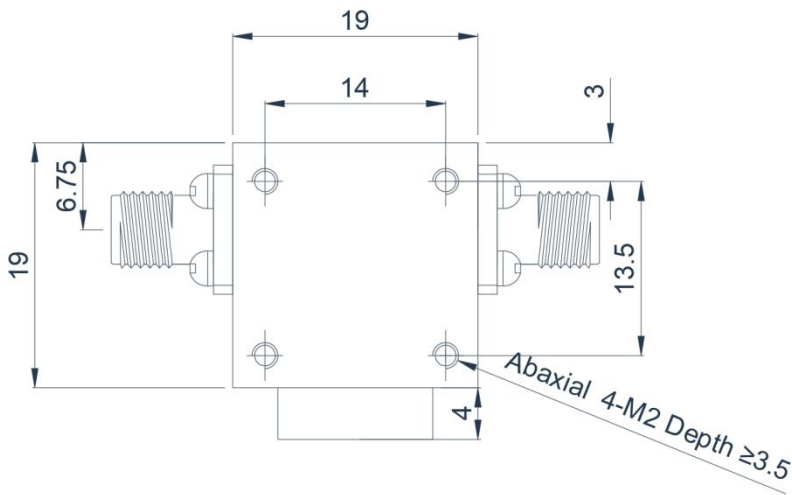
The following products are Broadband Coaxial Isolators covering the entire C-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (°C)	PK/CW/RP (Watt)	Direction
HCITA40T80G-B	4.0~8.0	FULL	0.4(0.5)	18(17)	1.35	SMA	-40~+70℃	-/60/20	Clockwise
HCITB40T80G-B	4.0~8.0	FULL	0.4(0.5)	18(17)	1.35	SMA	-40~+70℃	-/60/20	Counter Clockwise

Product Appearance



Unit:mm

6.0~18.0GHz

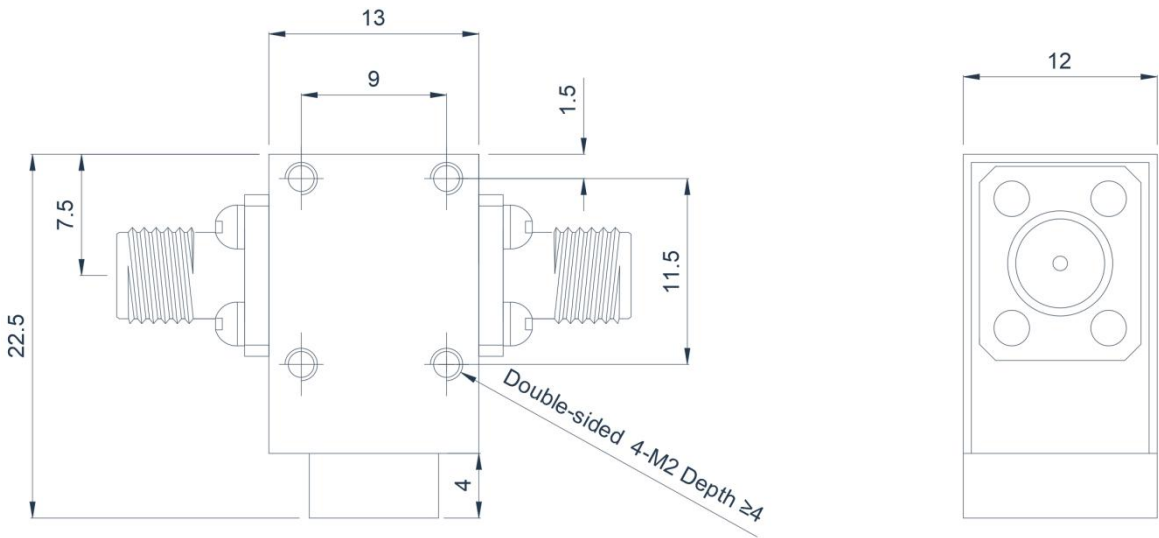
Product Overview

The following products are Broadband Coaxial Isolators, covering the frequency range from C to Ku bands, with a maximum relative bandwidth of up to 100%.Customizable according to frequency band requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA60T180G-B	6.0~18.0	FULL	1.2(1.5)	11	1.7	SMA	-55~+85℃	50/20/15	Clockwise
HCITB60T180G-B	6.0~18.0	FULL	1.2(1.5)	11	1.7	SMA	-55~+85℃	50/20/15	Counter Clockwise

Product Appearance

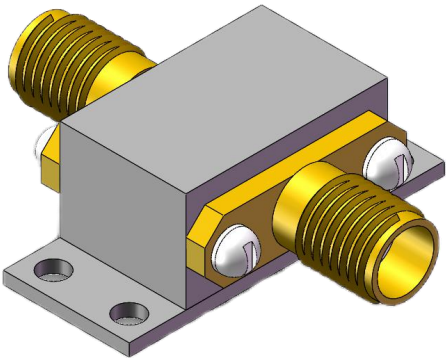


Unit:mm

18.0~26.5GHz

Product Overview

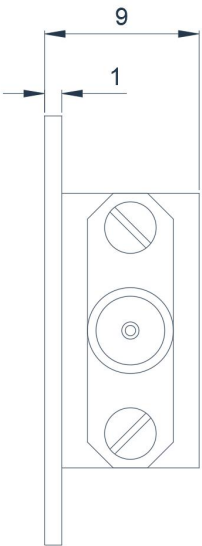
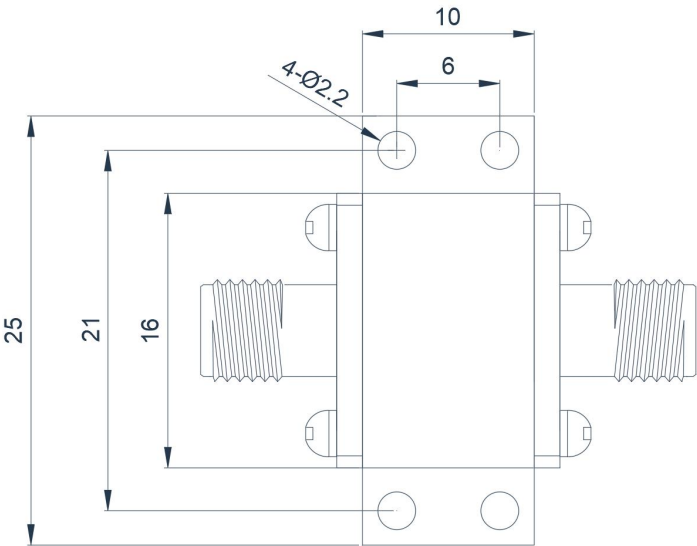
The following products are Broadband Coaxial Isolators covering the entire K-band frequency range. Customizable according to frequency band requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA180T265G-B	18.0~26.5	FULL	1.0	14	1.5	2.92-K	-55~+85℃	10/2/1	Clockwise
HCITB180T265G-B	18.0~26.5	FULL	1.0	14	1.5	2.92-K	-55~+85℃	10/2/1	Counter Clockwise

Product Appearance



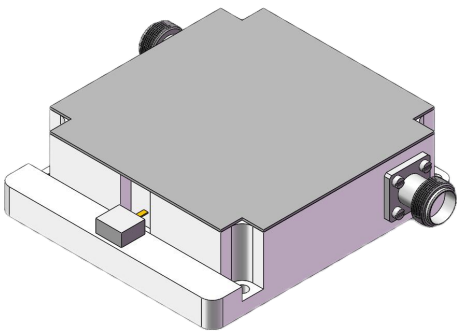
Unit:mm

4.2.3 High Power Coaxial Isolator

0.05~0.25GHz

Product Overview

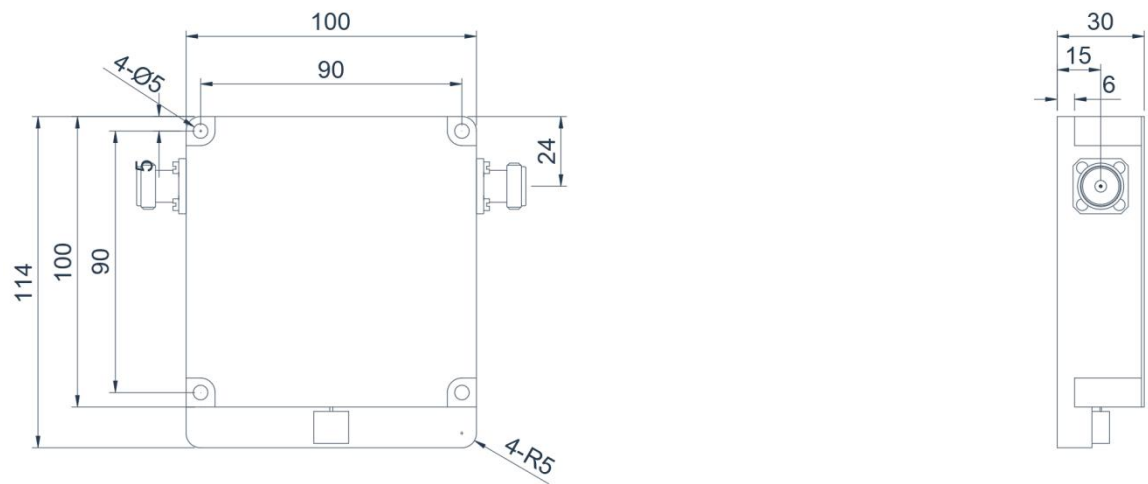
The following products are case examples of VHF band High Power Coaxial Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA50T250M-H	0.05~0.25	10%	0.4	20	1.2	N-K	-55~+85℃	5000/500/300	Clockwise
HCITB50T250M-H	0.05~0.25	10%	0.4	20	1.2	N-K	-55~+85℃	5000/500/300	Counter Clockwise

Product Appearance

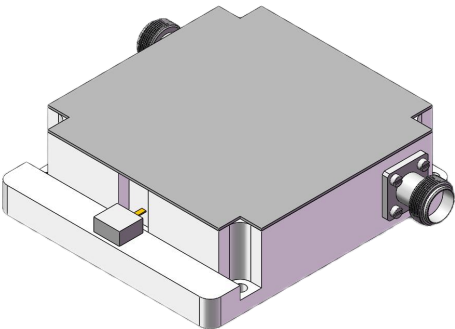


Unit:mm

0.2~0.5GHz

Product Overview

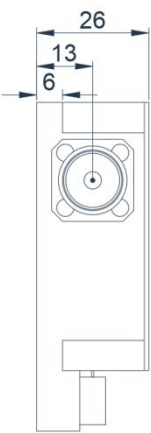
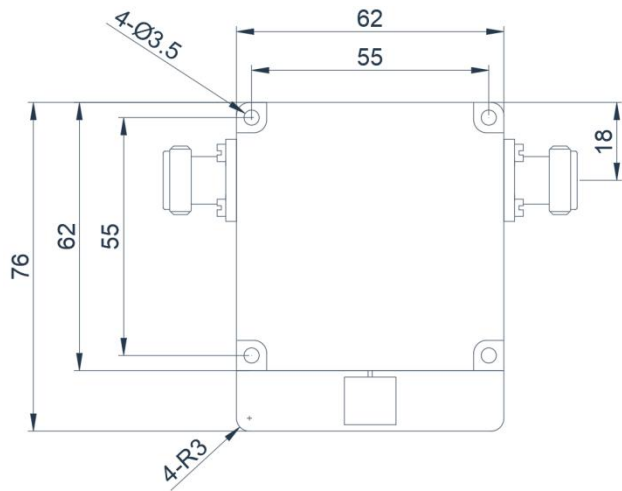
The following products are case examples of VHF to UHF band High Power Coaxial Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA02T05G-H	0.2~0.5	10%	0.4	20	1.2	N-K	-55~+85℃	5000/500/300	Clockwise
HCITB02T05G-H	0.2~0.5	10%	0.4	20	1.2	N-K	-55~+85℃	5000/500/300	Counter Clockwise

