

SMT1450

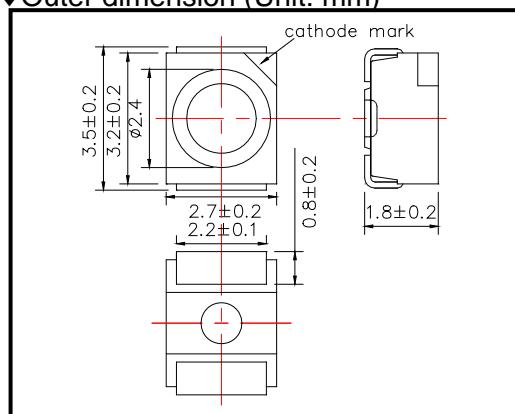
High Performance NIR TOP IR LED

SMT1450 consists of an InGaAsP LED mounted on the lead frame as TOP LED package, and is sealed with epoxy resin. It emits a spectral band of radiation at 1450nm.

◆ Specifications

1) Product Name	TOP NIR LED
2) Type No.	SMT1450
3) Chip	
(1) Chip Material	InGaAsP
(2) Peak Wavelength	1450nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated
(2) Package Resin	PPA Resin
(3) Lens	Epoxy or Silicone resin

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings [Ta=25°C]

Item	Symbol	Maximum Rated Value	Unit
Power Dissipation	PD	130	mW
Forward Current	IF	100	mA
Pulse Forward Current	IFP	500	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	250	K/W
Junction Temperature	Tj	100	°C
Operating Temperature	TOPR	-40 ~ +85	°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

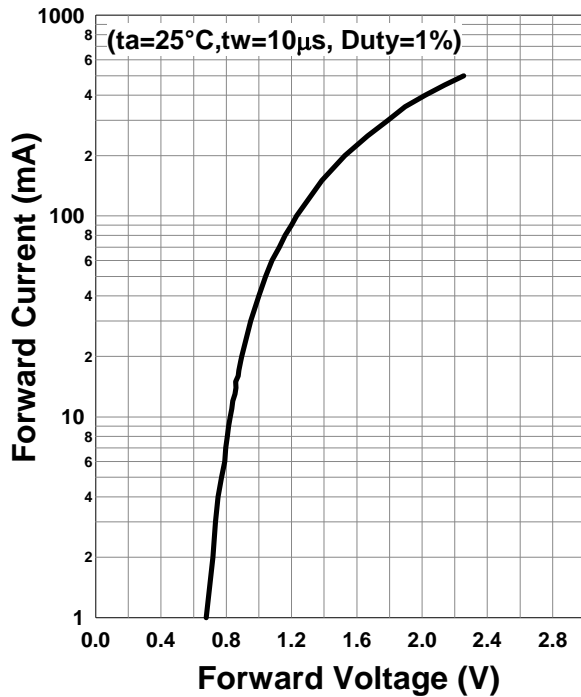
◆ Electro-Optical Characteristics [Ta=25°C typ.]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.0	1.3	V
	VFP	IFP=500mA		2.3		
Radiated Power	Po	IF=50mA		2		mW
		IFP=500mA		8		
Radiant Intensity	IE	IF=50mA		0.7		mW/sr
		IFP=500mA		2.6		
Peak Wavelength	λP	IF =50mA	1400	1450	1500	nm
Half Width	Δλ	IF =50mA		110		nm
Viewing Half Angle	θ 1/2	IF =50mA		±63		deg.

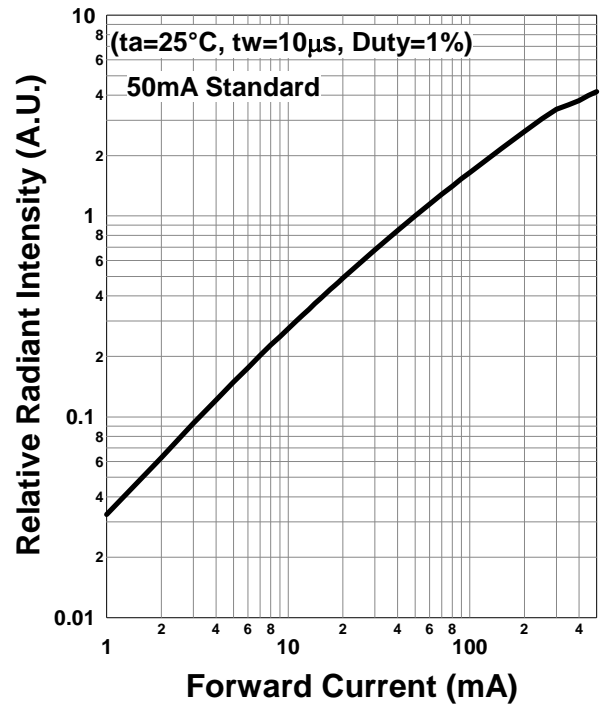
‡Radiated Power is measured by G8370-85.

