

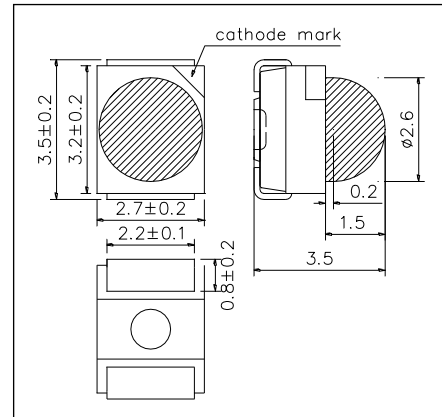
SMT850-25**High Performance Infrared TOP IR LED with Lens**

SMT850-25 consists of an AlGaAs LED mounted on the lead frame as TOP LED package with plastic ball lens. It is 44mW typical of output power and 80mW/sr of radiant intensity. It emits a spectral band of radiation at 850nm.

<Specifications>

1. Product Name: TOP IR LED
2. Type Number: SMT850-25
3. Chip:
 - Chip Material: AlGaAs
 - Dimension: 400um x 400nm
 - Peak Wavelength: 850nm
4. Package
 - Lead Frame Die: Silver Plated
 - Package Resin: PPA Resin
 - Lens: Epoxy Resin
 - Diameter: $\Phi 2.6\text{mm}$

Outer Dimension (Unit:mm)



Absolute Maximum Ratings[Ta=25°C]			
Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	160	mW
Forward Current	IF	100	mA
Pulse Forward Current*	IFP	1000	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	190	K/W
Junction Temperature	Tj	100	°C
Operating Temperature	TOPR	-20 ~ +80	°C
Storage Temperature	TSTG	-30 ~ +80	°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]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA DC		1.45	1.60	V
		IF=100mA, tp=20ms		1.50	1.80	
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power*	PO	IF=50mA DC	16	22		mW
		IF=100mA, tp=20ms		44		
Radiant Intensity**	IE	IF=50mA DC		40		mW/sr
		IF=100mA, tp=20ms		80		
Peak Wavelength	λP	IF=50mA DC	835	850	865	nm
Half Width	$\Delta\lambda$	IF=50mA DC		40		nm
Viewing Half Angle	$\theta_{1/2}$	IF=50mA DC		± 20		deg
Rise Time	tr	IF=50mA DC		15		ns
Fall Time	tf	IF=50mA DC		10		ns

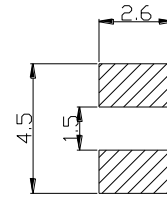
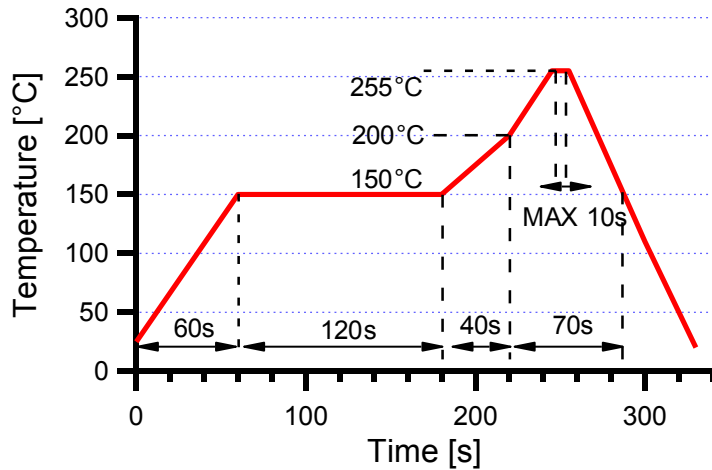
* Measured by Photodyne #500

** Measured by Tektronix J-6512



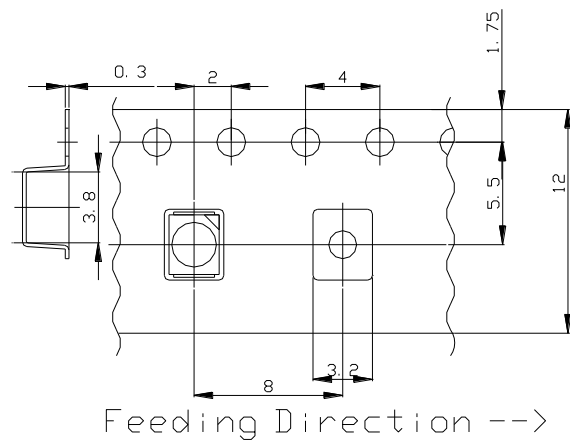
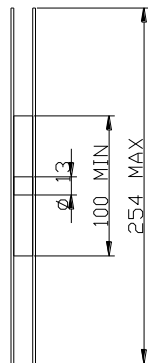
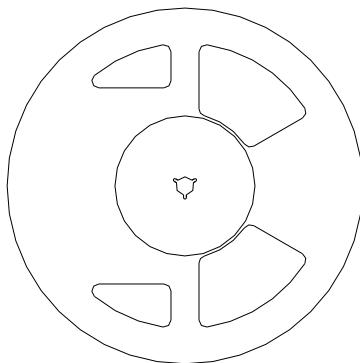
◆ SMD Application
IR-Reflow Soldering Profile for lead free soldering

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 <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 48 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 48-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.