

SMT830N-25

High Performance Infrared TOP IR LED with Lens

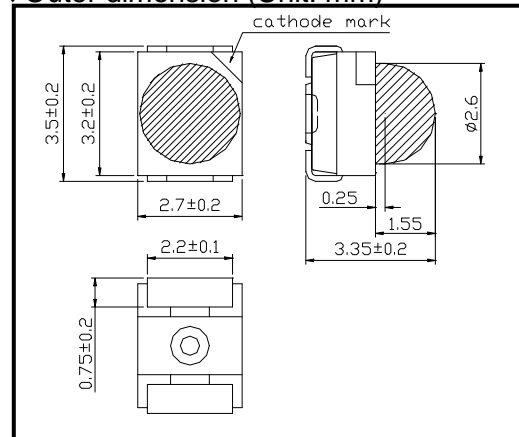
SMT830N-25 consists of an AlGaAs LED mounted on the lead frame as TOP LED package with plastic ball lens and is 20mW typical of power and 20mW/sr of radiant intensity.

It emits a spectral band of radiation at 830nm.

◆ Specifications

1) Product Name	TOP IR LED
2) Type No.	SMT830N-25
3) Chip	
(1) Chip Material	AlGaAs
(2) Chip Dimension	400um * 400um
(3) Peak Wavelength	830nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated
(2) Package Resin	PPA Resin
(3) Lens	Epoxy resin
(4) Diameter	Φ2.6mm

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P _D	170	mW	T _a =25°C
Forward Current	I _F	100	mA	T _a =25°C
Pulse Forward Current	I _{FP}	1000	mA	T _a =25°C
Reverse Voltage	V _R	5	V	T _a =25°C
Thermal Resistance	R _{thja}	200	K/W	
Junction Temperature	T _j	100	°C	
Operating Temperature	T _{OPR}	-20 ~ +80	°C	
Storage Temperature	T _{STG}	-20 ~ +80	°C	
Soldering Temperature	T _{SOL}	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

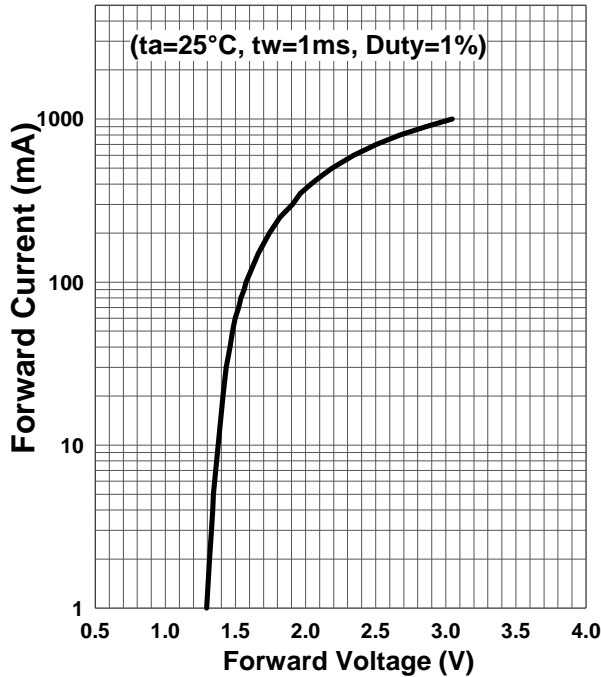
◆ Electro-Optical Characteristics [T_a=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V _F	I _F =50mA		1.5	1.65	V
Radiated Power	P _O	I _F =50mA	16.0	20.0		mW
Radiant Intensity	I _E	I _F =50mA		20		mW/sr
Peak Wavelength	λ _P	I _F =50mA	820	830	840	nm
Half Width	Δλ	I _F =50mA		35		nm
Viewing Half Angle	θ _{1/2}	I _F =50mA		±22		deg.
Rise Time	t _r	I _F =50mA		25		ns
Fall Time	t _f	I _F =50mA		20		ns

