SMT970-25

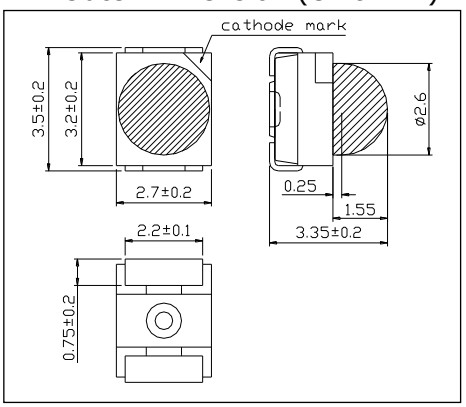
High Performance Infrared TOP IR LED

SMT970-25 consists of a GaAs LED mounted on the lead frame as TOP LED package and is 12mW typical of output power.
It emits a spectral band of radiation at 970nm.

<Specifications>

1. Product Name: TOP IR LED
2. Type Number: SMT970-25
3. Chip:
   - Chip Material: GaAs
   - Dimension: 0.4mm x 0.4mm
   - Peak Wavelength: 970nm
4. Package
   - Lead Frame Die: Silver Plated
   - Package Resin: PPA Resin
   - Lens: Epoxy Resin

Outer Dimension (Unit:mm)



Absolute Maximum Ratings[Ta=25℃]			
Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	150	mW
Forward Current	IF	100	mA
Pulse Forward Current*	IFP	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	190	K/W
Junction Temperature	Tj	100	℃
Operating Temperature	TOPR	-30 ~ +80	℃
Storage Temperature	TSTG	-40 ~ +80	℃
Soldering Temperature**	TSOL	255	℃

* Duty=1% and Pulse Width=10us.
**Soldering condition must be completed within 10 second at 255℃.

Electro-Optical Characteristics [Ta=25℃]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA DC		1.30	1.45	V
		IF=100mA, tp=20ms		1.42	1.57	
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power*	PO	IF=50mA DC	3	6		mW
		IF=100mA, tp=20ms		12		
Radiant Intensity**	IE	IF=50mA DC		4.2		mW/sr
		IF=100mA, tp=20ms		8.4		
Peak Wavelength	λP	IF=50mA DC	960	970	980	nm
Half Width	Δλ	IF=50mA DC		50		nm
Viewing Half Angle	θ1/2	IF=50mA DC		±26		deg
Rise Time	tr	IF=50mA DC		1000		ns
Fall TIme	tf	IF=50mA DC		500		ns

* Measured by S3584-08
** Measured by Tektronix J-6512

RoHS Compliant

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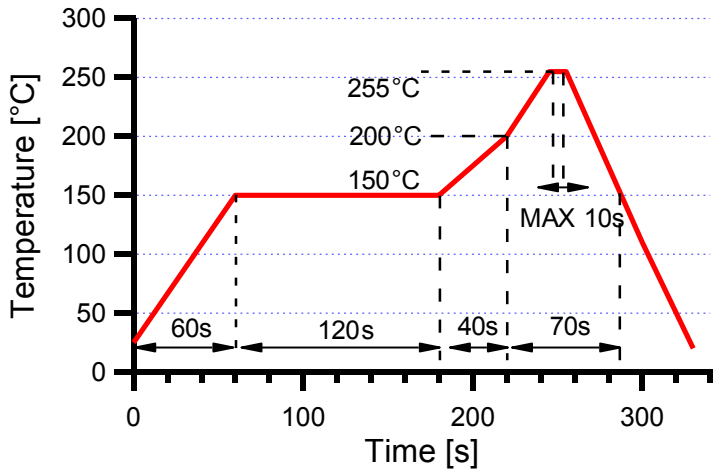
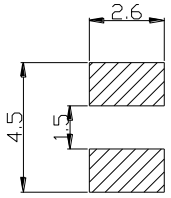
◆ SMD Application

