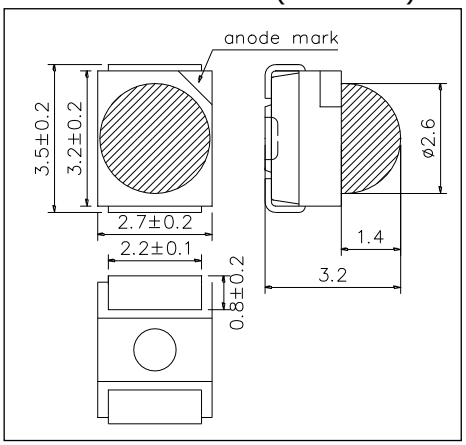
SMT780-27

TOP IR LED with Lens

SMT780-27 consists of an AlGaAs LED mounted on the lead frame as TOP LED package with epoxy resin lens and is 15W/sr typical.
It emits a spectral band of radiation at 780nm.

Outer Dimension (Unit:mm)



<Specifications>

1. Product Name: TOP IR LED with Lens
2. Type Number: SMT780-27
3. Chip:
   - Chip Material: AlGaAs
   - Peak Wavelength: 780nm
4. Package
   - Lead Frame Die: Silver Plated
   - Package Resin: PPA Resin
   - Lens: Epoxy Resin
   - Diameter: Φ2.6mm

Absolute Maximum Ratings				
Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	190	mW	Ta=25℃
Forward Current	IF	100	mA	Ta=25℃
Pulse Forward Current*	IFP	500	mA	Ta=25℃
Reverse Voltage	VR	5	V	Ta=25℃
Operating Temperature	TOPR	-20 ~ +80	℃	
Storage Temperature	TSTG	-30 ~ +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℃ typ.]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.75	1.95	V
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power*	PO	IF=50mA	16.0	20.0		mW
Radiant Intensity**	IE	IF=50mA	10.0	15.0		mW/sr
Peak Wavelength	λP	IF=50mA	765	780	795	nm
Half Width	Δλ	IF=50mA		25		nm
Viewing Half Angle	θ1/2	IF=50mA		±28		deg
Rise Time	Tr	IF=50mA		80		ns
Fall Time	tf	IF=50mA		80		ns

* Measured by Photodyne #500
** Measured by Tektronix J-6512

RoHS Compliant

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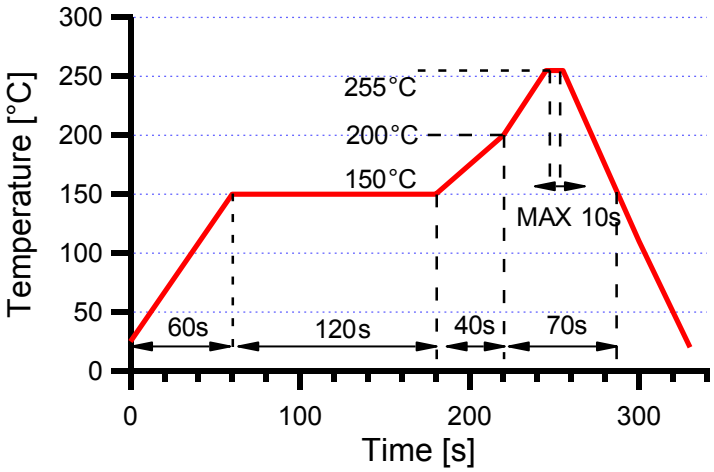
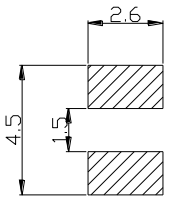
SMD Application

Recommended reflow soldering profile



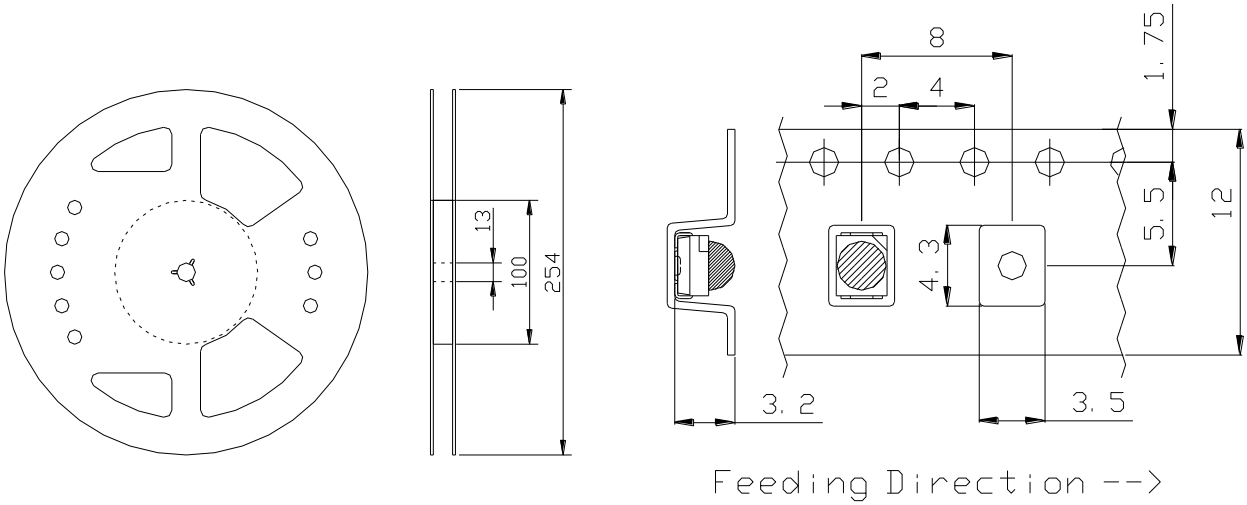
Recommended Land Layout
(Unit:mm)



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

SMD Packing

Tape and Reel Dimensions (Unit:mm)



Wrapping

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.