Product Appearance

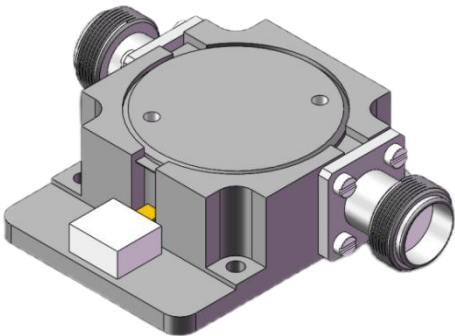


Unit:mm

0.4~1.0GHz

Product Overview

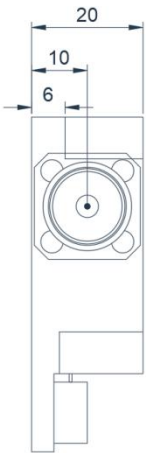
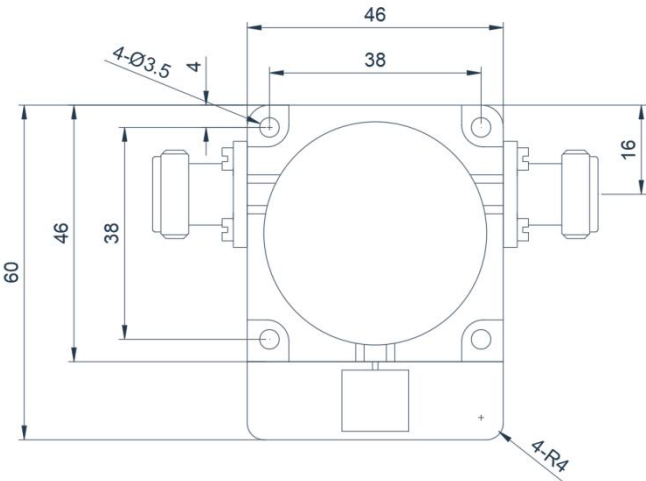
The following products are case examples of UHF-band High Power Coaxial Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA04T10G-H	0.4~1.0	10%	0.4	20	1.2	N-K	-55~+85℃	3000/300/300	Clockwise
HCITB04T10G-H	0.4~1.0	10%	0.4	20	1.2	N-K	-55~+85℃	3000/300/300	Counter Clockwise

Product Appearance



Unit:mm

0.8~2.5GHz

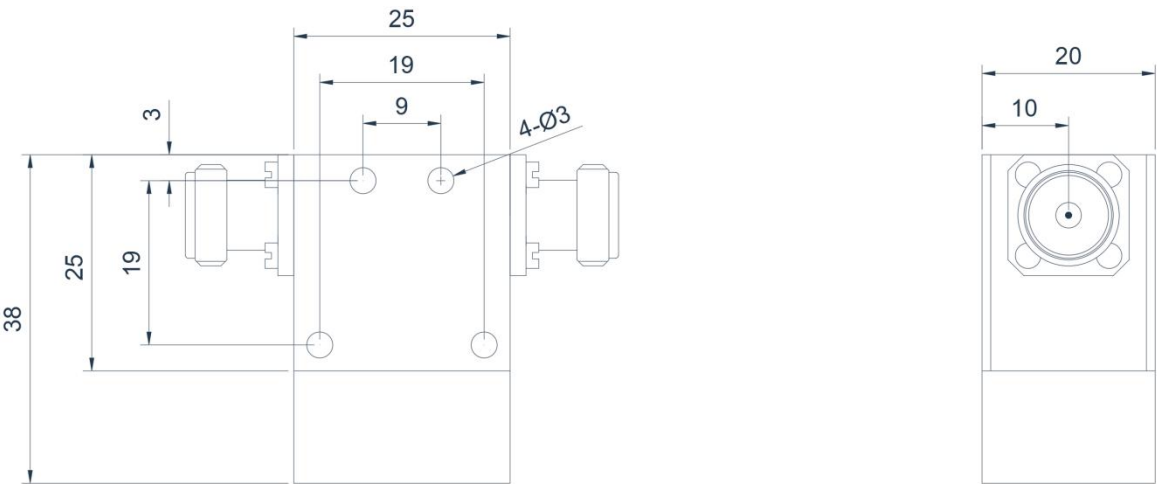
Product Overview

The following products are case examples of UHF to S band High Power Coaxial Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA08T25G-H	0.8~2.5	10%	0.4	20	1.2	N-K	-55~+85℃	2000/200/150	Clockwise
HCITB08T25G-H	0.8~2.5	10%	0.4	20	1.2	N-K	-55~+85℃	2000/200/150	Counter Clockwise

Product Appearance



Unit:mm

3.0~12.0GHz

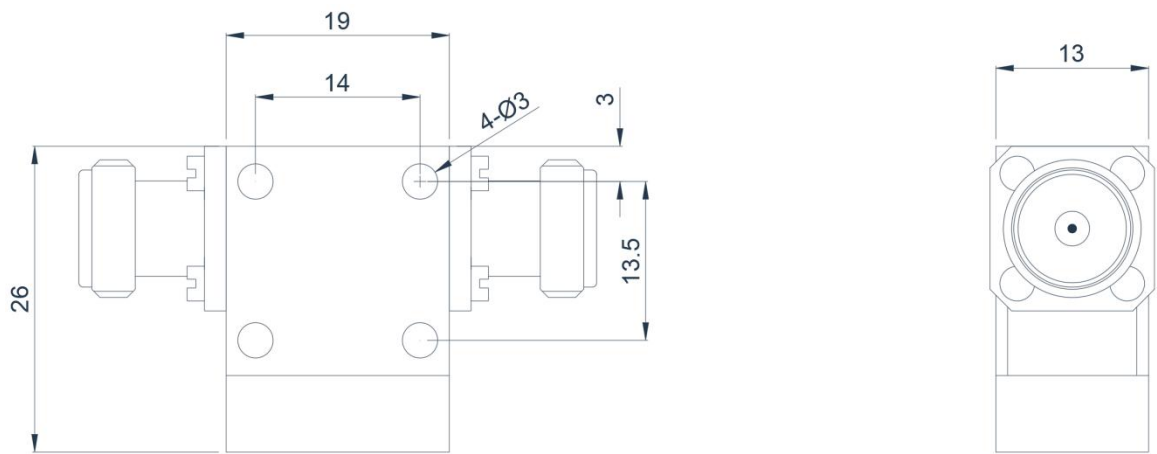
Product Overview

The following products are case examples of S to X band High Power Coaxial Isolators. Product dimensions and port configurations can be customized based on high-power requirements and high reflected power.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (℃)	PK/CW/RP (Watt)	Direction
HCITA30T120G-H	3.0~12.0	10%	0.4	20	1.2	N-K	-40~+70℃	800/100/80	Clockwise
HCITB30T120G-H	3.0~12.0	10%	0.4	20	1.2	N-K	-40~+70℃	800/100/80	Counter Clockwise

Product Appearance



Unit:mm

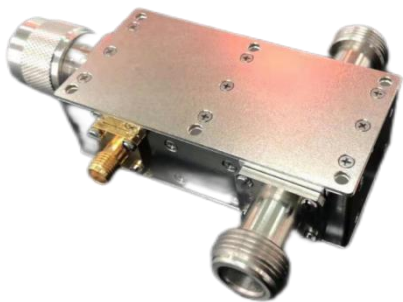
4.3 Coaxial Dual-Junction Circulator

4.3.1 High Power Coaxial Dual-Junction Circulator

2.9~3.4GHz

Product Overview

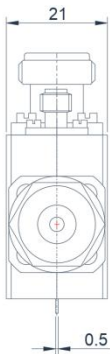
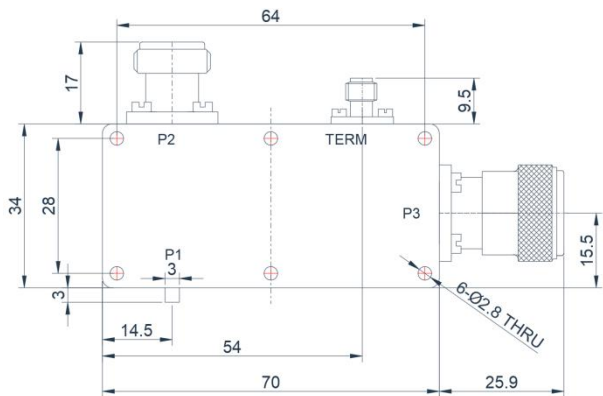
The following products are Coaxial Dual-Junction Circulators designed with high-power solutions. These are high-power case products with customizable ports such as N-type connectors, SMA connectors, and TAB connectors. High-power products can be customized according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Connector	Operating temperature (°C)	PK/PW/ Duty cycle (Watt)	Direction
HCDUA29T34G	2.9~3.4	FULL	P1→P2:	P2→P1:	1.25 (1.35)	N-K	-30~+95℃	5000/500us/10%	Clockwise
			0.3(0.4)	20.0(17.0)		N-J			
			P2→P3:	P3→P2:		SMA			
			0.6(0.8)	40.0(34.0)		TAB			

Product Appearance



Unit:mm





Waveguide

Directory

Company Product

Microstrip products

Drop-in products

Coaxial products

Waveguide products

- Frequency range: 2GHz-180GHz.
- The relative advantages of waveguide devices are low loss, high power handling capacity, and high operating frequency. However, their relative disadvantage is the larger size due to flange-related issues of the waveguide interface.

5.1 Typical Performance Parameters Table

5.1.1 Conventional Waveguide Circulator/Isolator

Electrical Performance Table

Standard Waveguide Port Models			Frequency Range (GHz)		BW		Electrical Performance			Power Capacity	Operating temperature
EIA	BS - British Standard	153-IE C	Starting Frequency (GHz)	Ending Frequency (GHz)	RBW (%)	ABW (GHz)	VSWR Max	Insertion loss (dB) Max	Isolation (dB)Min	CW(Watt)	℃
WR-90	WG-16	R100	8.2	12.5	10	-	1.15	0.2	23	500	-55~+85
					20		1.2	0.25	20		
					FULL		1.25	0.3	20		
WR-75	WG-17	R120	9.84	15	10	-	1.15	0.2	23	400	-55~+85
					20		1.2	0.25	20		
					FULL		1.25	0.3	20		
WR-62	WG-18	R140	11.9	18	10	-	1.15	0.2	23	300	-55~+85
					20		1.2	0.25	20		
					FULL		1.25	0.3	20		
WR-51	WG-19	R180	14.5	22	10	-	1.15	0.2	23	250	-55~+85
					20		1.2	0.25	20		
					FULL		1.25	0.3	20		
WR-42	WG-20	R220	17.6	26.7	10	-	1.15	0.2	23	250	-55~+85
					20		1.2	0.25	20		
					FULL		1.25	0.3	20		
WR-34	WG-21	R260	21.7	33	10	-	1.15	0.2	23	200	-55~+85
					20		1.2	0.25	20		
					FULL		1.25	0.3	20		
WR-28	WG-22	R320	26.3	40	10	-	1.2	0.25	20	100	-55~+85
					FULL		1.35	0.4	18		
WR-22	WG-23	R400	32.9	50.1	-	4	1.25	0.3	20	30	-55~+85
					-	8	1.35	0.45	18		
WR-19	WG-24	R500	39.2	59.6	-	3	1.25	0.3	20	20	-55~+85
					-	6	1.35	0.5	18		
WR-15	WG-25	R620	49.8	75.8	-	3	1.25	0.3	20	15	-55~+85
					-	6	1.35	0.5	18		
WR-12	WG-26	R740	60.5	91.9	-	3	1.25	0.5	20	10	-55~+85
					-	6	1.35	0.6	18		
WR-10	WG-27	R900	73.8	112	-	3	1.3	0.6	18	5	-55~+85
					-	5	1.35	0.8	17		
WR-8	WG-28	R1200	92.2	140	-	3	1.3	0.7	18	2	-55~+85
					-	5	1.4	0.9	17		
WR-7	WG-29	R1400	113	173	-	3	1.35	0.8	18	2	-55~+85
					-	5	1.4	1	17		