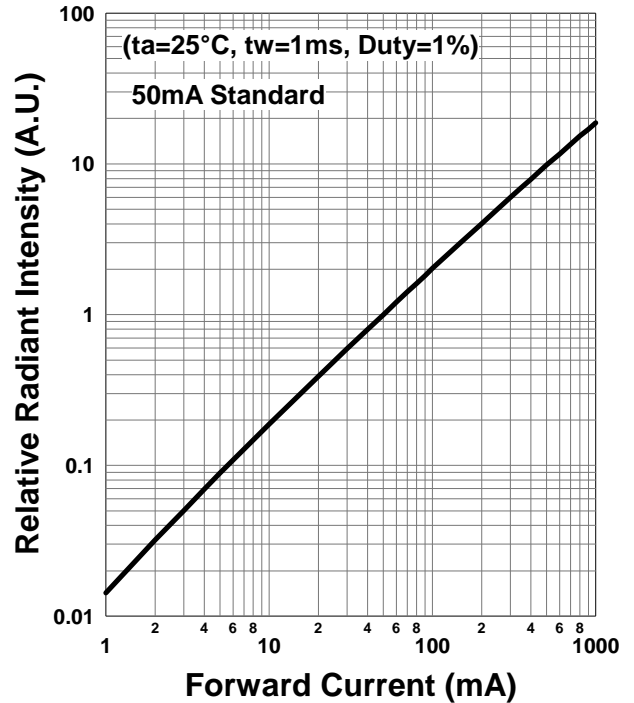
‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J6512.

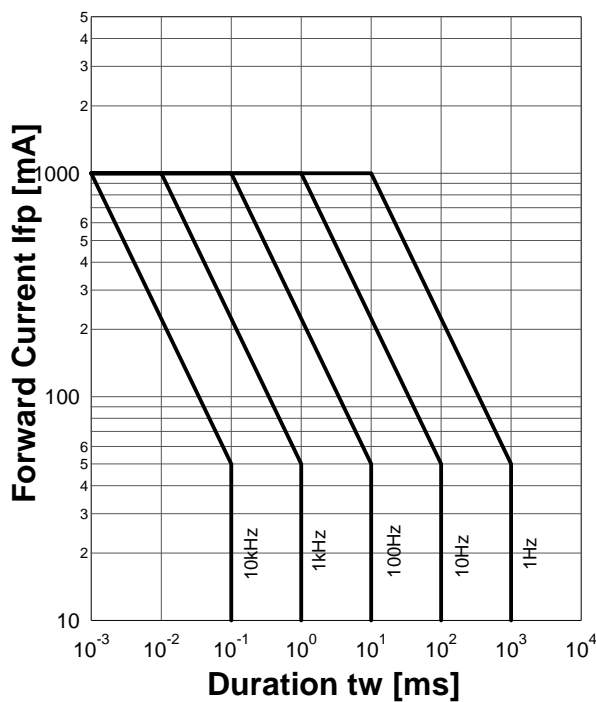
Forward Current - Forward Voltage



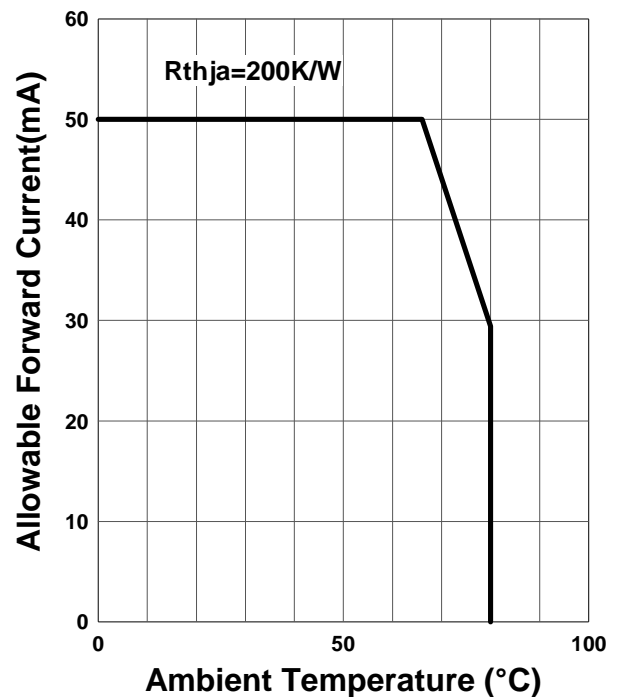
Relative Radiant Intensity - Forward Current



