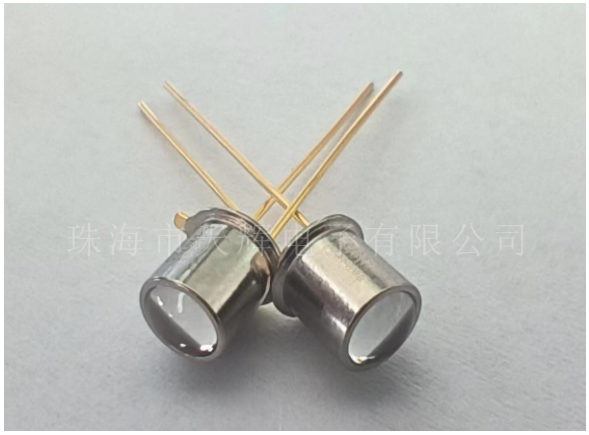
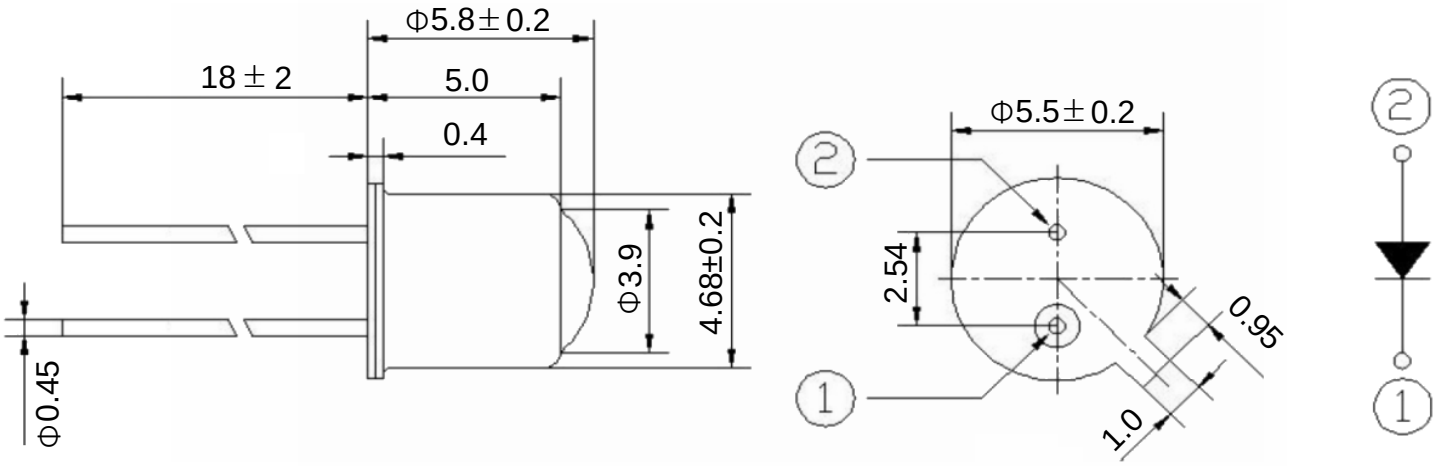
TH-IR850J-TO46HG



CAUTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Mechanical Dimensions



Notes:

[1] All dimensions are in millimeters.
[2] Scale : none.
[3] Undefined tolerance is ±0.2mm.

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Absolute Maximum Ratings

beyond these values damage may occur(Ta=25℃， unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Max	Unit
Forward current(DC)	IF			100	mA
Surge forward current	IFSM	Tp ≤10pus,5%duty cycle		1000	mA
Reverse Voltage	VR			5	V
Power dissipation	P			150	mW
Junction temperature	Tj		-40	125	℃