5.2 Waveguide Circulator

5.2.1 Junction Waveguide Circulator

WR-90

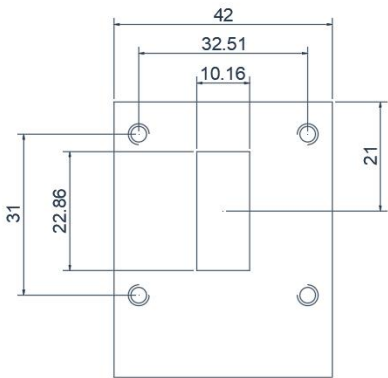
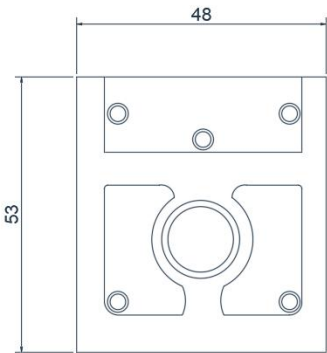
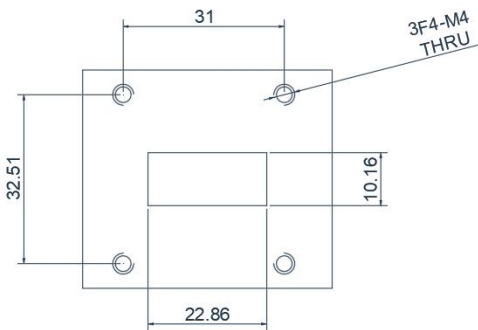
Product Overview

The following products are waveguide circulators designed with the WR-90 (WG-16) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT82T125G	8.2~12.5	FULL	0.3	20	1.25	-55~+85	-/500

Product Appearance



Unit:mm

WR-62

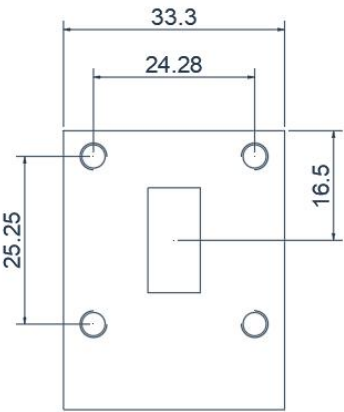
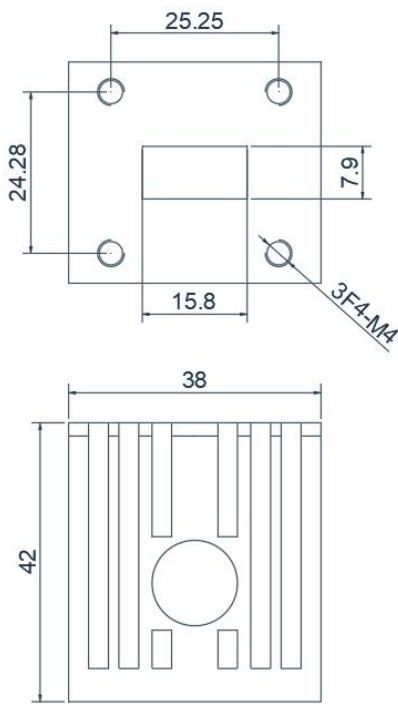
Product Overview

The following products are waveguide circulators designed with the WR-62 (WG-18) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT120T180G	12.0~18.0	FULL	0.3	20	1.25	-55~+85	-/300

Product Appearance



Unit:mm

WR-51

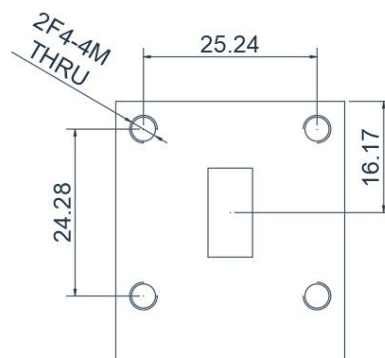
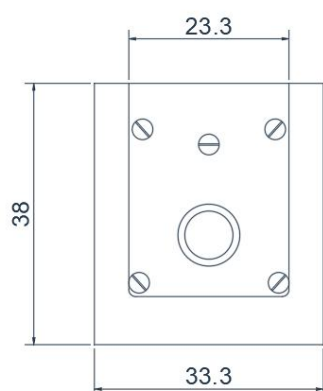
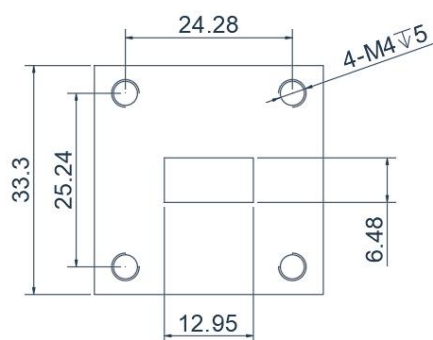
Product Overview

The following products are waveguide circulators designed with the WR-51 (WG-19) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT160T180G	16.0~18.0	FULL	0.25	20	1.2	-55~+85	-/250

Product Appearance



Unit:mm

WR-42

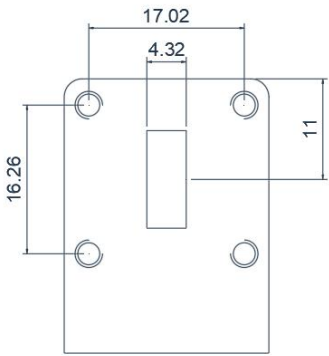
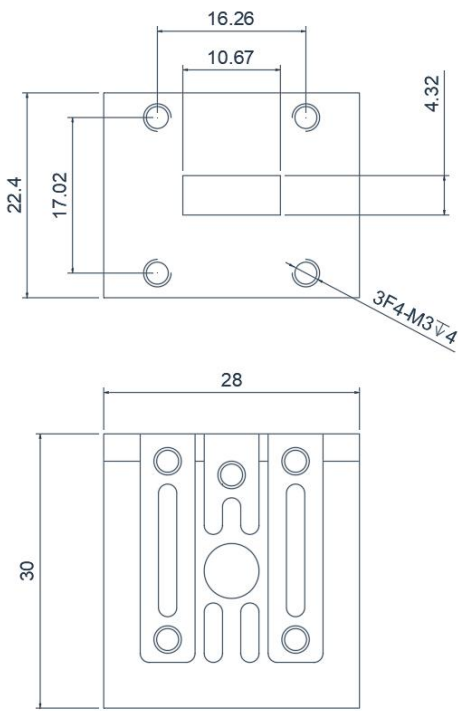
Product Overview

The following products are waveguide circulators designed with the WR-62 (WG-18) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT180T265G	18.0~26.5	FULL	0.3	20	1.2	-55~+85	-/200

Product Appearance



Unit:mm

WR-34

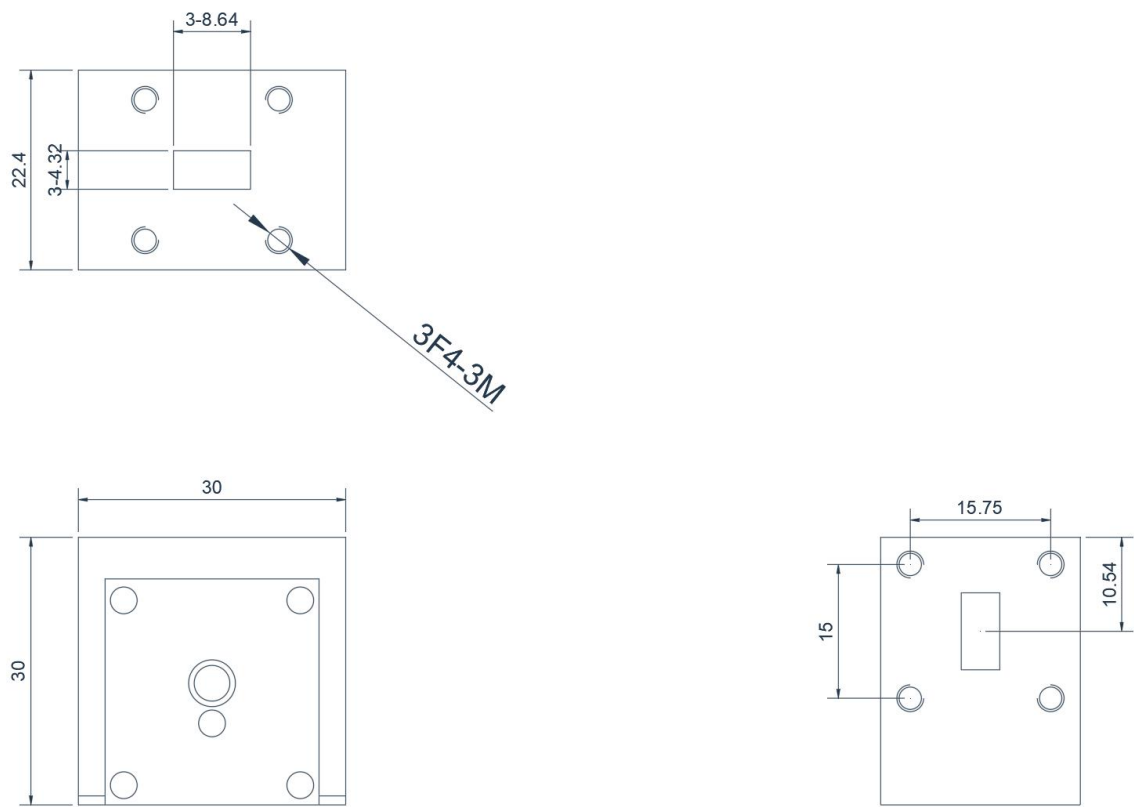
Product Overview

The following products are waveguide circulators designed with the WR-34 (WG-21) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT220T330G	22.0~33.0	FULL	0.3	20	1.25	-55~+85	-/200

Product Appearance



Unit:mm

WR-28

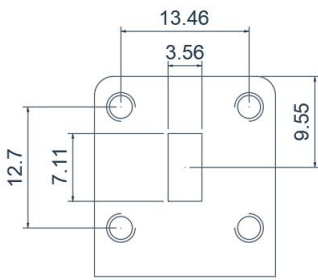
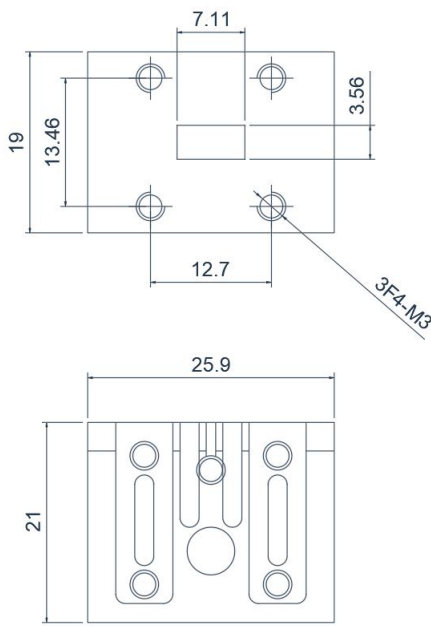
Product Overview

The following products are waveguide circulators designed with the WR-28 (WG-22) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT260T400G	26.5~40.0	FULL	0.4	18	1.35	-55~+85	-/150

