

**SMT505-23**

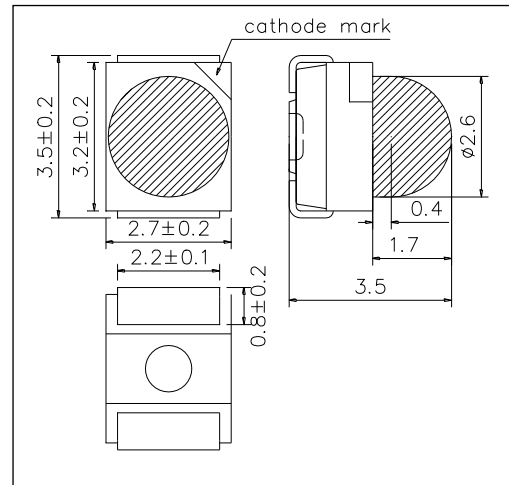
High Performance Cyan Color TOP LED with Lens

SMT505-23 consists of an InGaN LED mounted on the lead frame as TOP LED package with a plastic ball lens and 3200mcd of Brightness driving at 20mA. It emits a spectral band of radiation at 505nm.

<Specifications>

1. Product Name: TOP LED
2. Type Number: SMT505-23
3. Chip:
  - Chip Material: InGaN
  - Peak Wavelength: 505nm
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				
Item	Symbol	Maximum Rated Value	Unit	Ambient Temp.
Power Dissipation	PD	185	mW	Ta=25°C
Forward Current	IF	50	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Junction Temperature	Tj	100	°C	
Thermal Resistance	Rthja	150	K/W	
Operating Temperature	TOPR	-40 ~ +80	°C	
Storage Temperature	TSTG	-40 ~ +80	°C	
Soldering Temperature*	TSOL	255	°C	

\* Soldering condition must be completed within 3 second at 240 °C.

Electro-Optical Characteristics [Ta=25°C]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=20mA		3.3	3.8	V
Reverse Current	IR	VR=5V			10	uA
Radiated Power*	PO	IF=20mA		10		mW
Brightness**	IV	IF=20mA		3200		mcd
Radiant Intensity	IE	IF=20mA		9		mW/sr
Peak Wavelength	$\lambda P$	IF=20mA	495	505	515	nm
Half Width	$\Delta\lambda$	IF=20mA		35		nm
Wavelength(dominant)	$\lambda D$	IF=20mA		520		nm
Viewing Half Angle	$\theta 1/2$	IF=20mA		$\pm 15$		deg

\* Measured by Photodyne #500

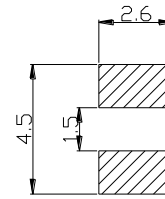
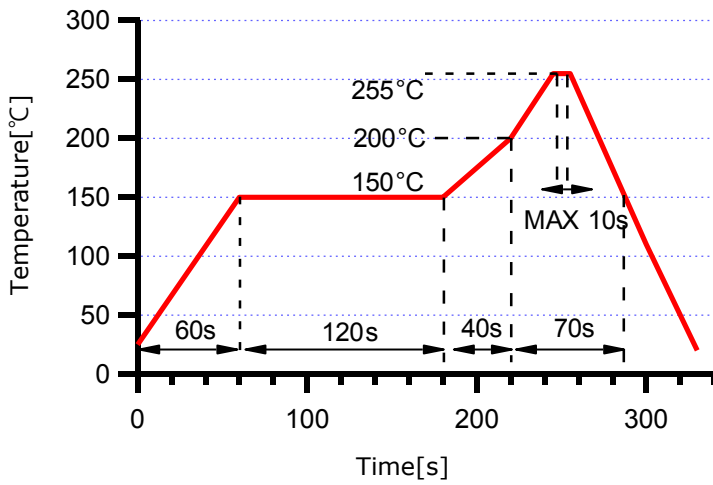
\*\* Measured by Tektronix J-16



**SMD Application**

Recommended reflow soldering profile

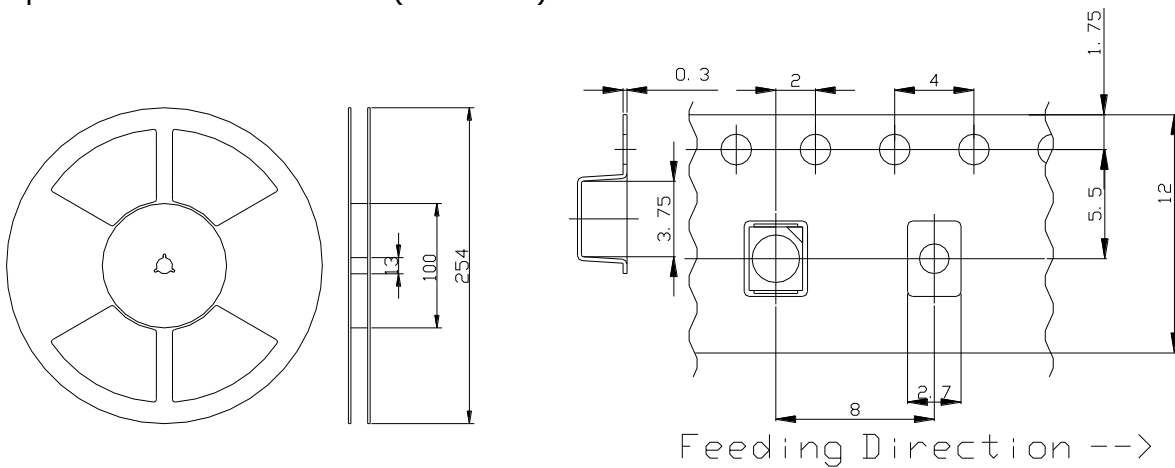
Recommended Land Layout  
(Unit:mm)



Solder within 4days after opening the aluminum laminated bag and storage the circumstance of less than 30°C and 50%RH during 4days.

**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.