

SMT940D

High Performance TOP IR LED

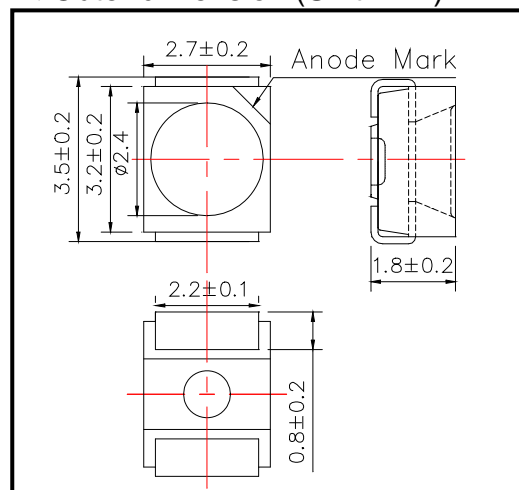
SMT940D consists of an AlGaAs LED mounted on the lead frame as TOP LED package and is 20mW typical of power and 13mW/sr of radiant intensity.

It emits a spectral band of radiation at 940nm.

◆ Specifications

1) Product Name	TOP IR LED
2) Type No.	SMT940D
3) Chip	
(1) Chip Material	AlGaAs
(2) Chip Dimension	350um * 350um
(3) Peak Wavelength	940nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated
(2) Package Resin	PA6T
(3) Lens	Silicone resin

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings [Ta=25°C]

Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	170	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	1000	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	80	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	TOPR	-40 ~ +100	°C
Storage Temperature	TSTG	-40 ~ +100	°C
Soldering Temperature	TSOL	250	°C

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C

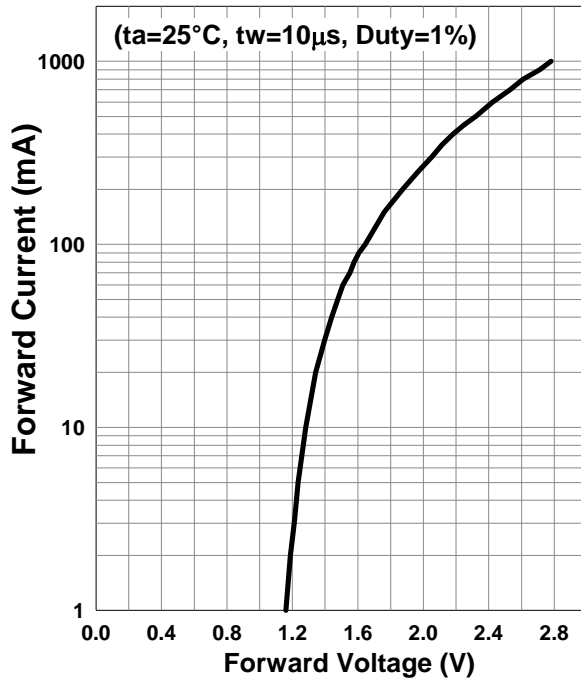
◆ Electro-Optical Characteristics [Ta=25°C typ.]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V _F	I _F =50mA		1.5	1.8	V
Radiated Power	P _O	I _F =50mA	16.0	20.0		mW
Radiant Intensity	I _E	I _F =50mA		13		mW/sr
Peak Wavelength	λ _P	I _F =50mA		940		nm
Half Width	Δλ	I _F =50mA		37		nm
Viewing Half Angle	θ 1/2	I _F =50mA		±61		deg.
Rise Time	t _r	I _F =50mA		25		ns
Fall Time	t _f	I _F =50mA		25		ns