‡Radiant Intensity is measured by CIE127-2700 Condition B.

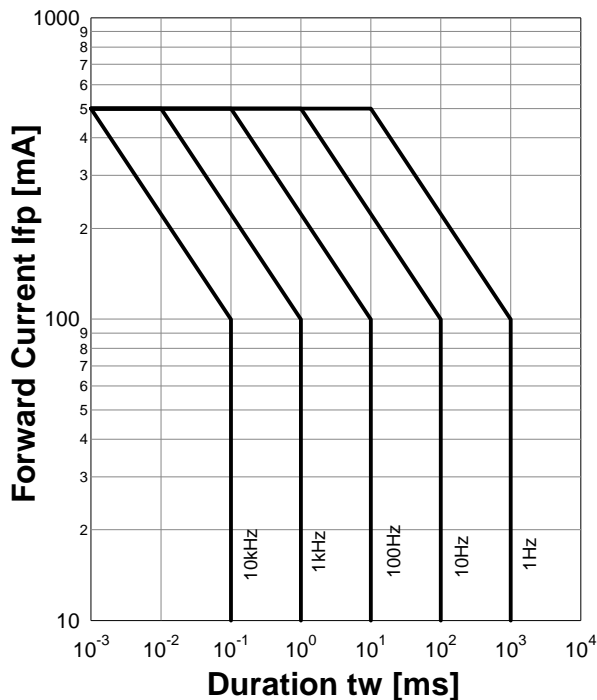
Forward Current - Forward Voltage



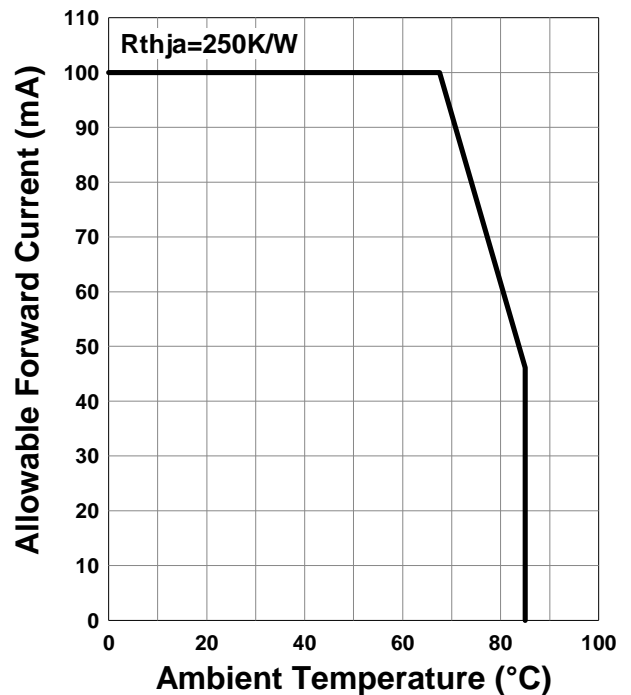
Relative Radiant Intensity - Forward Current