Product Appearance



Unit:mm

WR-22

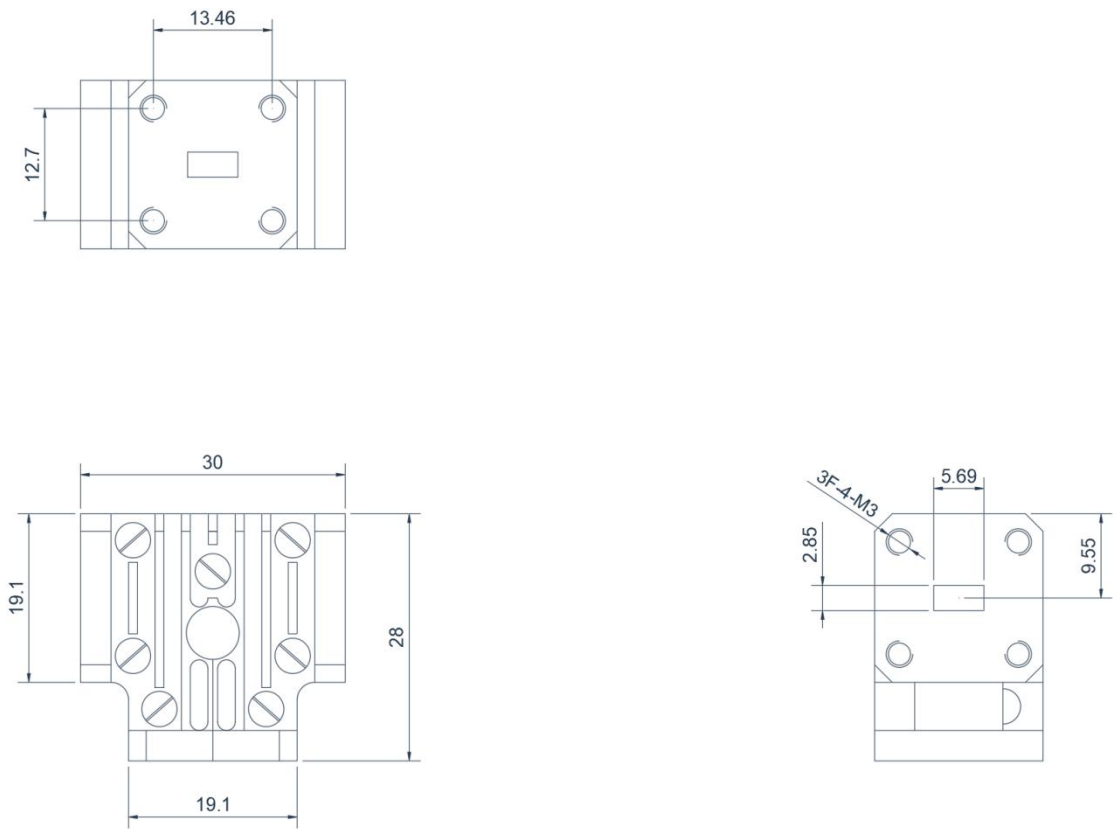
Product Overview

The following products are waveguide circulators designed with the WR-22 (WG-23) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT420T460G	42.0~46.0	FULL	0.3	20	1.25	-55~+85	-/30

Product Appearance



Unit:mm

WR-12

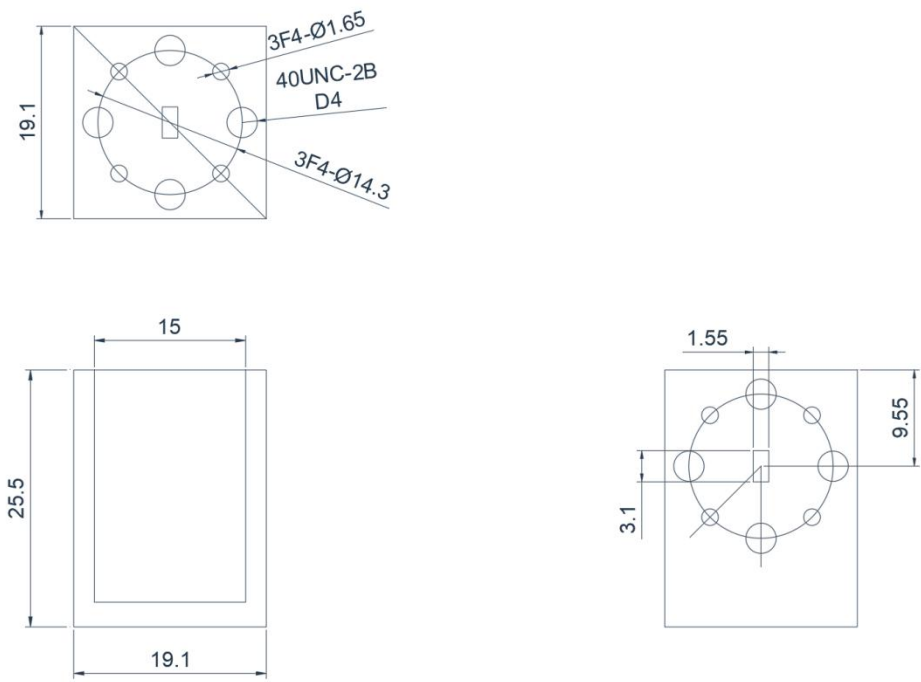
Product Overview

The following products are waveguide circulators designed with the WR-12 (WG-26) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT620T650G	62.0~65.0	FULL	0.5	20	1.25	-55~+85	-/10
HWCT700T760G	70.0~76.0	FULL	0.6	18	1.35	-55~+85	-/10
HWCT850T890G	85.0~89.0	FULL	0.6	18	1.35	-55~+85	-/10

Product Appearance



Unit:mm

WR-8

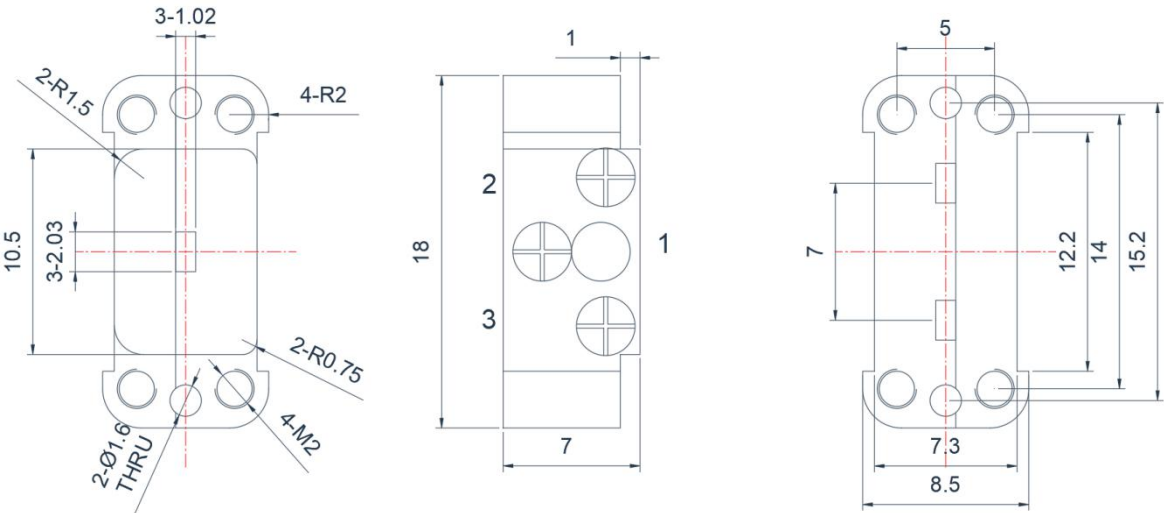
Product Overview

The following products are waveguide circulators designed with the WR-8 (WG-28) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT920T960G	92.0~96.0	FULL	0.8	18	1.30	-55~+85	-/2

Product Appearance



Unit:mm

WR-7

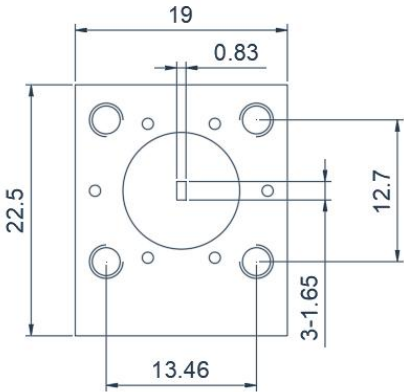
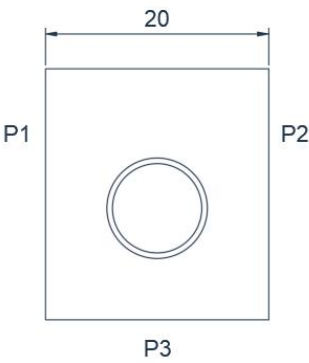
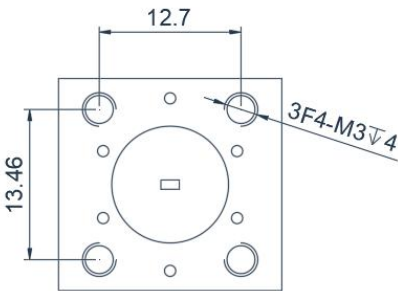
Product Overview

The following products are waveguide circulators designed with the WR-7 (WG-29) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT1580T1600G	158.0~160.0	FULL	0.8	18	1.35	-55~+85	-/2

Product Appearance



Unit:mm

5.2.2 Dual-Ridge Waveguide Circulator

WRD650D28

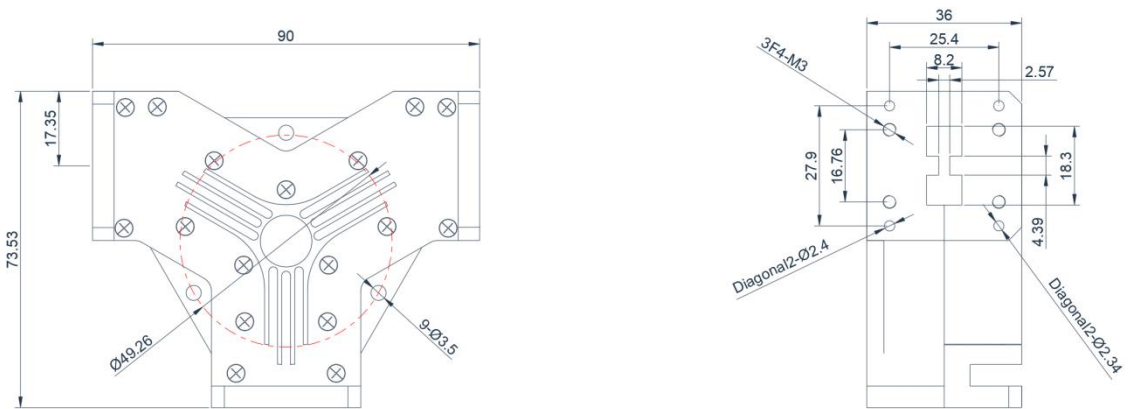
Product Overview

The following products are designed using the dual-ridge waveguide WRD650D28 interface for broadband waveguide devices. Customization of dual-ridge waveguide circulators and isolators with other dual-ridge waveguide interfaces is also available. For detailed information about dual-ridge waveguide interfaces, please refer to the "Common Dual-Ridge Waveguide Data Table" in the appendix.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	PK/CW (Watt)
HWCT80T180G-D	8.0~18.0	FULL	0.8	12	1.7	-55~+85	200

Product Appearance



Unit:mm

5.3 Waveguide Isolator

5.3.1 Junction Waveguide Isolator

WR-90

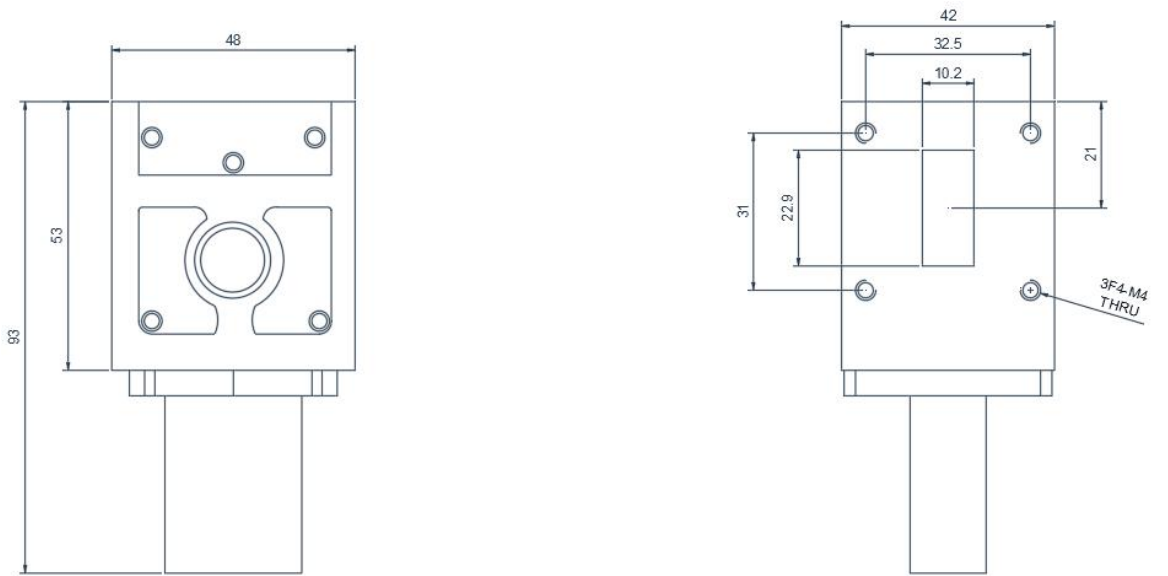
Product Overview

The following products are waveguide Isolator designed with the WR-90 (WG-16) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT82T125G	8.2~12.5	FULL	0.3	20	1.25	-55~+85	500/100