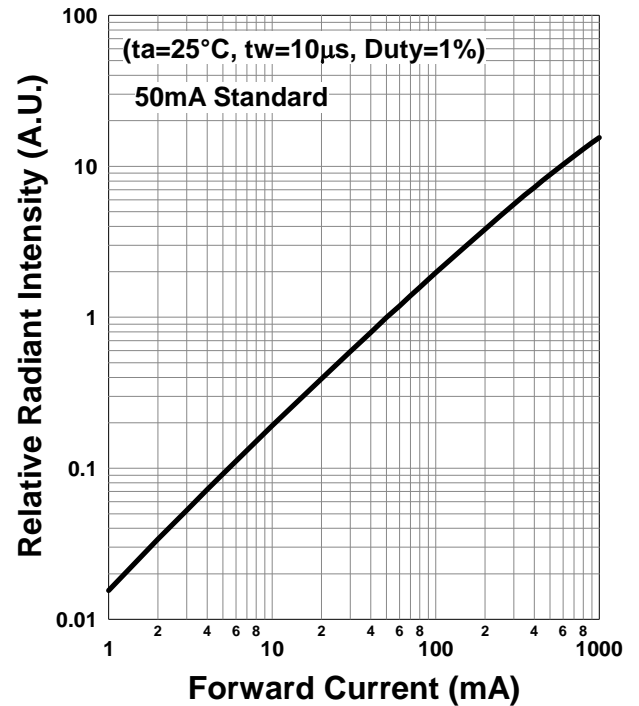
‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by CIE127-2007 Condition B.

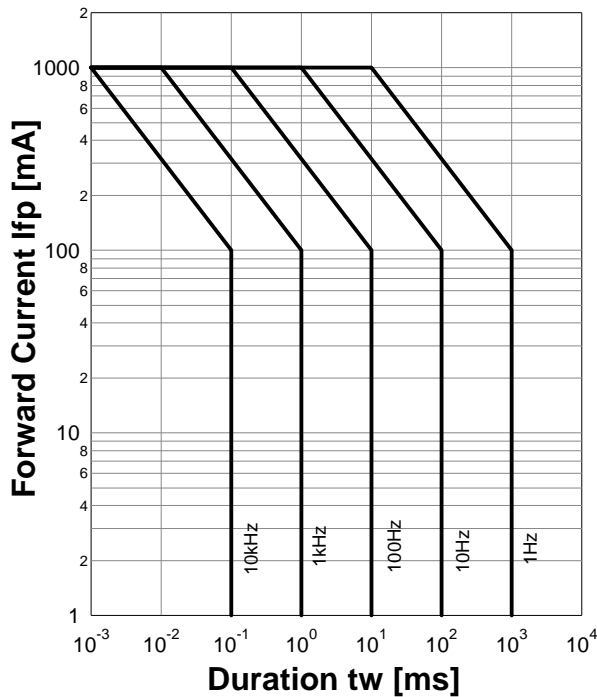
Forward Current - Forward Voltage



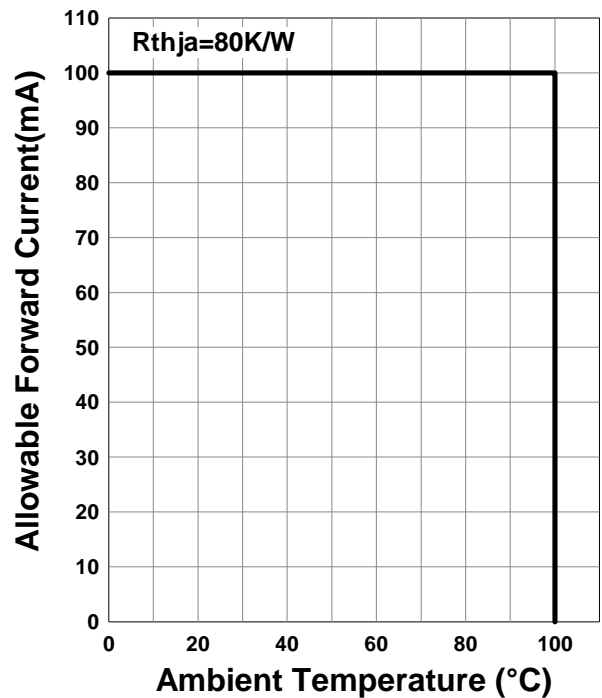
Relative Radiant Intensity - Forward Current



