

SMT850D-23

High Performance Infrared TOP IR LED with Lens

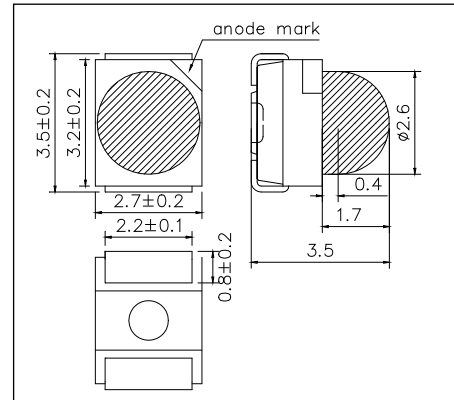
SMT850D-23 consists of a AlGaAs LED mounted on the lead frame as TOP LED package with plastic ball lens.

It emits a spectral band of radiation at 850nm.

<Specifications>

1. Product Name: TOP IR LED
2. Type Number: SMT850D-23
3. Chip:
 - Chip Material: AlGaAs
 - Dimension: 350um x 350um
 - Peak Wavelength: 850nm
4. Package
 - Lead Frame Die: Silver Plated
 - Package Resin: 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	170	mW
Forward Current	IF	100	mA
Pulse Forward Current*	IFP	1000	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	180	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	TOPR	-40 ~ +100	°C
Storage Temperature	TSTG	-40 ~ +100	°C
Soldering Temperature**	TSOL	250	°C

* Duty=1% and Pulse Width=10us.

**Soldering condition must be completed within 5 second at 250 °C.

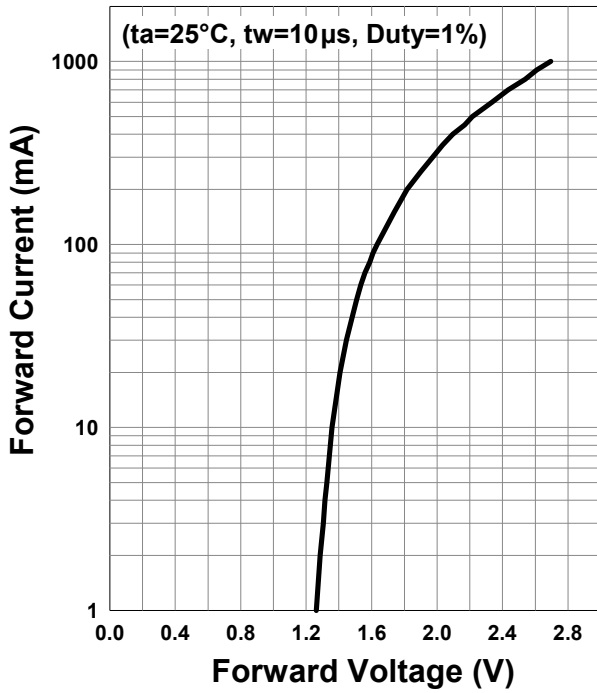
Electro-Optical Characteristics [Ta=25°C]						
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=50mA		1.5	1.7	V
Total Radiated Power*	PO	IF=50mA	16	22		mW
Radiant Intensity**	IE	IF=50mA		60		mW/sr
Peak wavelength	λP	IF=50mA	840	850	860	nm
Half Width	$\Delta\lambda$	IF=50mA		25		nm
Viewing Half Angle	$\theta_{1/2}$	IF=50mA		± 16		deg
Rise Time	tr	IF=50mA		30		ns
Fall Time	tf	IF=50mA		30		ns

