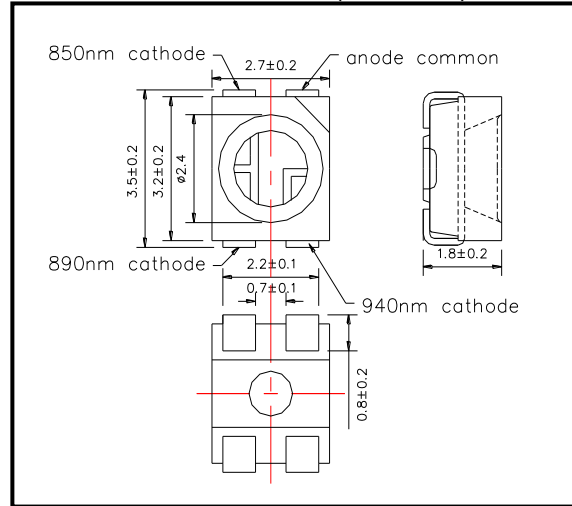


SMT850/890/940 Tri-colors TOP LED

Tri-colors LED of SMT850/890/940 consists of AlGaAs LEDs mounted on the lead frame as TOP LED package and is sealed with epoxy resin.

It emits a spectral band of radiation at 850nm, 890nm and 940nm at anode common.

◆ Outer dimension (Unit: mm)



◆ Specifications

- | | |
|---------------------|--------------------|
| 1) Product Name | Tri-colors TOP LED |
| 2) Type No. | SMT850/890/940 |
| 3) Chip | |
| (1) Chip Material | AlGaAs |
| (2) Peak Wavelength | 850nm/890nm/940nm |
| 4) Package | |
| (1) Lead Frame Die | Silver Plated |
| (2) Package Resin | PPA Resin |
| (3) Lens | Epoxy Resin |

◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value			Unit	Ambient Temperature
		850nm	890nm	940nm		
Power Dissipation	P _D	160	190	210	mW	T _a =25°C
Forward Current	I _F	100	75	100	mA	T _a =25°C
Pulse Forward Current	I _{FP}	500	500	500	mA	T _a =25°C
Reverse Voltage	V _R	5			V	T _a =25°C
Junction Temperature	T _J	100			°C	
Thermal Resistance	R _{thja}	190			K/W	
Operating Temperature	T _{OPR}	-20 ~ +80			°C	
Storage Temperature	T _{STG}	-30 ~ +80			°C	
Soldering Temperature	T _{SOL}	255			°C	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.

‡Soldering condition: Soldering condition must be completed within 10 seconds at 255°C

◆ Electro-Optical Characteristics [T_a=25°C]

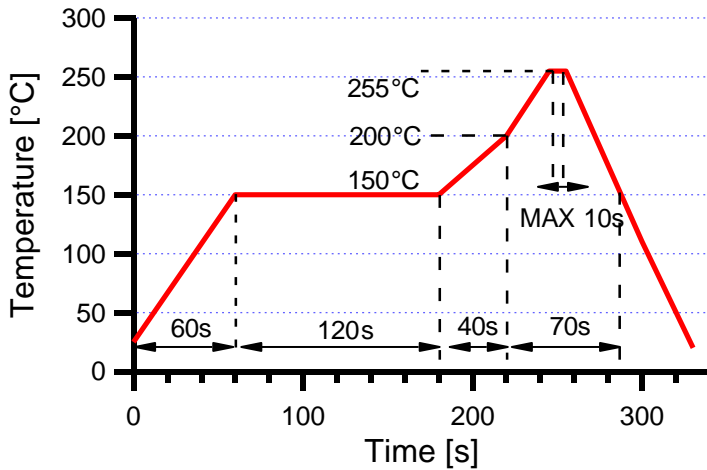
Item	Symbol	Condition	Minimum			Typical			Maximum			Unit
			850	890	940	850	890	940	850	890	940	
Forward Voltage	V _F	I _F =50mA				1.6	1.4	1.3	1.8	1.7	1.4	V
Reverse Current	I _R	V _R =5V							10			uA
Total Radiated Power	P _O	I _F =50mA	8	6	4	14	10	8				mW
Radiant Intensity	I _E	I _F =50mA	4	3	2	8	6	4				mW/sr
Peak Wavelength	λ _P	I _F =50mA	840	890	925	850	890	940	860	900	955	nm
Half Width	Δλ	I _F =50mA				40	50	50				nm
Viewing Half Angle	θ _{1/2}	I _F =50mA				±55						deg.

‡Total Radiated Power is measured by Photodyne #500

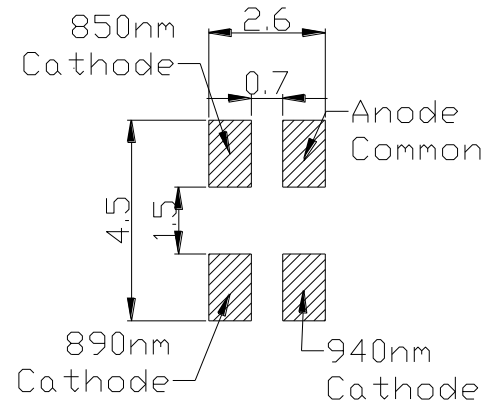
‡Brightness is measured by Tektronix J-16.

◆ SMD Application

Recommended reflow soldering profile



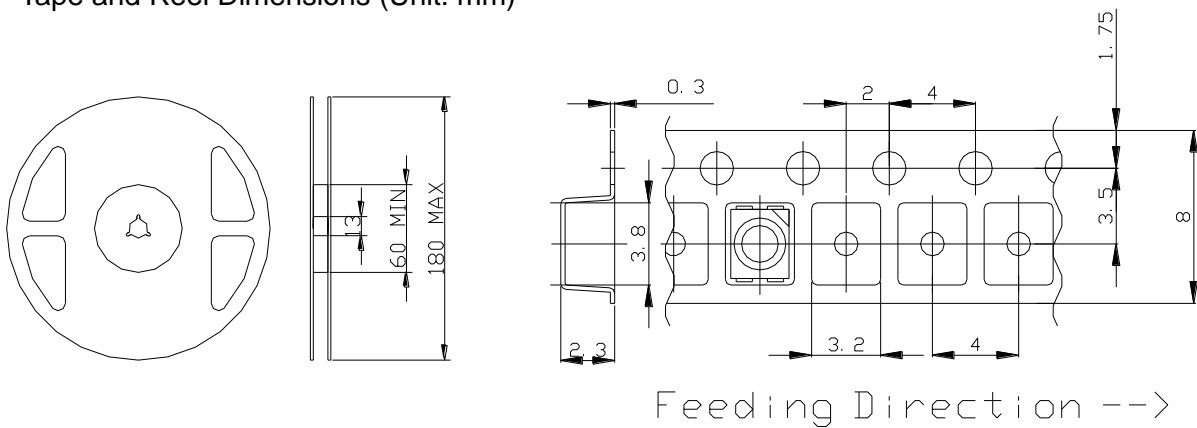
Recommended Land Layout (Unit: mm)



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.