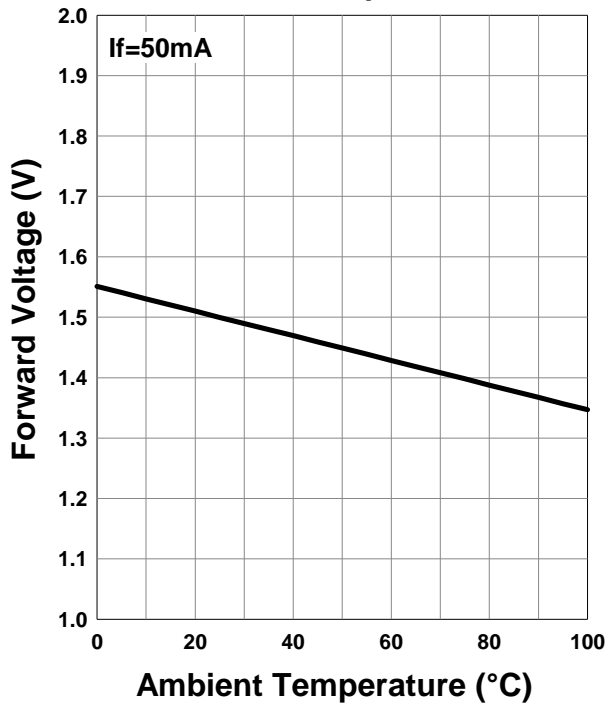
Forward Current - Pulse Duration



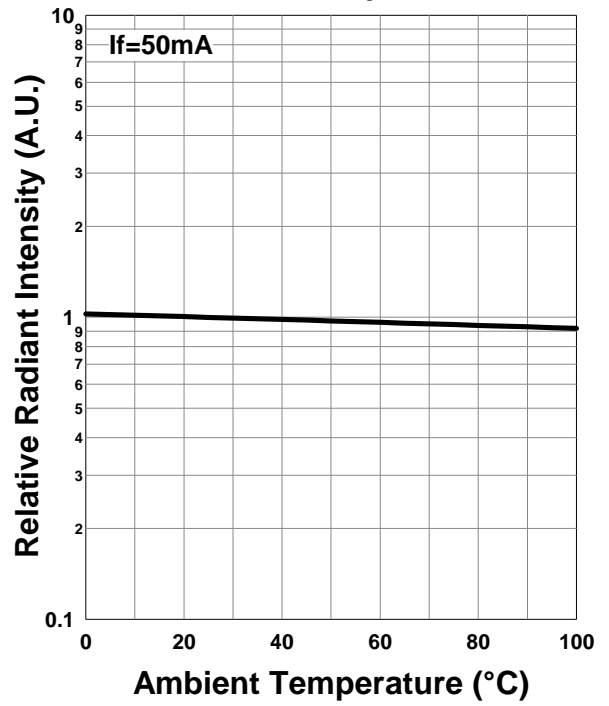
Allowable Forward Current - Ambient Temperature