* Measured by S3584-08

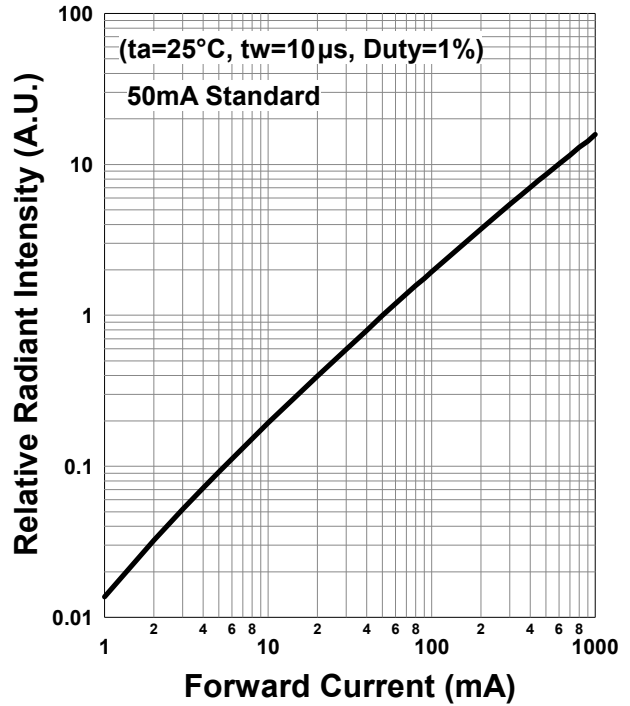
** Measured by CIE127-2007 Condition B



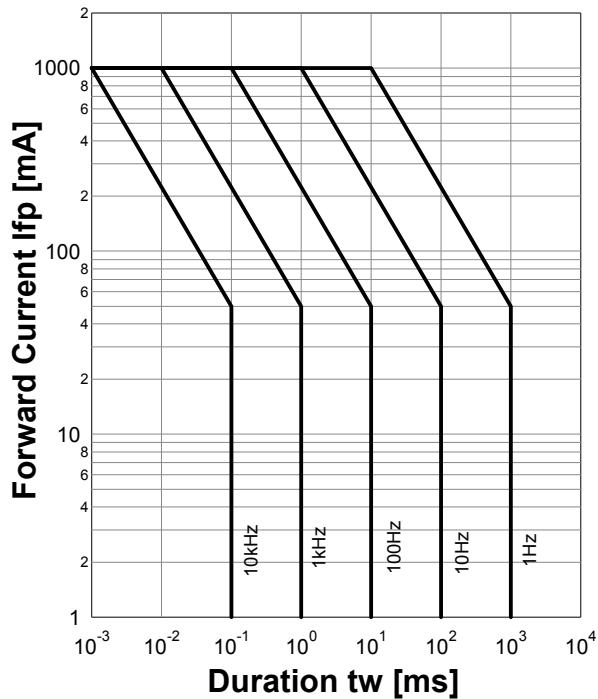
Forward Current - Forward Voltage



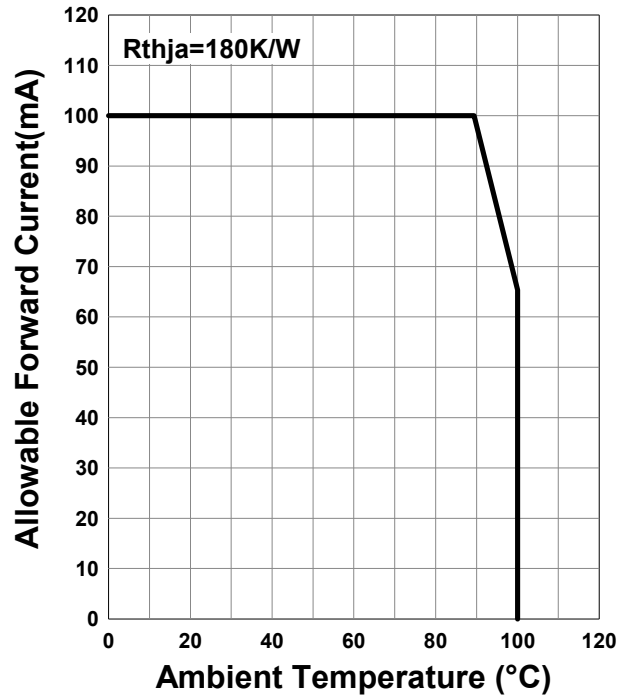
Relative Radiant Intensity - Forward Current



