

SMT830N-25

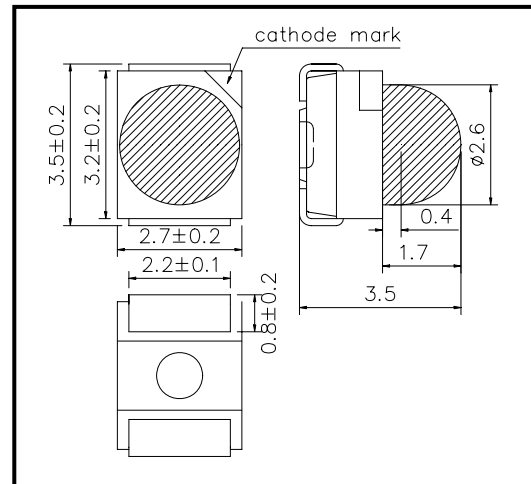
High Performance Infrared TOP LED with Lens

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 output power and 25mW/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*400nm
(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 Rating

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
Junction Temperature	T _J	100	°C	
Thermal Resistance	R _{thjp}	200	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
Forward Voltage	V _F	I _F =50mA		1.45	1.65	V
Reverse Current	I _R	V _R =5V			10	uA
Total Radiated Power	P _O	I _F =50mA	16.0	20.0		mW
Radiant Intensity	I _E	I _F =50mA	15	25		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		±20		deg.
Rise Time	t _r	I _F =50mA		25		ns
Fall Time	t _f	I _F =50mA		20		ns

‡Total Radiated Power is measured by Photodyne #500

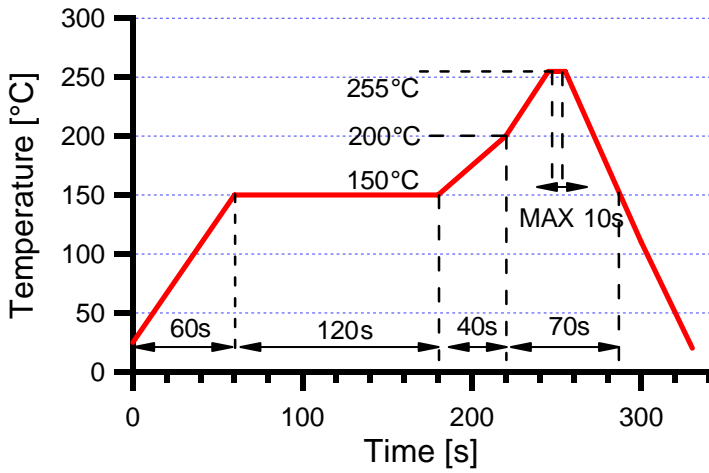
‡Radiant Intensity is measured by Tektronix J-6512.

USHIO EUROPE B.V. (www.ushio.eu)

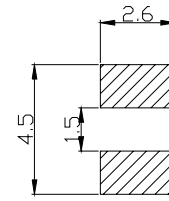
Sky Park, Breguetlaan 16-18, 1438 BC, Oude Meer, The Netherlands

Tel: +31-20-4469-333 Fax: +31-20-4469-360 E-mail: led@ushio-europe.nl

◆ SMD Application
IR-Reflow Soldering Profile for lead free soldering

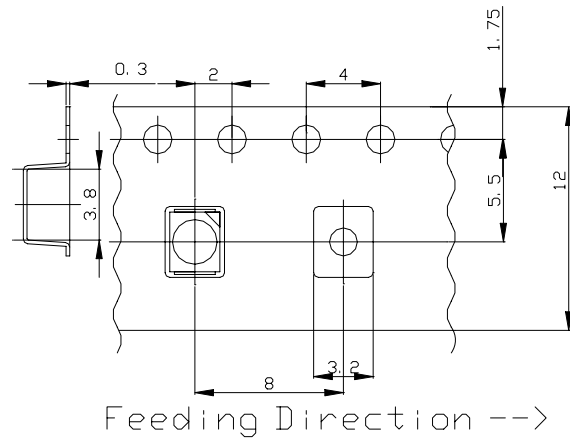
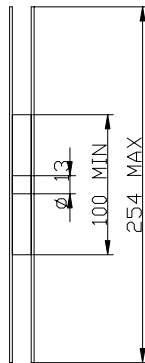
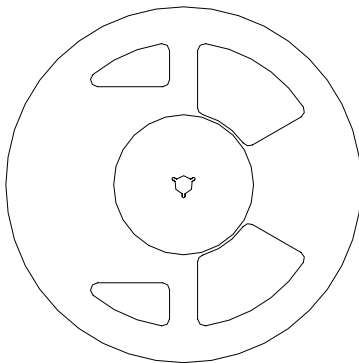


Recommended Land Layout (Unit: mm)



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.