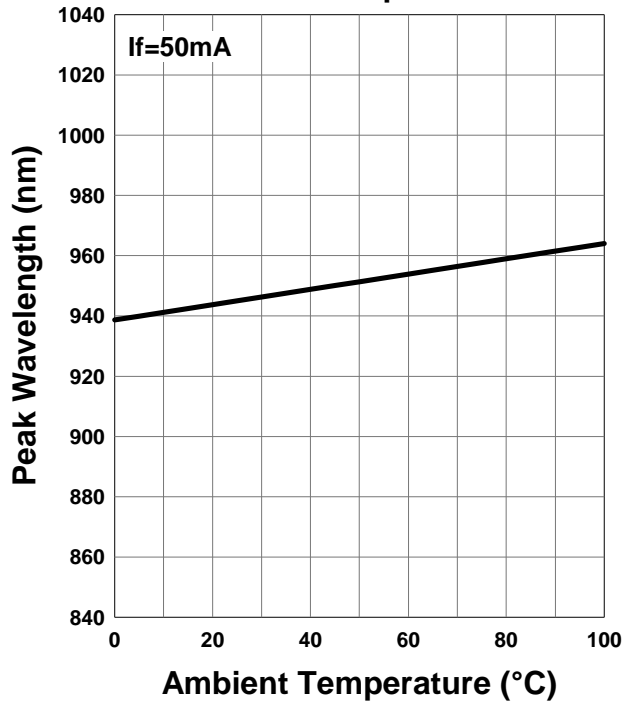
Forward Voltage - Ambient Temperature



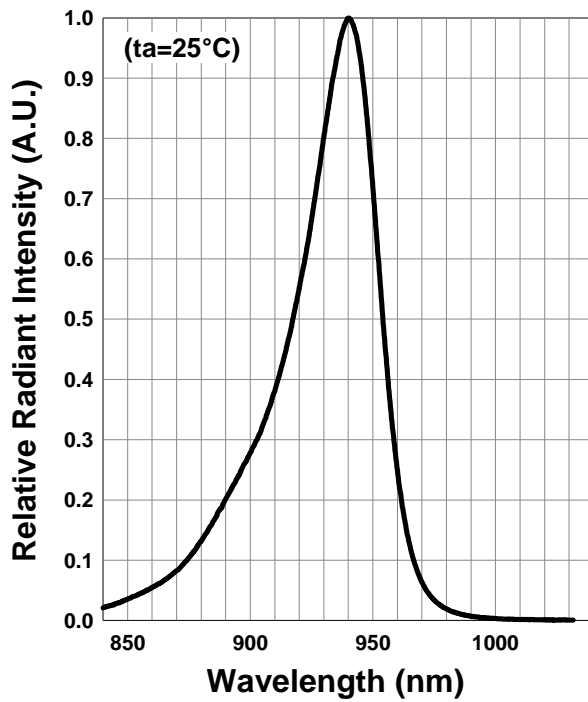
Relative Radiant Intensity - Ambient Temperature