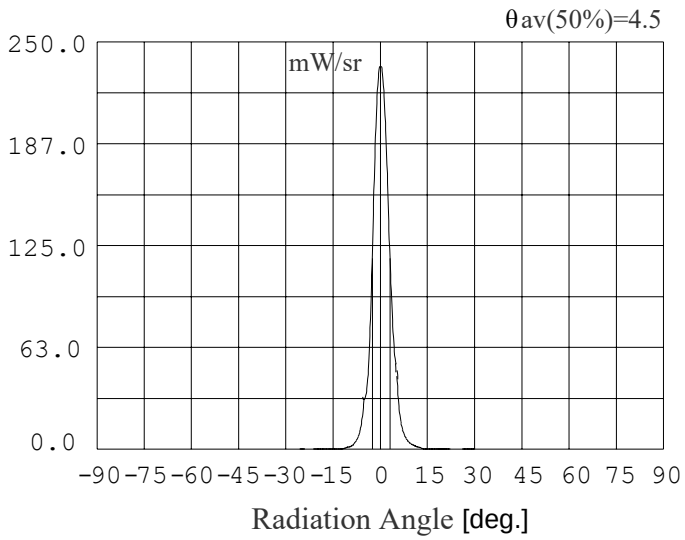
Thermal Data

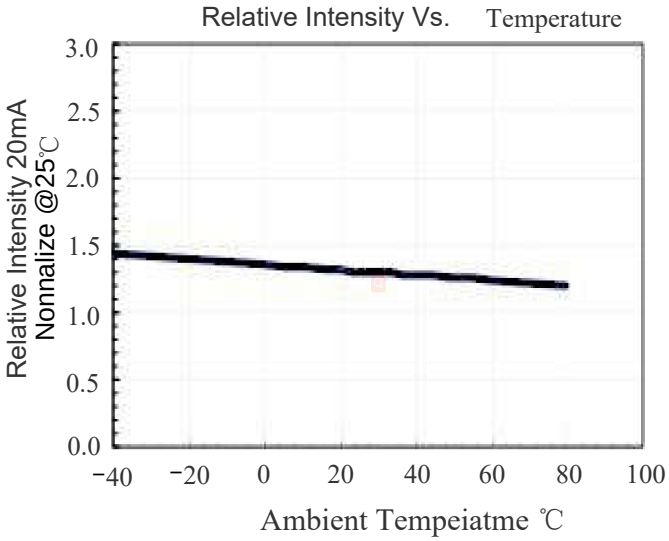
Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Operating Ambient temperature range	Ta		-40		125	℃
Storage temperature	ts		-40		125	℃
Soldering temperature	Tpk	Tpk＜5s 3mm from case			260	℃
Thermal Resistance Juntion to Ambient	Rthja				350	K/W

Electrical & Characteristics

Ta=25℃, unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	VF	IF=20mA		1.4	1.8	
Reverse voltage	VR	IR=5 μ A	5			V
Radiant power	θ_e	IF=20mA		7.5		mW
Peak wavelength	λ_P	IF=20mA	840	850	860	nm
Spectral half width	$\Delta\lambda$	IF=20mA		30		nm
Switching time	Tr, tf	IF=100mA, RL=50 Ω		12		ns





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Features

1. Emission peak at 850nm matched to silicon sensors
   发射峰值为 850nm 并与硅传感器相匹配
2. Good current-optical output linearity, viewing angle＜5°
   光输出线性度好，发射角度小于 5 度
3. Temperature range -40℃ to 125℃
   使用温度范围为 -40 度至 125 度
4. High Optical output power
   高输出功率
5. Fast switching speed
   转换速度快
6. TO-46 package for high reliability
   高可靠性的 TO46 封装形式
7. ROHS conform
   符合 ROHS 标准

Applications

1. Apply to optical encoder with high illumination brightness.
   用于高照明亮度的光学编码器.
2. Integrated diode light source.
   集成二极管光源.
3. Automatic control light source for motor speed.
   电机转速自动控制光源.
4. Servo motor light source.
   伺服电机光源.
5. Controllable light.
   可控电机光源
6. Differential distance measurement light source.
   差位测量距离光源.

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Lead Forming

- When forming leads, the leads should be bent at a point at least 3mm from the base of the lead. Do not use the base of the lead frame as a fulcrum during lead forming.
- Lead forming should be done before soldering.
- Do not apply any bending stress to the base of the lead.
  The stress to the base may damage the LED's characteristics or it may break the LEDs.
- When mounting the product onto a printed circuit board, the via-holes on the board should be exactly aligned with the lead pitch of the product. If the LEDs are mounted with stress at the leads, it causes deterioration of the cap and this will degrade the LEDs.

Storage

- Shelf life of the products in unopened bag is 3 months(max.) at <30°C and 70% RH from the delivery date.

  If the shelf life exceeds 3 months or more, the LEDs need to be stored in a sealed container with silica gel desiccants to ensure their shelf life will not exceed 1 year.
- Tianhui LED lead frame are gold plated iron alloy.This gold surface may be affected by environments which contain corrosive substances. Please avoid conditions which may cause the LED to corrode, tarnish or discolor.
  This corrosion or discoloration may cause difficulty during soldering operation.
  It is recommended that the LEDs be used as soon as possible.
- To avoid condensation, the products must not be stored in the areas where temperature and humidity fluctuate greatly.

Handling Precautions

- Do not handle LEDs with bare hands, it may contaminate the LED surface and affect optical characteristics.
  In the worst case, catastrophic failure from excess pressure through wire-bond breaks and package damage may result.
- Dropping the product may cause damage.
- Do not stack assembled PCBs together. Failure to comply can cause the cap portion of the product to be cut, chipped,
  delaminated and/or deformed. It may cause wire to break, leading to catastrophic failures.

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