

**SMT1450-23**

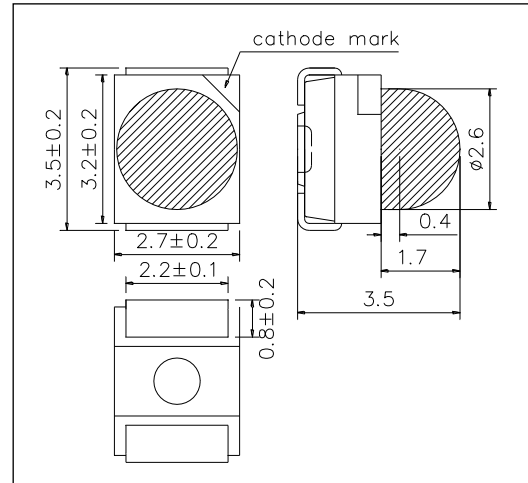
High Performance NIR Top LED with Lens

SMT1450-23 consists of an InGaAsP LED mounted on the lead frame as Top LED package with plastic ball lens and is 2mW typical of output power and 3mW/sr of radiant intensity. It emits a spectral band of radiation at 1450nm.

<Specifications>

1. Product Name: Top NIR LED with Lens
2. Type Number: SMT1450-23
3. Chip:
  - Material: InGaAsP
  - Peak Wavelength: 1450nm typ.
4. Package
  - Lead Frame Die: Silver Plated
  - Resin Material: PPA Resin
  - Lens: Epoxy Resin
  - Diameter:  $\Phi 2.6$ mm

Outer Dimension (Unit:mm)



Absolute Maximum Ratings[Ta=25°C]			
Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	120	mW
Forward Current	IF	100	mA
Pulse Forward Current*	IFP	1000	mA
Reverse Voltage	VR	5	V
Operating Temperature	TOPR	-20 ~ +85	°C
Storage Temperature	TSTG	-30 ~ +100	°C
Soldering Temperature**	TSOL	255	°C

\* Duty=1% and Pulse Width=1μs

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

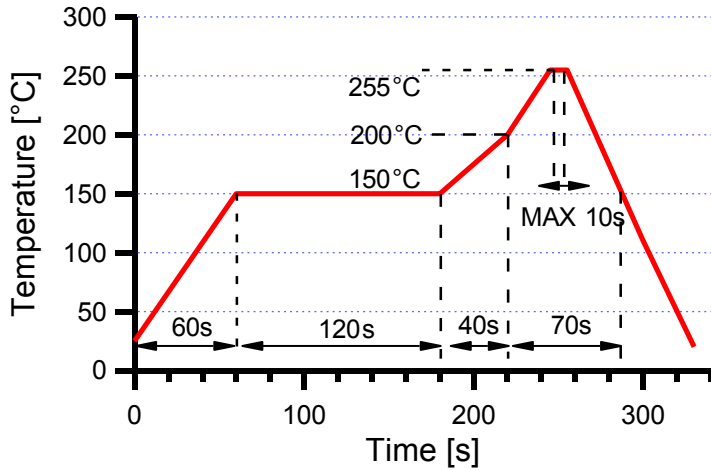
Electro-Optical Characteristics [Ta=25°C]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.0	1.5	V
Reverse Current	IR	VR=5V			10	uA
Total Radiated Power*	PO	IF=50mA	0.6	2.0		mW
Radiant Intensity	IE	IF=50mA		3.0		mW/sr
Peak Wavelength	λP	IF=50mA	1400	1450	1500	nm
Half Width	Δλ	IF=50mA		100		nm
Viewing Half Angle	θ1/2	IF=50mA		±15		deg
Rise Time	Tr	IF=50mA		10		Ns
Fall Time	tf	IF=50mA		10		ns

\* Measured by Ando AQ2140/2742

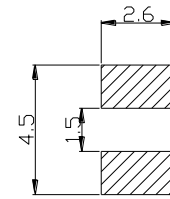


**SMD Application**

IR-Reflow Soldering Profile for lead free soldering



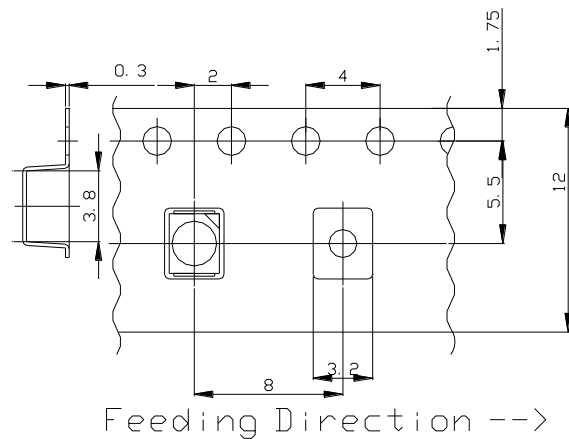
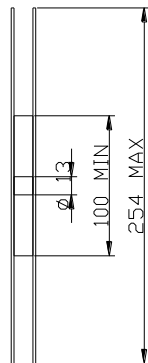
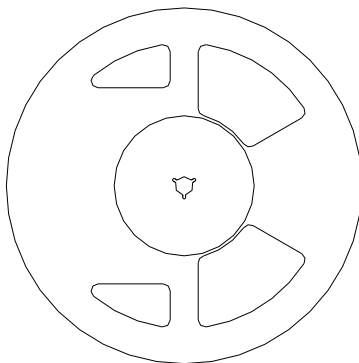
Recommended Land Layout (Unit:mm)



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

**SMD Packing**

Tape and Reel Dimensions(Unit:mm)



Feeding Direction -->

**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 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.