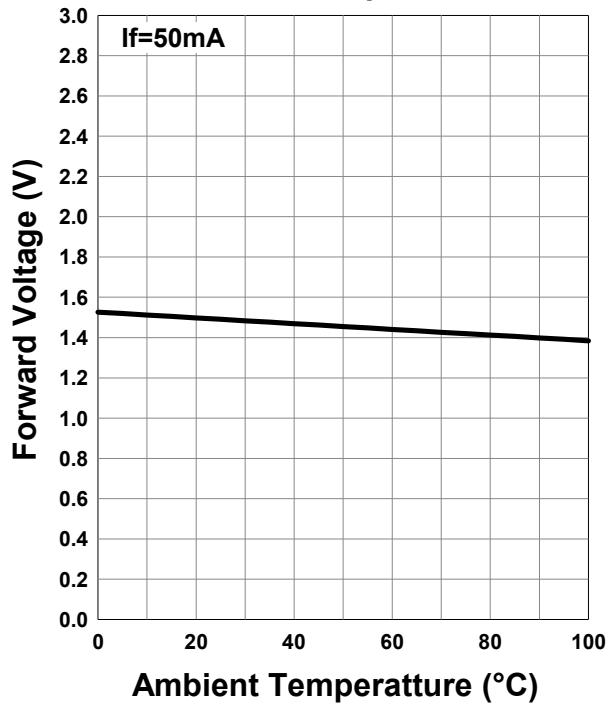
Forward Current - Pulse Duration



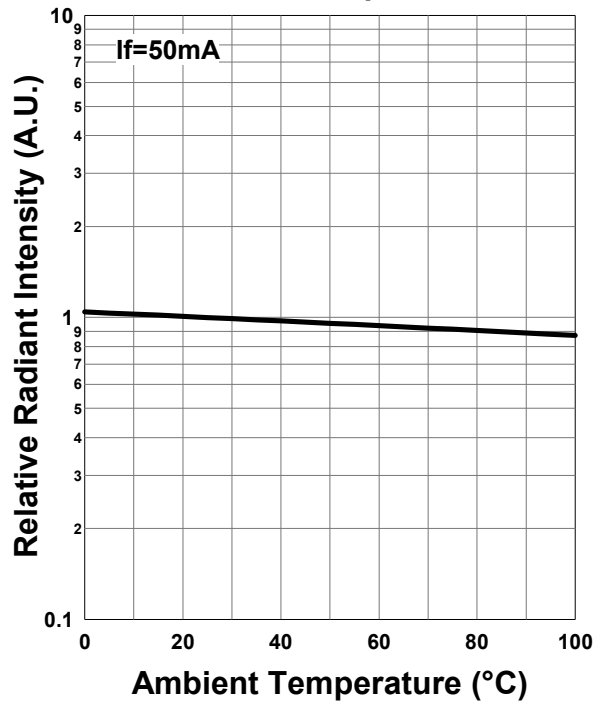
Allowable Forward Current - Ambient Temperature



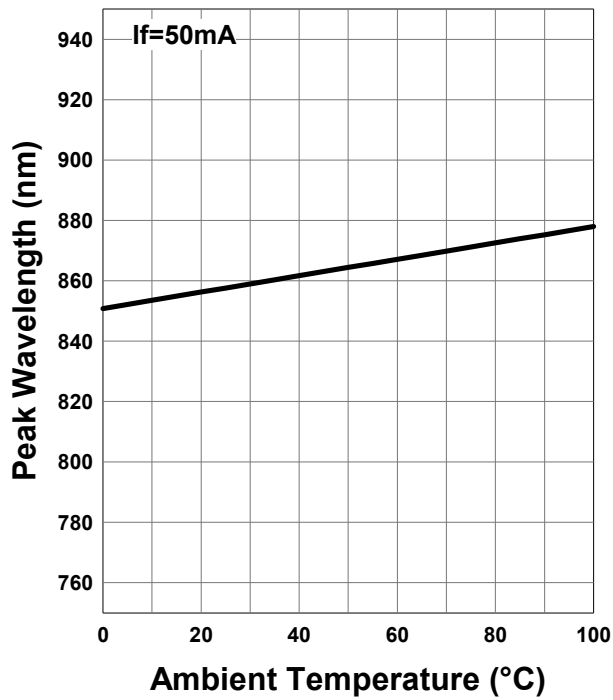
Forward Voltage - Ambient Temperature



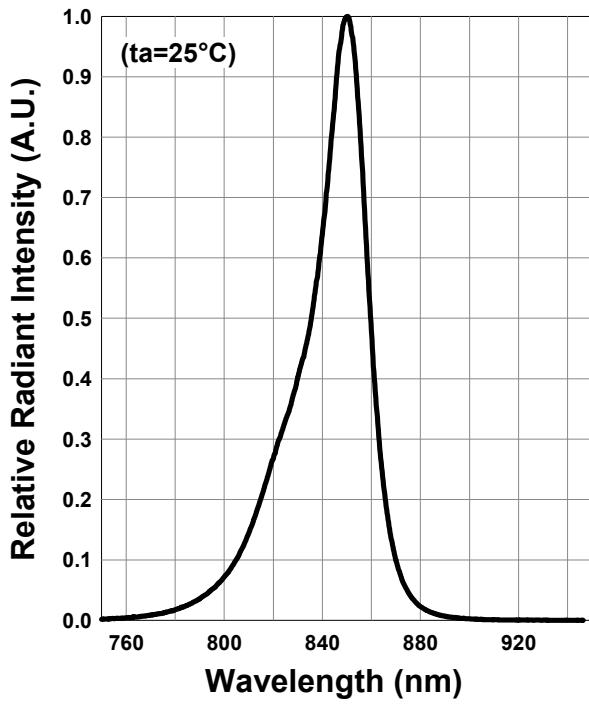
Relative Radiant Intensity - Ambient Temperature