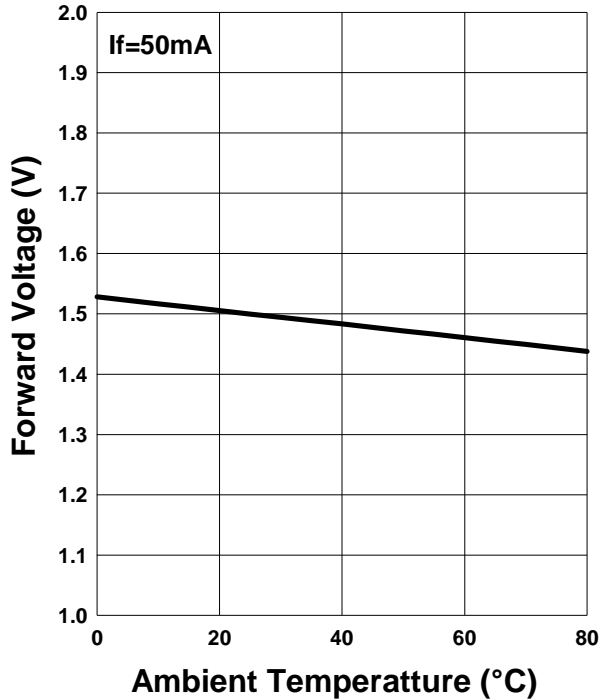
Forward Current - Pulse Duration



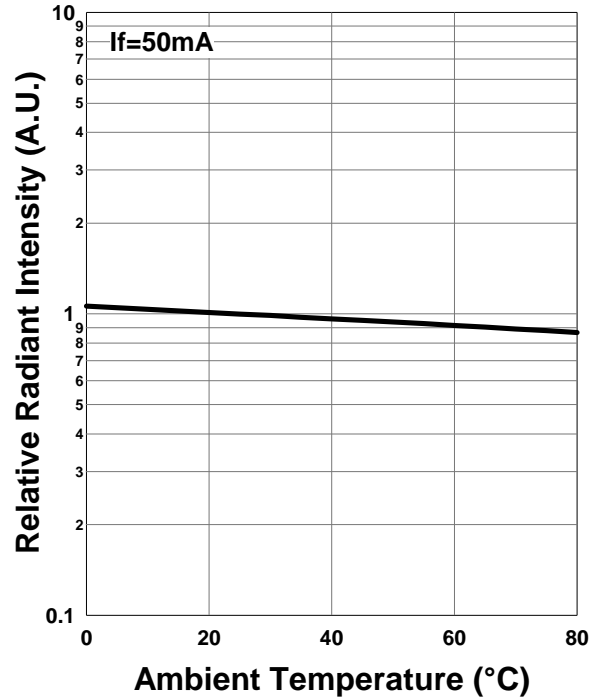
Allowable Forward Current - Ambient Temperature



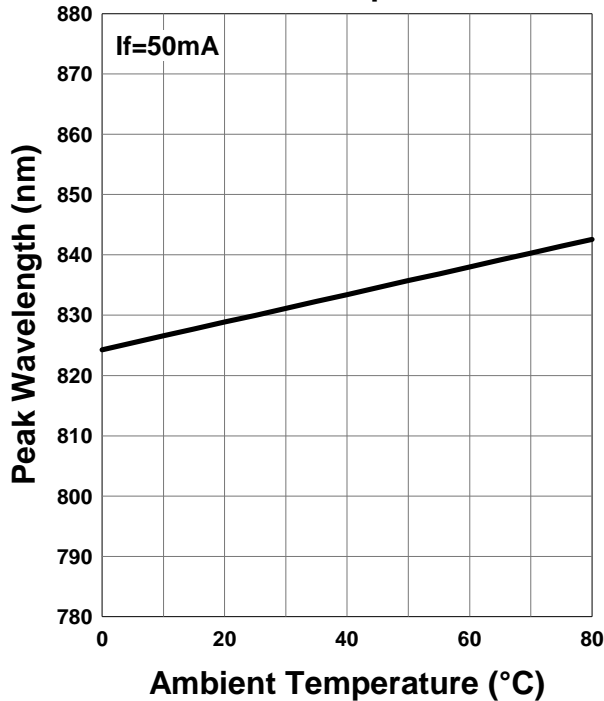
Forward Voltage - Ambient Temperature



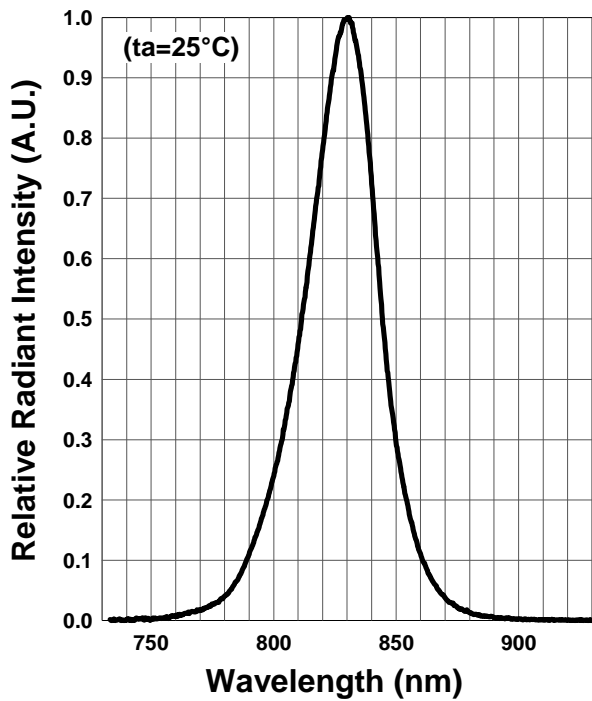
Relative Radiant Intensity - Ambient Temperature