IR-Reflow Soldering Profile for lead free soldering



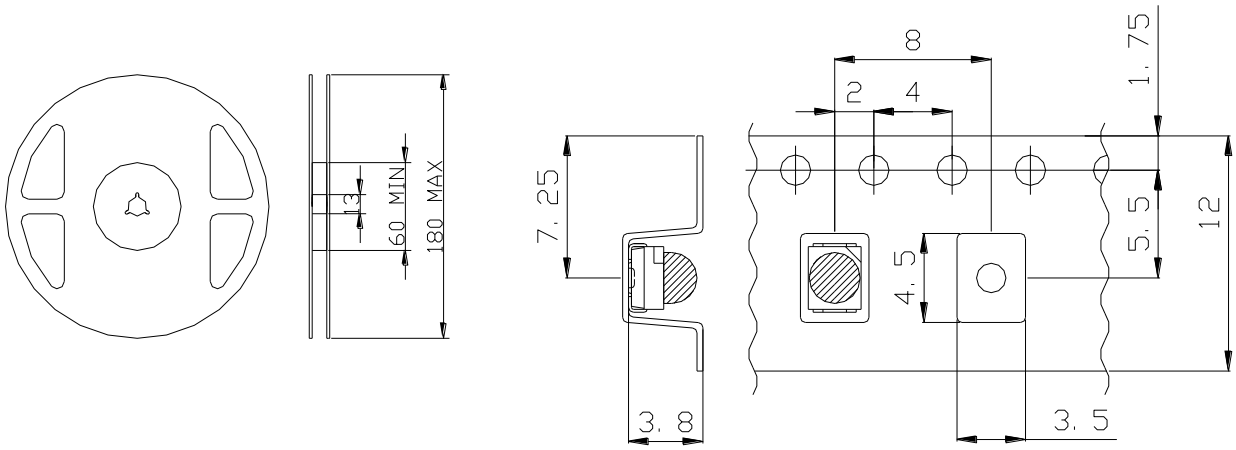
Recommended Land Layout (Unit: mm)



Don't put stress on SMD and a circuit board after soldering.

◆ SMD Packing

Tape and Reel Dimensions (Unit: mm)



◆ Wrapping

Moisture barrier bag aluminum laminated film with a desiccant to keep out the moisture absorption during the transportation and storage.

SMD LED STORAGE AND HANDLING PRECAUTIONS

＜Storage Conditions before Opening a Moisture-Barrier Aluminum Bag＞

- Before opening a moisture-barrier aluminum bag, please store it at <30ºC, <60%RH. Please note that the maximum shelf life is 12 months under these conditions.

＜Storage Conditions after Opening a Moisture-Barrier Aluminum Bag＞

- After opening a moisture-barrier aluminum bag, store the aluminum bag and silica gel in a desiccator.
- After opening the bag, please solder the LEDs within 72 hours in a room with 5 - 30ºC, <50%RH.
- Please put any unused, remaining LEDs and silica gel back in the same aluminum bag and then vacuum-seal the bag.
- It is recommended to keep the re-sealed bag in a desiccator at <30%RH.

＜Notes about Re-sealing a Moisture-Barrier Aluminum Bag＞

- When vacuum-sealing an opened aluminum bag, if you find the moisture-indicator of the silica gel has changed to pink from blue (indicating a relative humidity of 30 % or more), please do not use the unused LEDs, the aluminum bag, or the silica gel.

＜Notes about Opening a Re-sealed Moisture-Barrier Aluminum Bag＞

- When opening a vacuumed and re-sealed aluminum bag in order to use the remaining LEDs stored in the bag, if you find that the moisture-indicator of the silica has changed to pink, please do not use the LEDs.

※The 72-hour- long floor life does not include the time while LEDs are stored in the moisture-barrier aluminum bag.
However, we strongly recommend to solder the LEDs as soon as possible after opening the aluminum bag.

The product is manufactured by USHIO Inc. and the spec information is also from USHIO Inc.