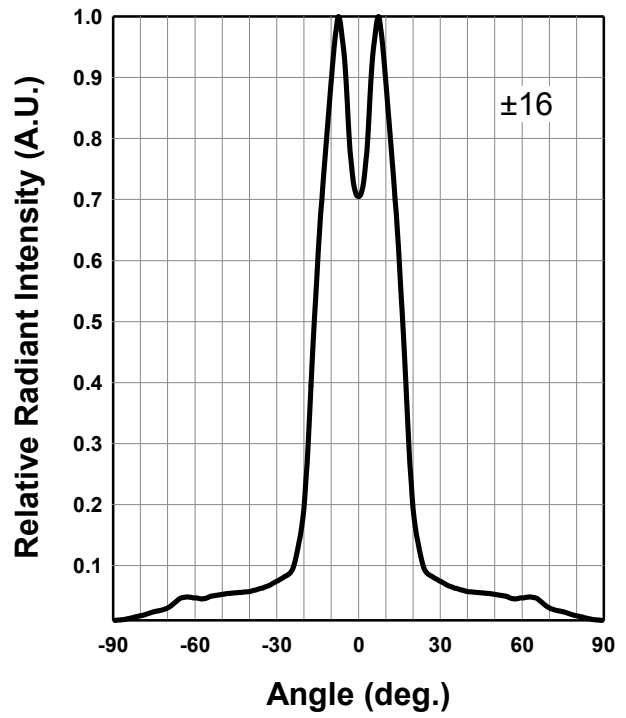
Peak Wavelength - Ambient Temperature



Relative Spectral Emission



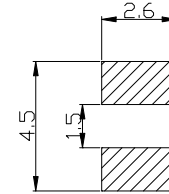
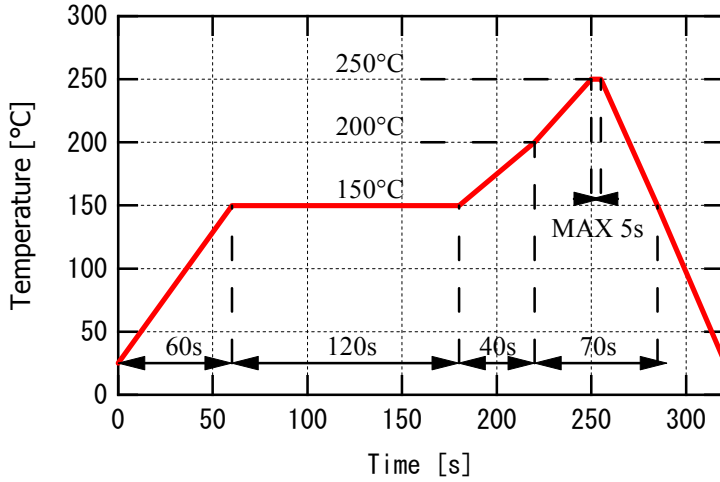
Radiation Characteristics



SMD Application

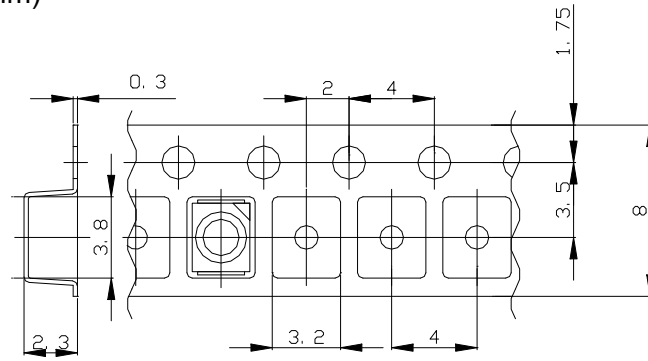
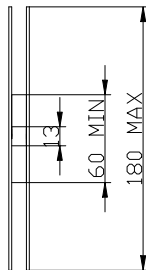
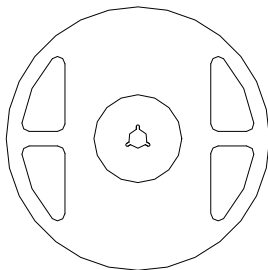
Recommended Lnd Layout (Unit : mm)

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

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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