Product Appearance



Unit:mm

Flange installationBase plate plating

WR-62

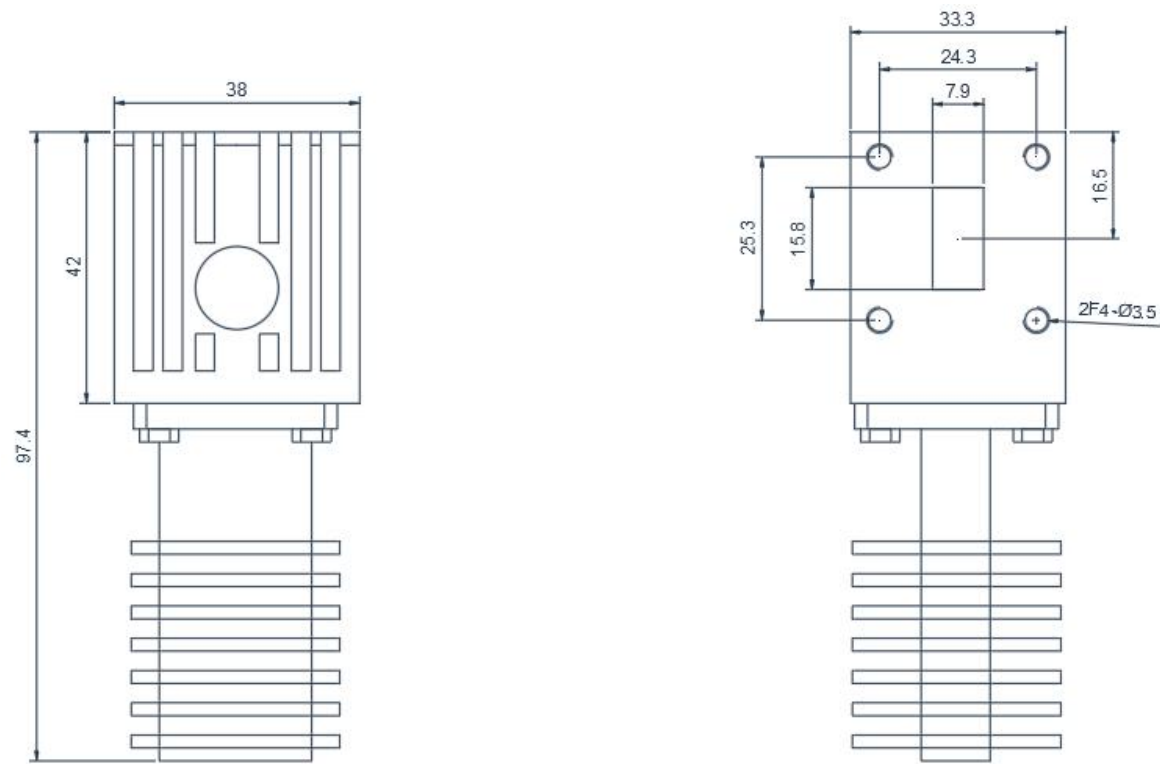
Product Overview

The following products are waveguide Isolator designed with the WR-62 (WG-18) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT120T180G	12.0~18.0	FULL	0.3	20	1.25	-55~+85	300/100

Product Appearance



Unit:mm

WR-42

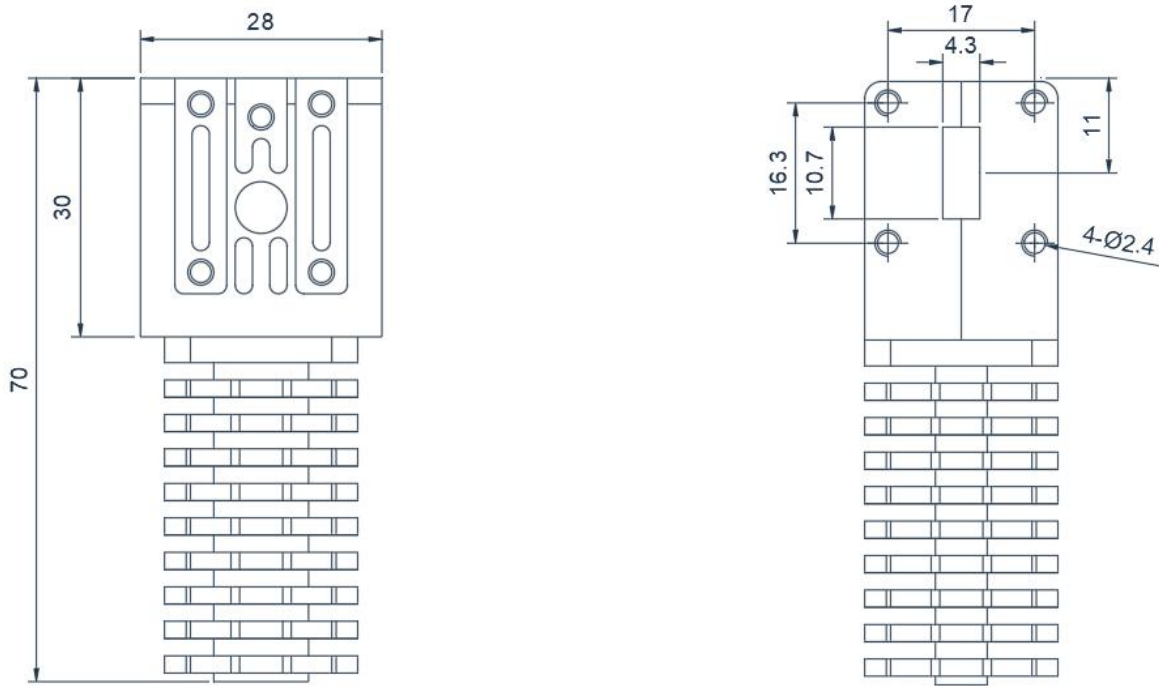
Product Overview

The following products are waveguide Isolator designed with the WR-42 (WG-20) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT180T265G	18.0~26.5	FULL	0.3	20	1.2	-55~+85	200/100

Product Appearance



Unit:mm

WR-34

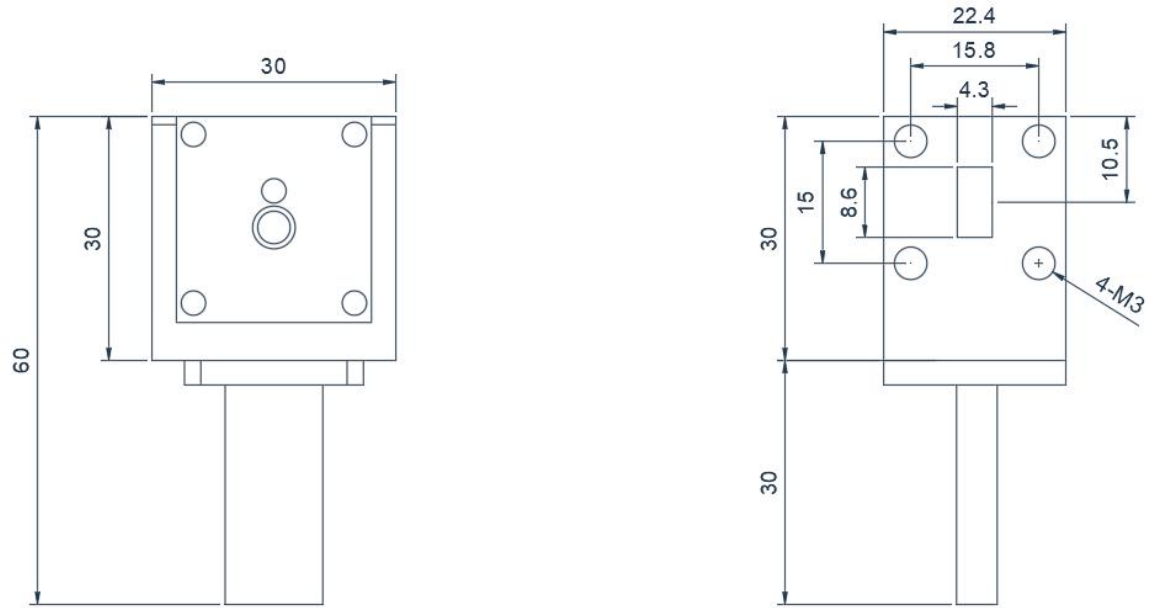
Product Overview

The following products are waveguide Isolator designed with the WR-34 (WG-21) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT217T330G	21.7~33.0	FULL	0.3	20	1.25	-55~+85	200/100

Product Appearance



Unit:mm

WR-28

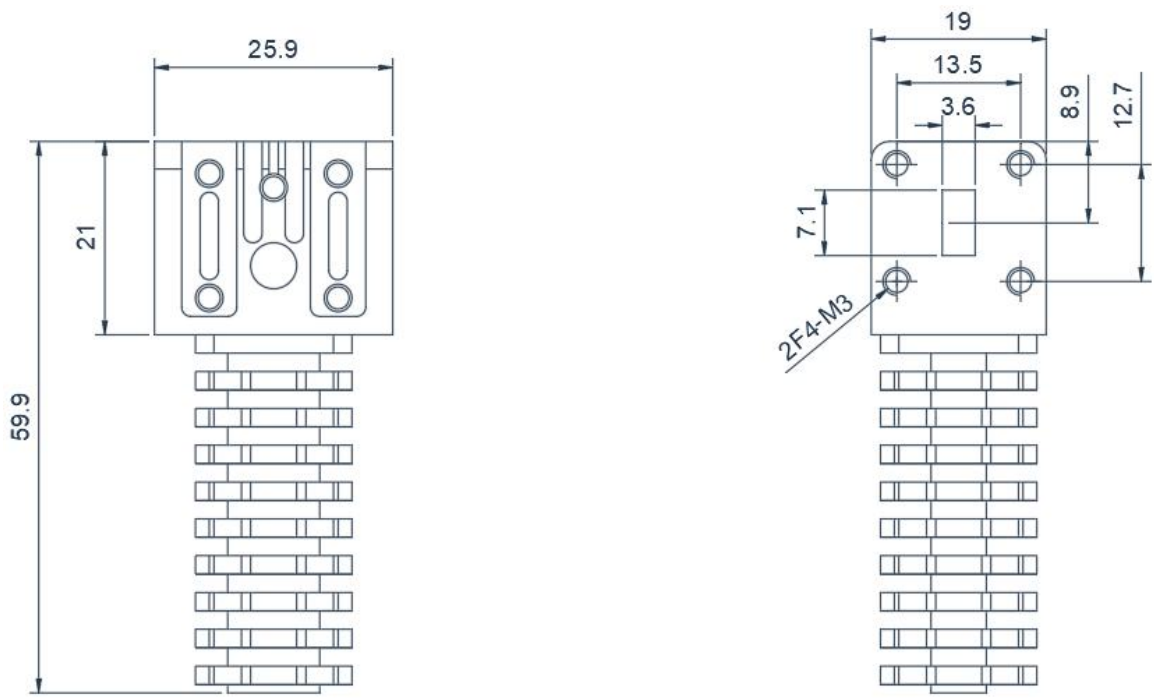
Product Overview

The following products are waveguide Isolator designed with the WR-28 (WG-22) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT265T400G	26.5~40.0	FULL	0.4	18	1.35	-55~+85	100/100