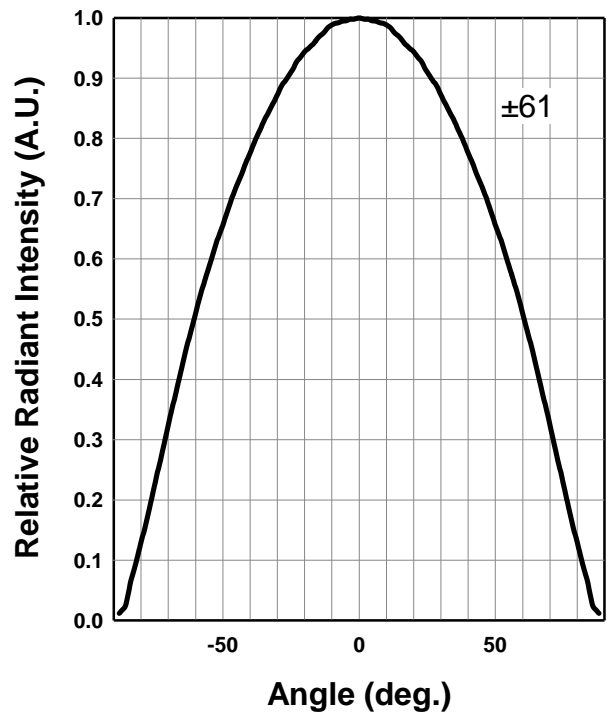
Peak Wavelength - Ambient Temperature



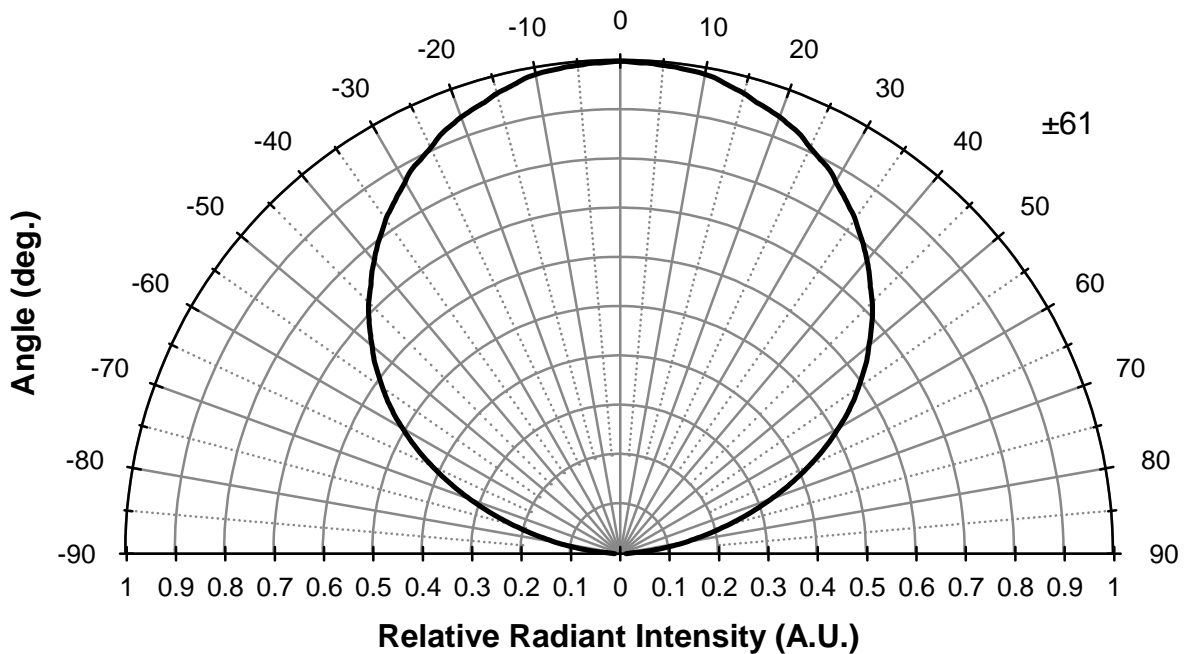
Relative Spectral Emission



Radiation Characteristics



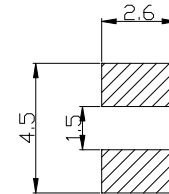
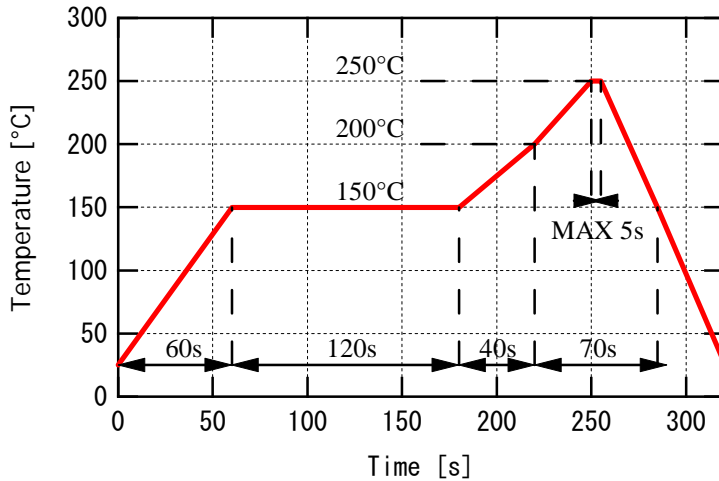
Radiation Characteristics



◆SMD Application

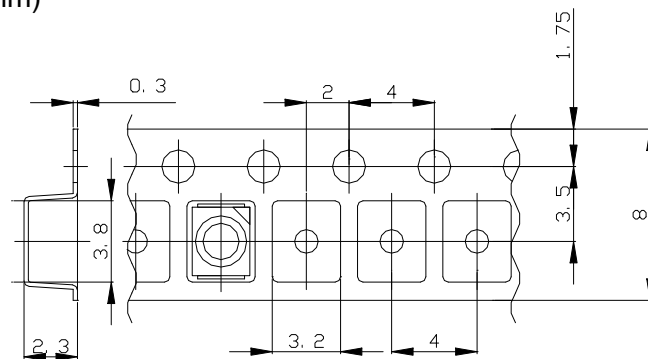
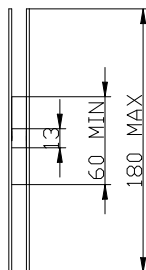
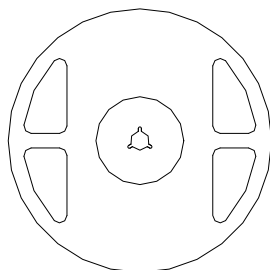
◆Recomended Lnd Layout (Unit : mm)

IR-Reflow Soldering Profile for lead free 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.

Disclaimer

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Product data and parameters in this catalog are typical values based on reasonably up-to-date measurements. Product data and parameters may vary by user application and over time.

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