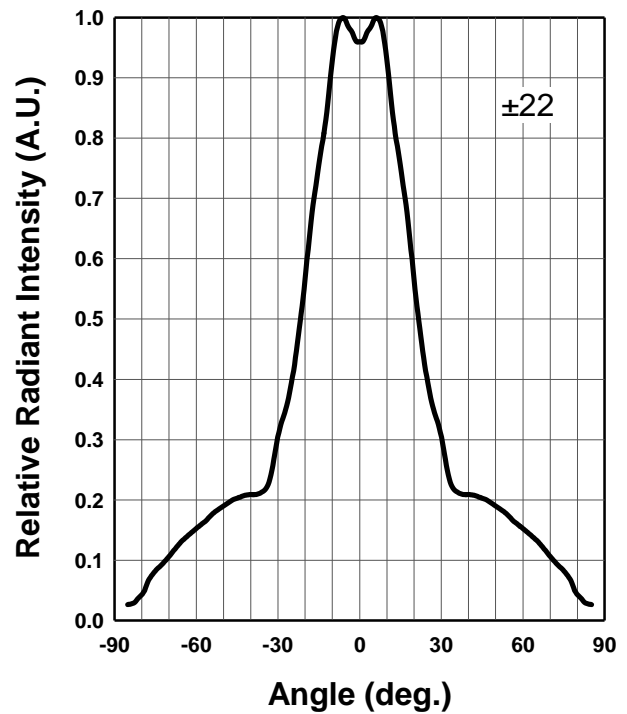
Peak Wavelength - Ambient Temperature



Relative Spectral Emission



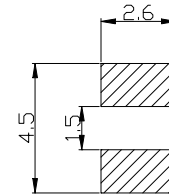
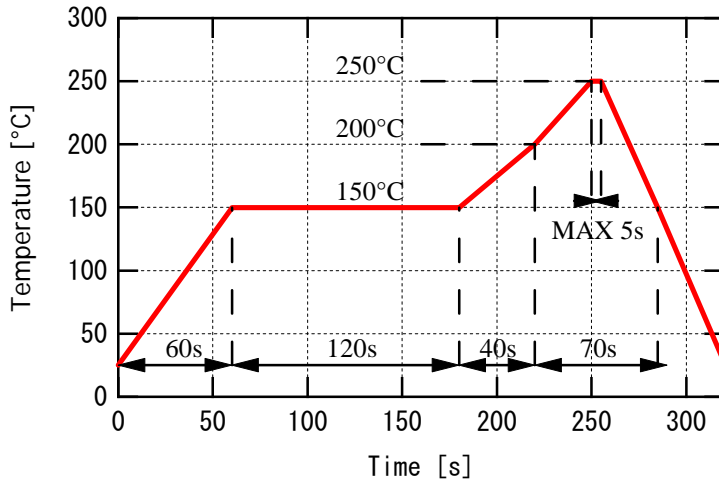
Radiation Characteristics



◆SMD Application

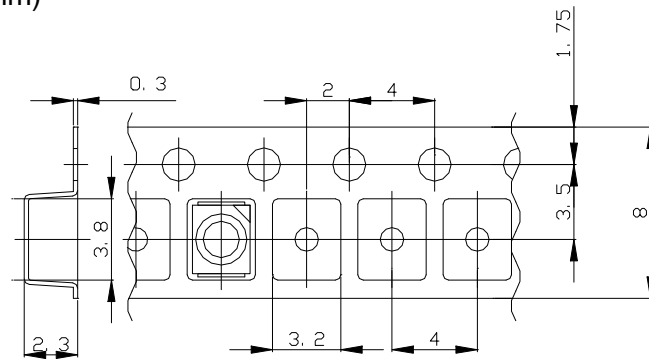
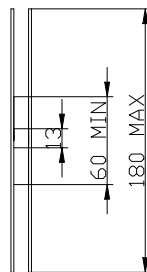
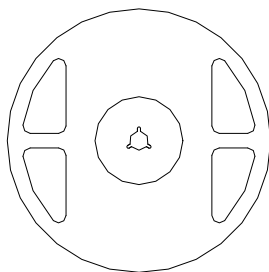
◆Recomended Lnd Layout (Unit : mm)

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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