Product Appearance



Unit:mm

WR-22

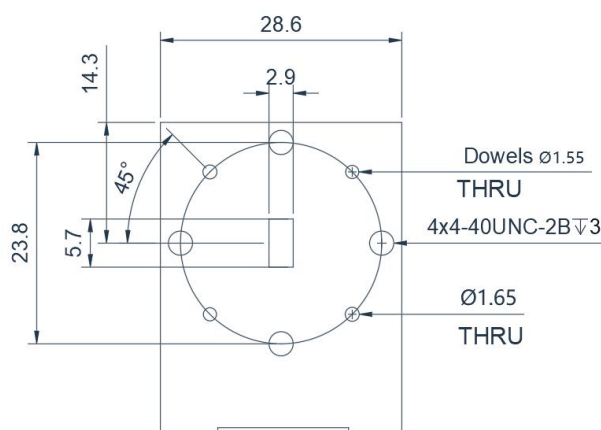
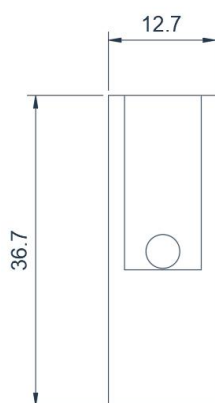
Product Overview

The following products are waveguide Isolator designed with the WR-22 (WG-23) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT330T500G	33.0~50.0	15%	0.4	18	1.3	-55~+85	10/1

Product Appearance



Unit:mm

WR-12

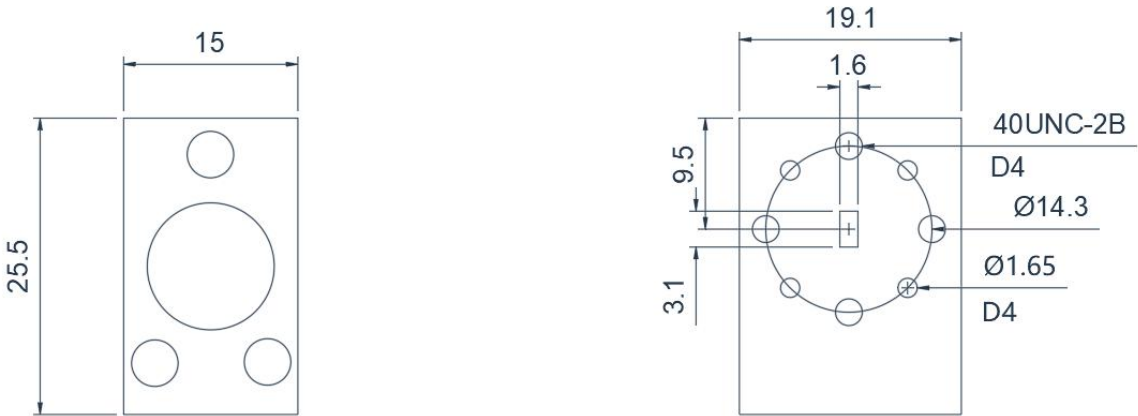
Product Overview

The following products are waveguide Isolator designed with the WR-12 (WG-26) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT710T860G	71.0~86.0	10%	0.6	18	1.3	-55~+85	40/2

Product Appearance



Unit:mm

WR-10

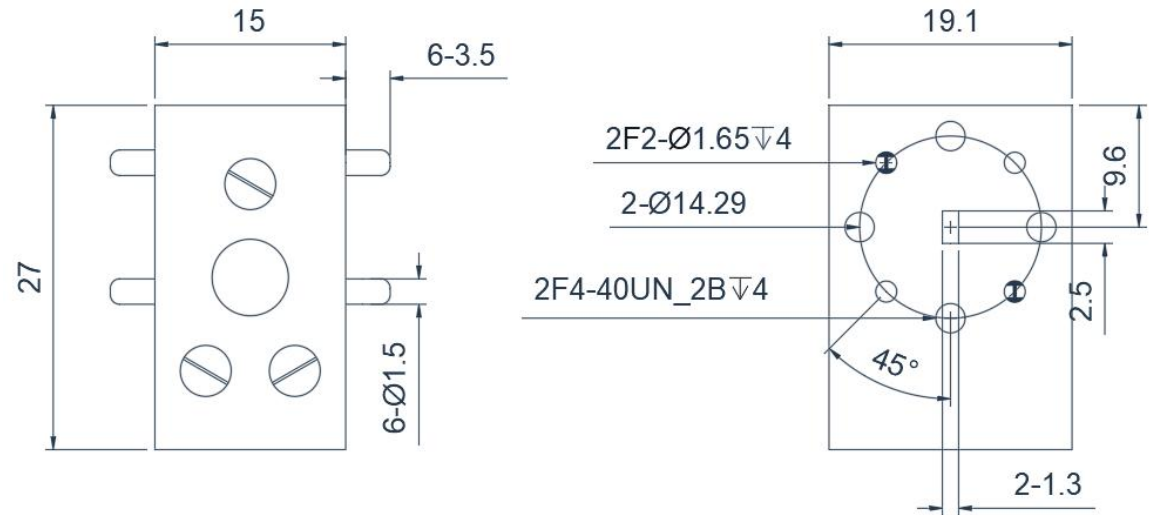
Product Overview

The following products are waveguide Isolator designed with the WR-10 (WG-30) standard waveguide interface. Below are some product examples and typical specifications. Customization of port locations and product dimensions is available based on your requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT920T960G	92.0~96.0	FULL	0.6	20	1.25	-55~+85	10/1

Product Appearance



Unit:mm

5.3.2 Miniaturized Waveguide Isolator

WR-62(12.7~13.3GHz)

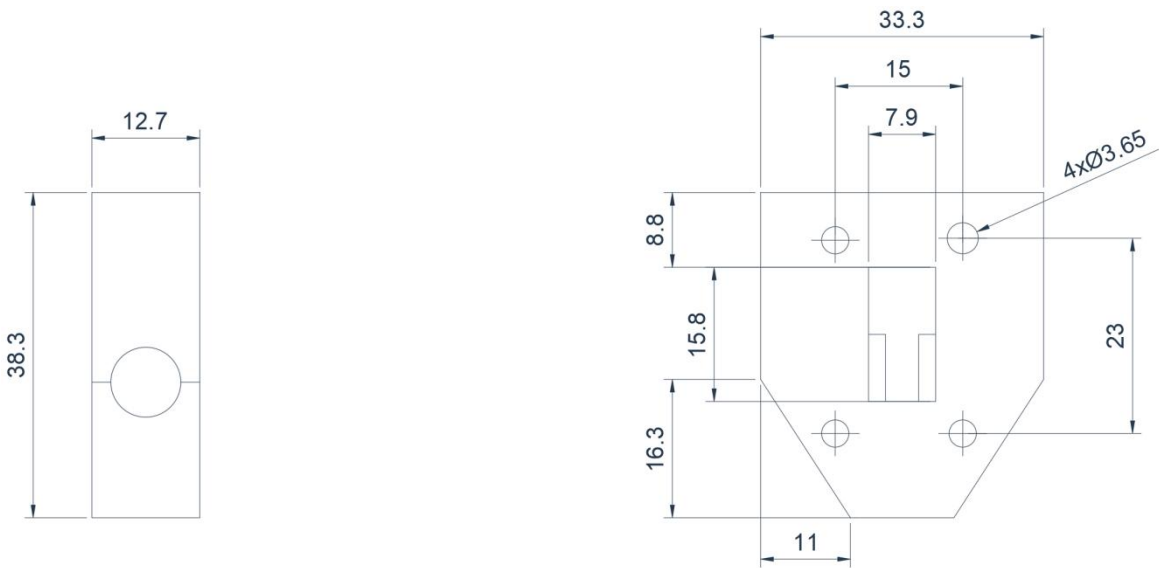
Product Overview

The following products are miniaturized waveguide isolator case products designed with the WR62 (WG-18) waveguide interface. These designs have shortened the transmission distance but come with a sacrifice in power capacity. Customization of compact, low-power waveguide products is available based on waveguide interface requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT127T133G-M	12.7~13.3	FULL	0.3	23	1.2	-40~+80	5/0.5

Product Appearance



Unit:mm

WR-62(13.0~15.0GHz)

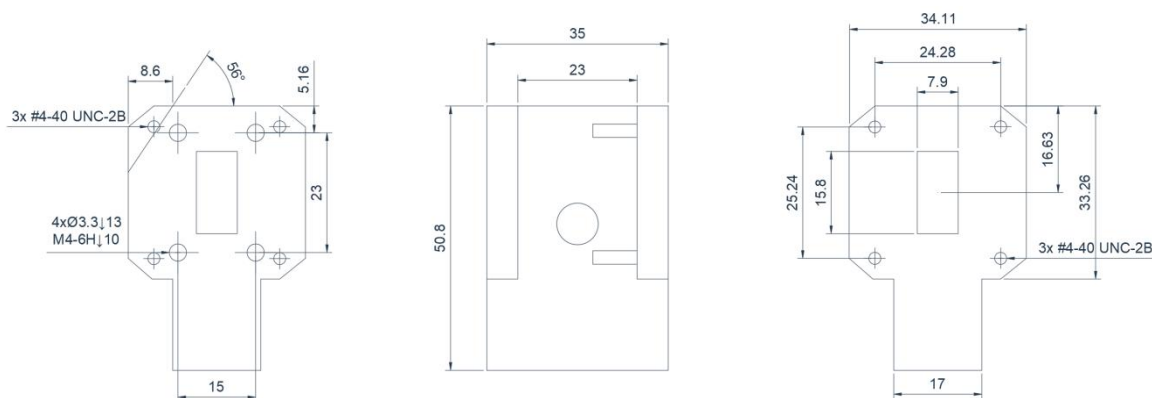
Product Overview

The following products are miniaturized waveguide isolator case products designed with the WR62 (WG-18) waveguide interface. These designs have shortened the transmission distance but come with a sacrifice in power capacity. Customization of compact, low-power waveguide products is available based on waveguide interface requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT130T150G-M	13.0~15.0	FULL	0.3	20	1.22	-30~+65	2/1

Product Appearance



Unit:mm

WR42(18.0~26.5GHz)

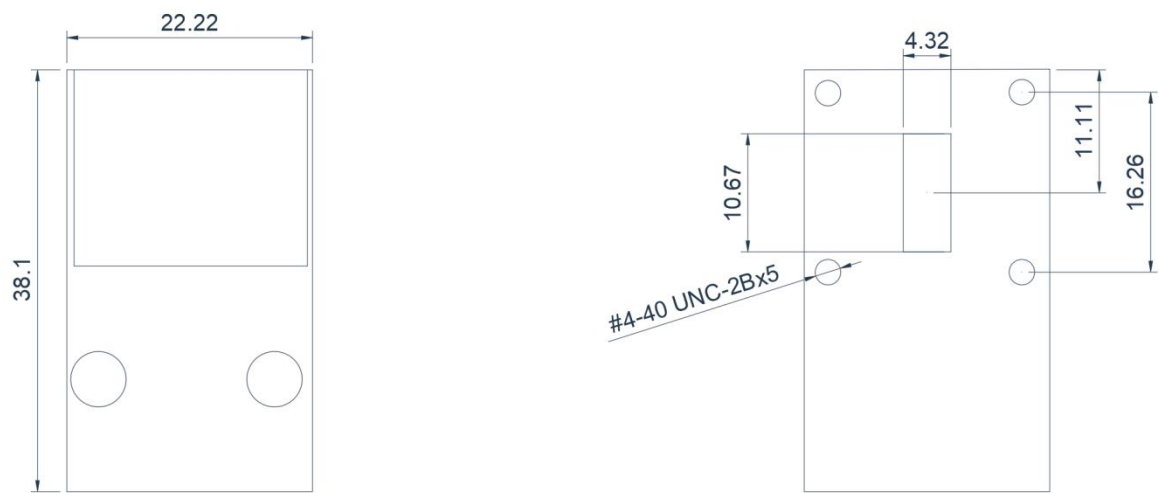
Product Overview

The following products are miniaturized waveguide isolator case products designed with the WR42 (WG-20) waveguide interface. These designs have shortened the transmission distance but come with a sacrifice in power capacity. Customization of compact, low-power waveguide products is available based on waveguide interface requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT180T265G-M	18.0~26.5	FULL	0.5	16	1.3	-40~+70	10/10

