

SMT1450

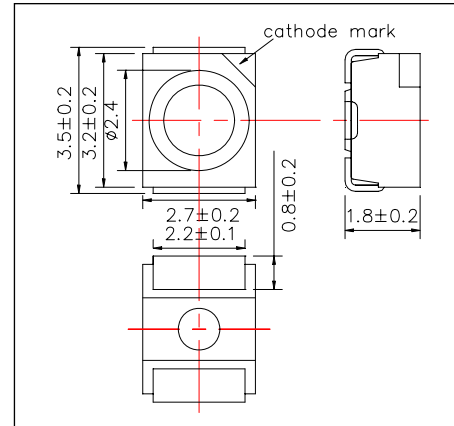
High Performance NIR TOP LED

SMT1450 consists of an InGaAsP LED mounted on the lead frame as TOP LED package and is sealed with epoxy or silicone resin.
It emits a spectral band of radiation at 1450nm.

<Specifications>

1. Product Name: TOP NIR LED
2. Type Number: SMT1450
3. Chip:
 - Chip Material: InGaAsP
 - Peak Wavelength: 1450nm
4. Package
 - Lead Frame Die: Silver Plated
 - Package Resin: PPA Resin
 - Lens: Epoxy or Silicone Resin

Outer Dimension (Unit:mm)



Absolute Maximum Ratings				
Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	70	mW	Ta=25°C
Forward Current	IF	50	mA	Ta=25°C
Pulse Forward Current*	IFP	500	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Junction Temperature	Tj	100	°C	
Thermal Resistance	Rthja	250	K/W	
Operating Temperature	TOPR	-30 ~ +85	°C	
Storage Temperature	TSTG	-40 ~ +100	°C	
Soldering Temperature**	TSOL	255	°C	

* Duty=1% and Pulse Width=10us.

**Soldering condition must be completed within 10 second at 255°C.

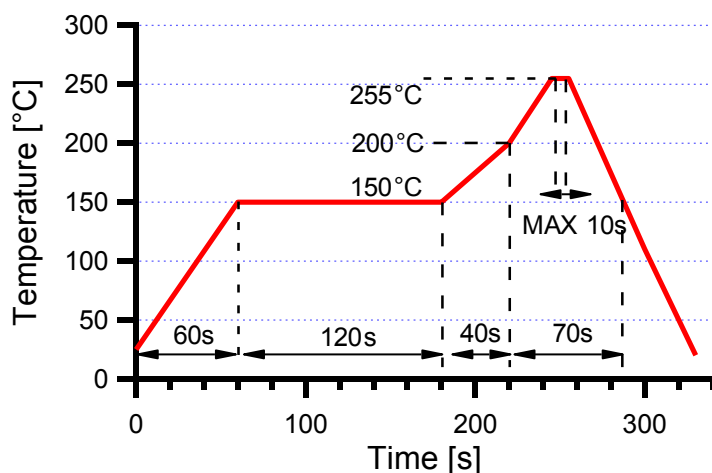
Electro-Optical Characteristics [Ta=25°C typ.]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.1	1.4	V
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power*	PO	IF=50mA		3.5		mW
Peak Wavelength	λP	IF=50mA	1400	1450	1500	nm
Centroid Wavelength	λC	IF=50mA		1417		nm
Half Width	Δλ	IF=50mA		120		nm
Viewing Half Angle	θ1/2	IF=50mA		±55		deg
Rise Time	tr	IF=50mA		10		ns
Fall Time	tf	IF=50mA		10		ns

* Measured by PD G8370-85

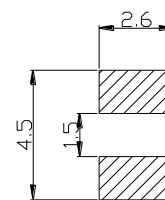


SMD Application

Recommended reflow soldering profile



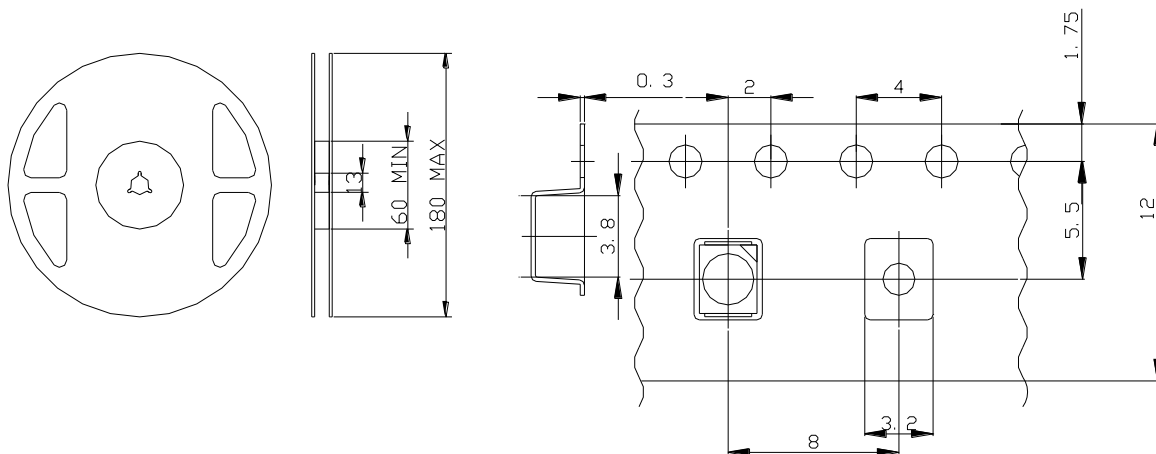
Recommended Land Layout
(Unit:mm)



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

SMD Packing

Tape and Reel Dimensions (Unit:mm)



Wrapping

Mositure 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 <30°C, <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 - 30°C, <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.