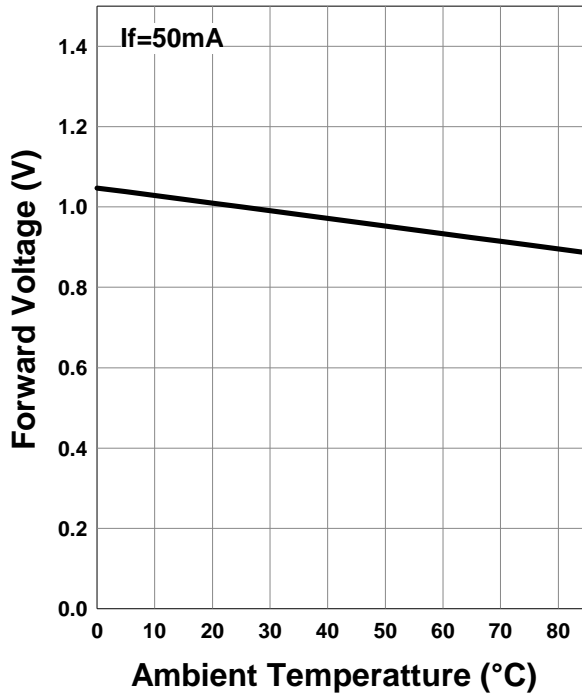
Forward Current - Pulse Duration



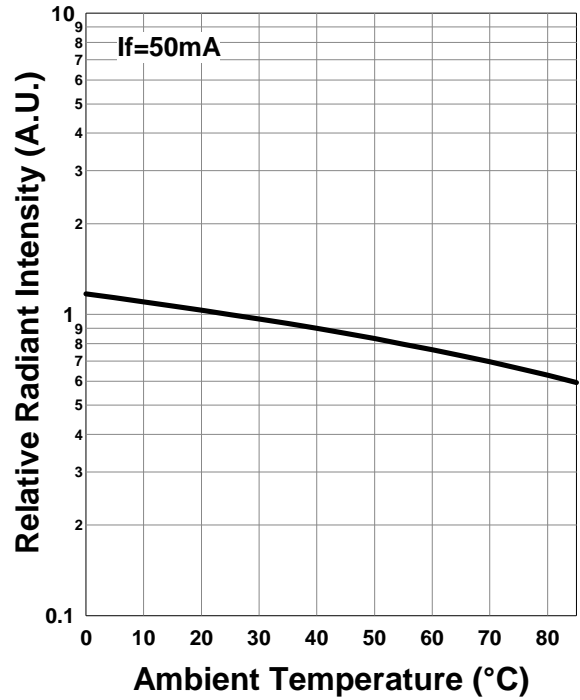
Allowable Forward Current - Ambient Temperature



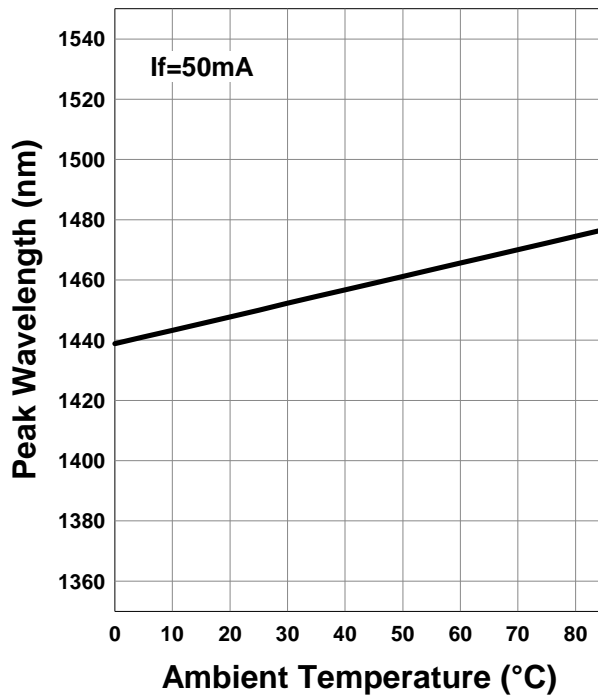
Forward Voltage - Ambient Temperature



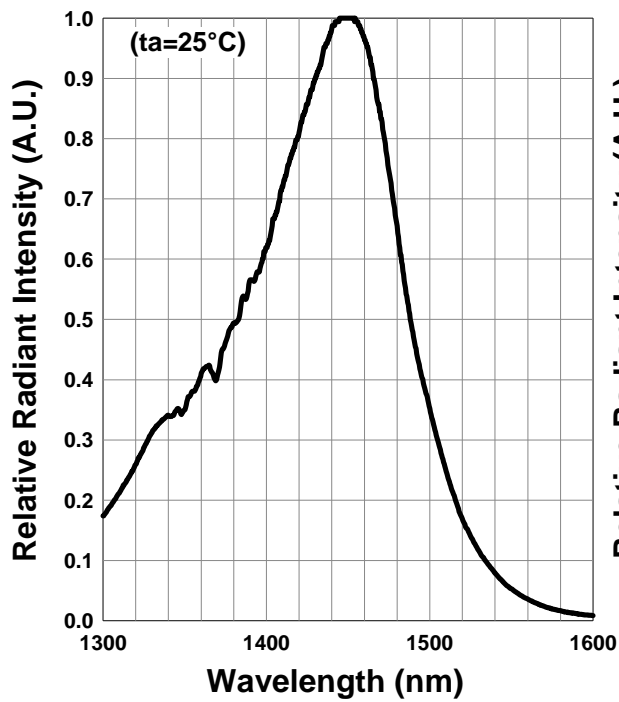
Relative Radiant Intensity - Ambient Temperature