Product Appearance



Unit:mm

WR42(17.7~26.5GHz)

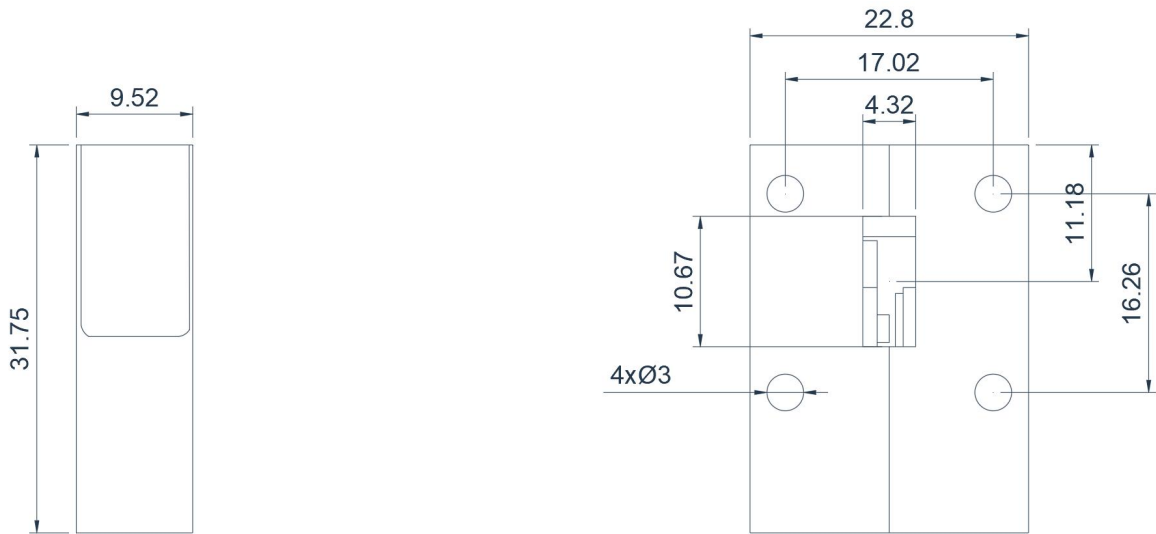
Product Overview

The following products are miniaturized waveguide isolator case products designed with the WR42 (WG-20) waveguide interface. These designs have shortened the transmission distance but come with a sacrifice in power capacity. Customization of compact, low-power waveguide products is available based on waveguide interface requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT177T197G-M	17.7~19.7	FULL	0.4	18	1.35	-40~+85	1/0.5
HWIT212T236G-M	21.2~23.6	FULL	0.4	19	1.3	-40~+85	2/1
HWIT240T265G-M	24.0~26.5	FULL	0.35	18	1.3	-35~+85	2/1

Product Appearance



Unit:mm

WR-28(26.5~40.0GHz)

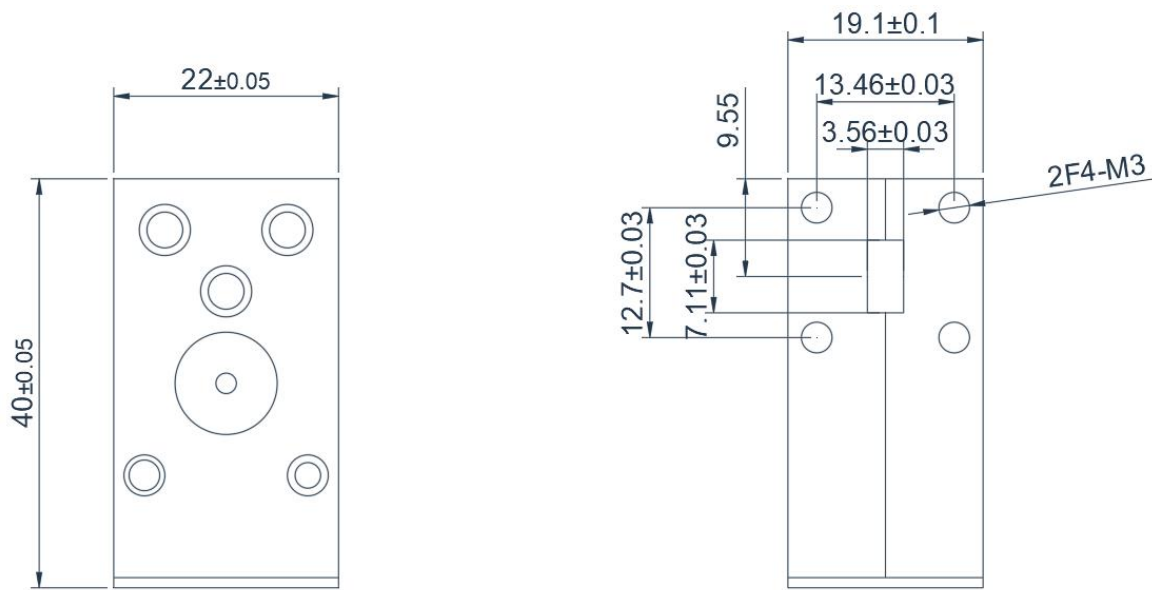
Product Overview

The following products are miniaturized waveguide isolator case products designed with the WR28 (WG-22) waveguide interface. These designs have shortened the transmission distance but come with a sacrifice in power capacity. Customization of compact, low-power waveguide products is available based on waveguide interface requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT270T295G-M	27.0-29.5	FULL	0.3	18	1.3	-35~+70	10/10
HWIT310T334G-M	31.0-33.4	FULL	0.3	18	1.3	-35~+70	10/10
HWIT370T400G-M	37.0~40.0	FULL	0.4	18	1.3	-30~+70	10/10
HWIT265T400-M	26.5~40.0	FULL	0.45	15	1.35	-40~+70	10/10

Product Appearance



Unit:mm

WR-22(40.5~43.5GHz)

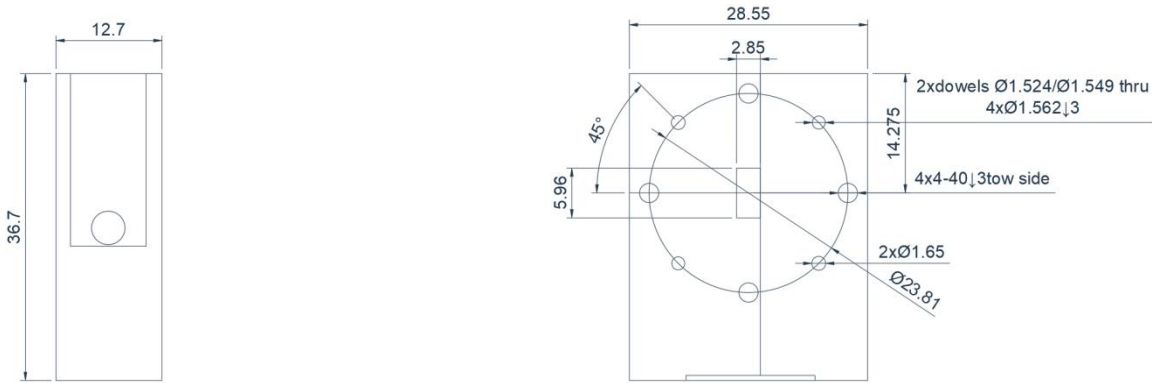
Product Overview

The following products are miniaturized waveguide isolator case products designed with the WR22 (WG-23) waveguide interface. These designs have shortened the transmission distance but come with a sacrifice in power capacity. Customization of compact, low-power waveguide products is available based on waveguide interface requirements.

Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWITA405T435G-M	40.5~43.5	FULL	0.4	18	1.29	-40~+80	1/1

Product Appearance



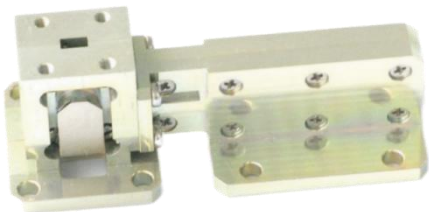
Unit:mm

5.3.2 High Power Waveguide Isolator

WR-22(19.4~21.4GHz)

Product Overview

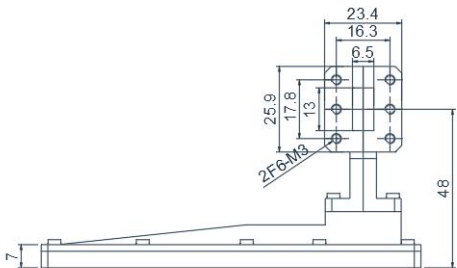
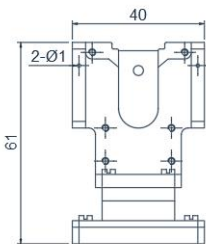
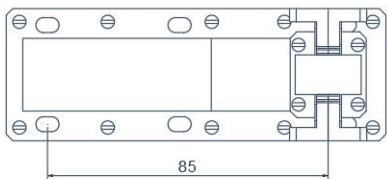
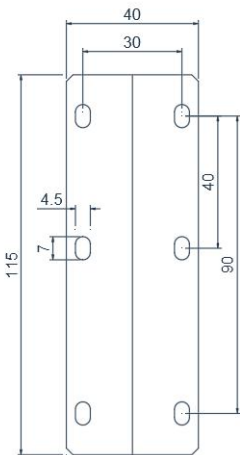
The following products are High Power Waveguide Isolators, as shown in the diagram. They feature a relatively large base beneath the load port, designed for effective heat dissipation in high reflected power applications. These products can be customized according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(℃)	CW/RP (Watt)
HWIT194T214G-H	19.4~21.4	FULL	0.2	20	1.25	-20~~+60	240/210

Product Appearance



Unit:mm

5.4 Differential Phase-Shift High Power Waveguide

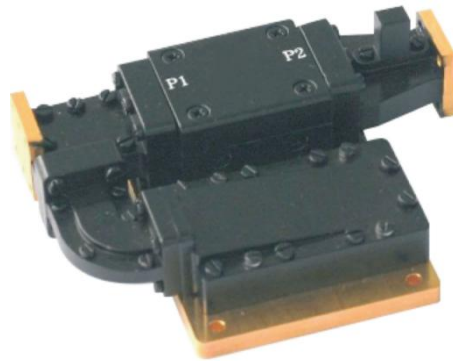
5.4.1 Typical Performance Parameters Table(Circulator/Isolator)

Frequency Range	BW Max	Insertion loss(dB) Max	Isolation(dB)Min	VSWR Max	CW(Watt)
S	20%	0.4	20	1.2	40K
C	20%	0.4	20	1.2	10K
X	20%	0.4	20	1.2	3K
Ku	20%	0.4	20	1.2	2K
K	20%	0.45	20	1.2	1K
Ka	15%	0.45	20	1.2	500
V	10%	0.45	20	1.2	300

WR-19(46.0~52.0GHz)

Product Overview

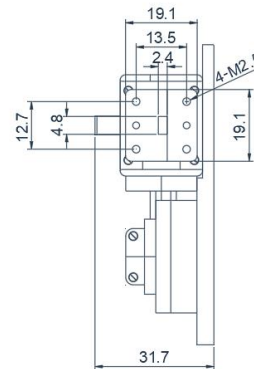
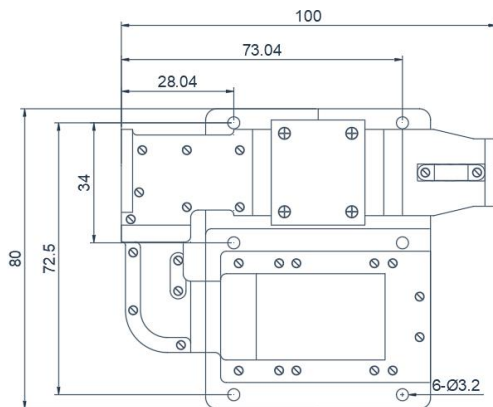
The following are case products of the Differential Phase-Shift High Power Waveguide Isolator. The Differential Phase-Shift High Power Waveguide Isolator is capable of withstanding high-power microwave signals and offers a power handling capacity improvement of one to two orders of magnitude compared to regular junction circulators. These products can be customized according to your requirements.



Electrical Performance Table

Model	Frequency (GHz)	BW Max	Insertion loss(dB) Max	Isolation (dB)Min	VSWR Max	Operating temperature(°C)	CW (Watt)
HWCT460T520G-HDPS	46.0~52.0	FULL	0.8	20	1.4	-30~+70	60

Product Appearance



Unit:mm

5.5 Standard Rectangular Waveguide Data Table

EIA - International Standard	BS - British Standard	153-IEC	Starting frequency $1.25f_c$	Terminating frequency $1.9f_c$	Fundamental bandwidth	Fundamental height	Deviation from width and height. (\pm)
WR-2300	/	R3	0.32	0.49	584.2	292.1	-
WR-2100	/	R4	0.35	0.53	533.4	266.7	-
WR-1800	WG1	R5	0.41	0.62	457.2	228.6	0.51
WR-1500	WG2	R6	0.49	0.75	381	190.5	0.38
WR-1150	WG3	R8	0.64	0.98	292.1	146.05	0.38
WR-975	WG4	R9	0.76	1.15	247.65	123.82	-
WR-770	WG5	R12	0.96	1.46	195.58	97.79	-
WR-650	WG6	R14	1.13	1.73	165.1	82.55	0.33
WR-510	WG7	R18	1.45	2.2	129.54	64.77	0.26
WR-430	WG8	R22	1.72	2.61	109.22	54.61	0.22
WR-340	WG9A	R26	2.17	3.3	86.36	43.18	0.17
WR-284	WG10	R32	2.6	3.95	72.14	34.04	0.14
WR-229	WG11A	R40	3.22	4.9	58.17	29.08	0.12
WR-187	WG12	R48	3.94	5.99	45.549	22.149	0.095
WR-159	WG13	R58	4.64	7.05	40.386	20.193	0.081
WR-137	WG14	R70	5.38	8.17	34.849	15.799	0.07
WR-112	WG15	R84	6.57	9.99	28.499	12.624	0.057
WR-90	WG16	R100	8.2	12.5	22.86	10.16	0.046
WR-75	WG17	R120	9.84	15	19.05	9.525	0.038
WR-62	WG18	R140	11.9	18	15.799	7.899	0.031
WR-51	WG19	R180	14.5	22	12.95	6.477	0.026
WR-42	WG20	R220	17.6	26.7	10.668	4.318	0.021
WR-34	WG21	R260	21.7	33	8.636	4.318	0.02
WR-28	WG22	R320	26.3	40	7.12	3.556	0.02
WR-22	WG23	R400	32.9	50.1	5.69	2.845	0.02
WR-19	WG24	R500	39.2	59.6	4.775	2.388	0.02
WR-15	WG25	R620	49.8	75.8	3.795	1.88	0.02
WR-12	WG26	R740	60.5	91.9	3.0988	1.5494	0.0127
WR-10	WG27	R900	73.8	112	2.54	1.27	0.0127
WR-8	WG28	R1200	92.2	140	2.032	1.016	0.0076
WR-7	WG29	R1400	113	173	1.651	0.8255	0.0064
WR-5	WG30	R1800	145	220	1.2954	0.6477	0.0064
WR-4	WG31	R2200	172	261	1.0922	0.5461	0.0051
WR-3	WG32	R2600	217	330	0.8636	0.4318	0.0051

5.6 Common Dual-Ridge Waveguide Data Table

Waveguide port model		Electrical parameters		Internal Cross-Sectional Dimensions(mm)							External Cross-Sectional Dimensions(mm)				
US standard	Frequency range	Cutoff Frequency		A	B	Tolerance (±)	E	±ΔE	Rmax	R±10%	H	±ΔH	C	D	Tolerance (±)
		TE10	TE20												
WRD200D24	2~4.8	1.666	4.925	65.79	30.61	0.1	13	0.05	1.27	2.59	16.46	0.05	69.85	34.67	0.1
WRD250D30	2.6~7.8	2.093	/	42.04	18.16	0.08	3.81	0.05	0.51	2.34	11.18	0.05	46.1	22.22	0.1
WRD350D24	3.5~8.2	2.915	8.62	37.59	17.48	0.08	7.42	0.05	0.76	1.47	9.4	0.05	40.84	20.73	0.1
WRD475D24	4.75~11	3.961	11.705	27.69	12.85	0.08	5.46	0.05	0.76	1.09	6.91	0.05	30.23	15.39	0.08
DR19	4.75~11	/	/	26.04	12.07	0.08	4.85	0.05	0.76	1.57	6.5	0.05	28.58	14.61	0.08
WRD500D36	5~18	4.222	/	19.1	8.2	0.08	1.6	0.05	0.38	0.33	4.78	0.05	21.64	10.74	0.08
WRD580D28	5.8~16	4.892	/	19.81	9.4	0.08	3.05	0.05	0.38	1.09	5.08	0.05	22.35	11.94	0.08
WRD650D28	6.5~18	5.348	/	18.29	8.15	0.08	2.57	0.05	0.51	0.56	4.39	0.05	20.85	10.69	0.08
WRD750D24	7.5~18	6.239	18.464	17.55	8.15	0.08	3.45	0.05	0.51	0.69	4.39	0.05	20.09	10.69	0.08
WRD700D26	7~18.5	5.679	/	17.42	7.87	0.08	2.67	0.05	0.51	0.58	4.39	0.05	19.96	10.41	0.08
WRD110C24	11~26.5	9.363	27.08	11.96	5.56	0.08	2.36	0.05	0.38	0.48	3.00	0.05	14.00	7.59	0.08
WRD180C24	18~40	14.995	44.285	7.32	3.4	0.05	1.45	0.05	0.38	0.28	1.83	0.05	9.35	5.44	0.08

Conversion Table

VSWR	RETURN LOSS (dB)	TRANS LOSS (dB)	VOLT REFL COEFF	POWER TRANS(%)	POWER REFL(%)	VSWR	RETURN LOSS (dB)	TRANS LOSS (dB)	VOLT REFL COEFF	POWER TRANS(%)	POWER REFL(%)
1.00	∞	.000	.00	100.0	.0	1.64	12.3	.263	.24	94.1	5.9
1.01	46.1	.000	.00	100.0	.0	1.66	12.1	.276	.25	93.8	6.2
1.02	40.1	.000	.01	100.0	.0	1.68	11.9	.289	.25	93.6	6.4
1.03	36.6	.001	.00	100.0	.0	1.70	11.7	.302	.26	93.3	6.7
1.04	34.2	.002	.02	100.0	.0	1.72	11.5	.315	.26	93.0	7.0
1.05	32.3	.003	.02	99.9	.1	1.74	11.4	.329	.27	92.7	7.3
1.06	30.7	.004	.03	99.9	.1	1.76	11.2	.342	.28	92.4	7.6
1.07	29.4	.005	.03	99.9	.1	1.78	11.0	.356	.28	92.1	7.9
1.08	28.3	.006	.04	99.9	.1	1.80	10.9	.370	.29	91.8	8.2
1.09	27.3	.008	.04	99.8	.2	1.82	10.7	.384	.29	91.5	8.5
1.10	26.4	.010	.05	99.8	.2	1.84	10.6	.398	.30	91.3	8.7
1.11	25.7	.012	.05	99.7	.3	1.86	10.4	.412	.30	91.0	9.0
1.12	24.9	.014	.06	99.7	.3	1.88	10.3	.425	.31	90.7	9.3
1.13	24.3	.016	.06	99.6	.4	1.90	10.2	.440	.31	90.4	9.6
1.14	23.7	.019	.07	99.6	.4	1.92	10	.454	.32	90.1	9.9
1.15	23.1	.021	.07	99.5	.5	1.94	9.9	.468	.32	89.8	10.2
1.16	22.6	.024	.07	99.4	.6	1.98	9.8	.483	.32	89.5	10.5
1.17	22.1	.027	.08	99.4	.6	1.98	9.7	.497	.33	89.2	10.8
1.18	21.7	.030	.08	99.3	.7	2.00	9.5	.512	.33	88.9	11.1
1.19	21.2	.033	.09	99.2	.8	2.50	7.4	.881	.43	81.6	18.4
1.20	20.8	.036	.09	99.2	.8	3.00	6.0	1.249	.50	76.0	25.0
1.21	20.4	.039	.10	99.1	.9	3.50	5.1	1.603	.56	69.1	30.9
1.22	20.1	.043	.10	99.0	1.0	4.00	4.4	1.930	.60	64.0	36.0
1.23	19.7	.046	.10	98.9	1.1	4.50	3.9	2.225	.64	59.5	40.5
1.24	19.4	.050	.11	98.9	1.1	5.00	3.5	2.553	.67	55.6	44.4
1.25	19.1	.054	.11	98.8	1.2	5.50	3.2	2.834	.69	52.1	47.9
1.26	18.8	.058	.12	98.7	1.3	6.00	2.9	3.100	.71	49.0	51.0
1.27	18.5	.062	.12	98.6	1.4	6.50	2.7	3.351	.73	46.2	53.8
1.28	18.2	.066	.12	98.5	1.5	7.00	2.5	3.590	.75	43.7	56.2
1.29	17.9	.070	.13	98.4	1.6	7.50	2.3	3.817	.76	41.5	58.5
1.30	17.7	.075	.13	98.3	1.7	8.00	2.2	4.033	.78	39.5	60.5
1.32	17.2	.083	.14	98.1	1.9	8.50	2.1	4.240	.79	37.7	62.3
1.34	16.8	.093	.15	97.9	2.1	9.00	1.9	4.437	.80	36.0	64.0
1.36	16.3	.102	.15	97.7	2.3	9.50	1.8	4.626	.81	34.5	65.5
1.38	15.9	.112	.16	97.5	2.5	10.00	1.7	4.807	.82	33.1	66.9
1.40	15.6	.122	.17	97.2	2.8	11.00	1.6	5.149	.83	30.6	69.4
1.42	15.2	.133	.17	97.0	3.0	12.00	1.5	5.466	.85	28.4	71.6
1.44	14.9	.144	.18	96.7	3.3	13.00	1.3	5.762	.86	26.5	73.5
1.46	14.9	.155	.19	96.5	3.5	14.00	1.2	6.040	.87	24.9	75.1
1.48	14.3	.166	.19	96.3	3.7	15.00	1.2	6.301	.88	23.4	76.6
1.50	14.0	.177	.20	96.0	4.0	16.00	1.1	6.547	.88	22.1	77.9
1.52	13.7	.189	.21	95.7	4.3	17.00	1.0	7.780	.89	21.0	79.0
1.54	13.4	.201	.21	95.5	4.5	18.00	1.0	7.002	.89	19.9	81.0
1.56	13.2	.213	.22	95.2	4.8	19.00	.9	7.212	.90	19.0	81.0
1.58	13.0	.225	.22	94.9	5.1	20.00	.9	7.413	.90	18.1	81.0
1.60	12.7	.238	.23	94.7	5.3	25.00	.7	8.299	.92	14.8	85.2
1.62	12.5	.250	.24	94.4	5.6	30.00	.6	9.035	.94	12.5	87.5