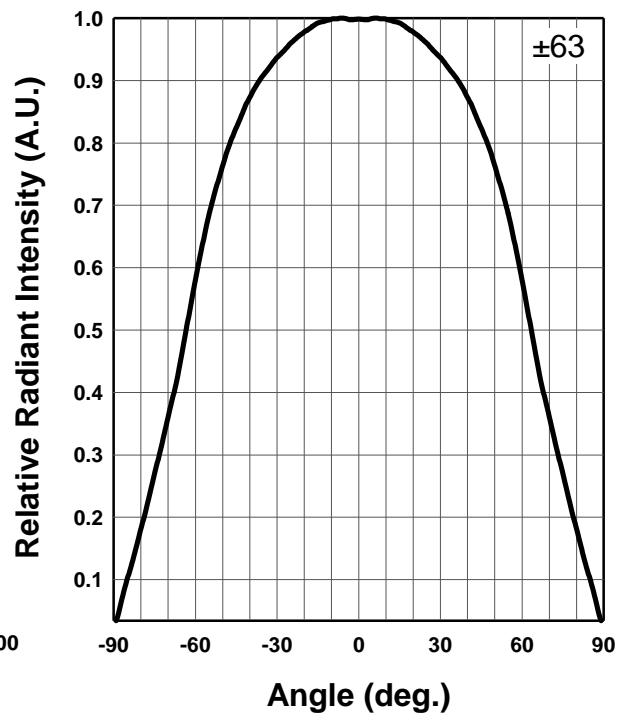
Peak Wavelength - Ambient Temperature



Relative Spectral Emission



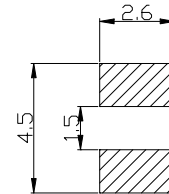
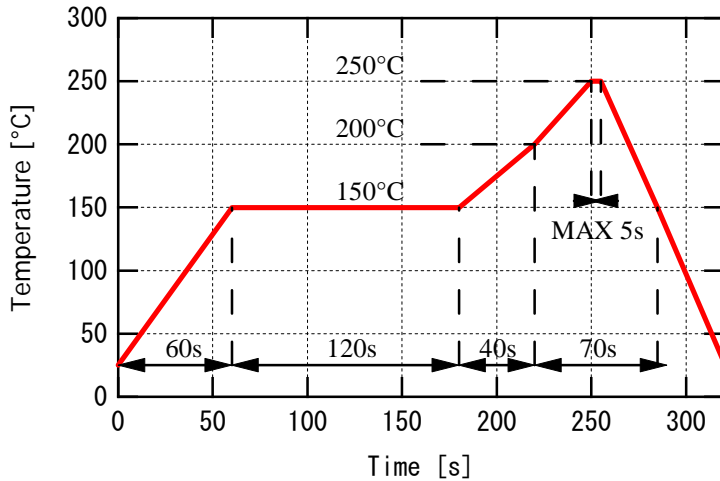
Radiation Characteristics



◆SMD Application

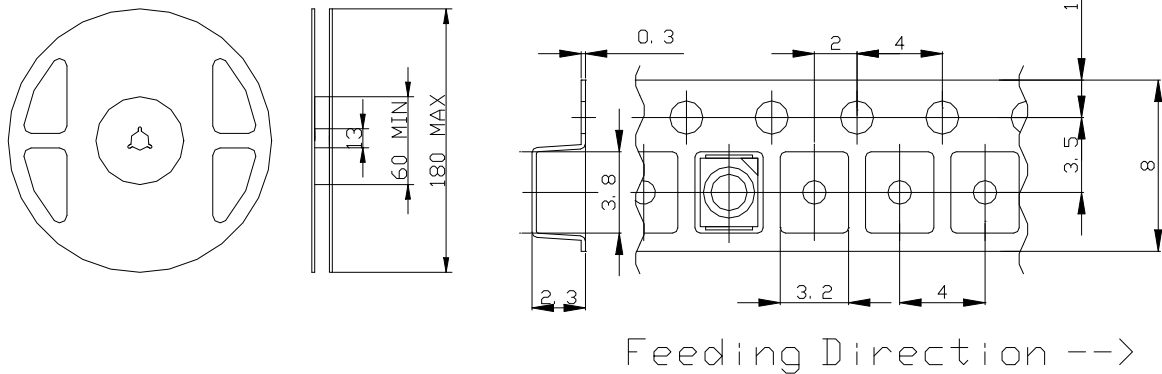
◆Recommended Lnd Layout (Unit : mm)

IR-Reflow Soldering Profile for lead free 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.

Disclaimer

Product specifications and data shown in this product catalog are subject to change without notice for the purposes of improving product performance, reliability, design, or otherwise.

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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2013.09