

SMT810N

High Performance Infrared TOP IR LED

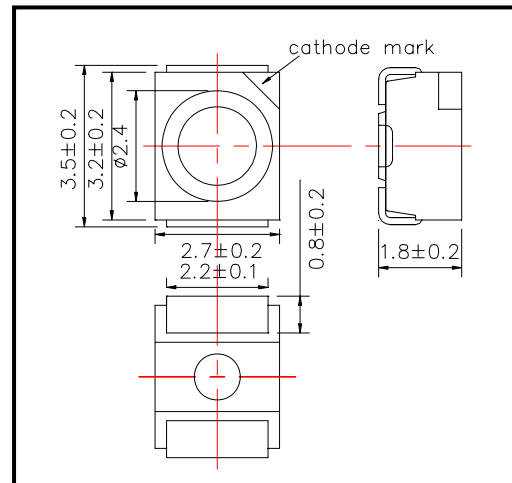
SMT810N consists of an AlGaAs LED mounted on the lead frame as TOP LED package and is 20mW typical of output power.

It emits a spectral band of radiation at 810nm.

◆ Outer dimension (Unit: mm)

◆ Specifications

1) Product Name	TOP IR LED
2) Type No.	SMT810N
3) Chip	
(1) Chip Material	AlGaAs
(2) Chip Dimension	0.4mm*0.4mm
(3) Peak Wavelength	810nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated
(2) Package Resin	PPA Resin
(3) Lens	Epoxy Resin



◆ Absolute Maximum Rating

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P _D	190	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}	190	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		1.55	1.70	V
Reverse Current	I _R	V _R =5V			10	uA
Total Radiated Power	P _O	I _F =50mA	14	20		mW
Radiant Intensity	I _E	I _F =50mA		10		mW/sr
Peak Wavelength	λ _P	I _F =50mA	800	810	820	nm
Half Width	Δλ	I _F =50mA		40		nm
Viewing Half Angle	θ _{1/2}	I _F =50mA		±55		deg.
Rise Time	t _r	I _F =50mA		20		ns
Fall Time	t _f	I _F =50mA		15		ns

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.

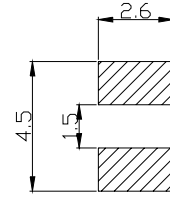
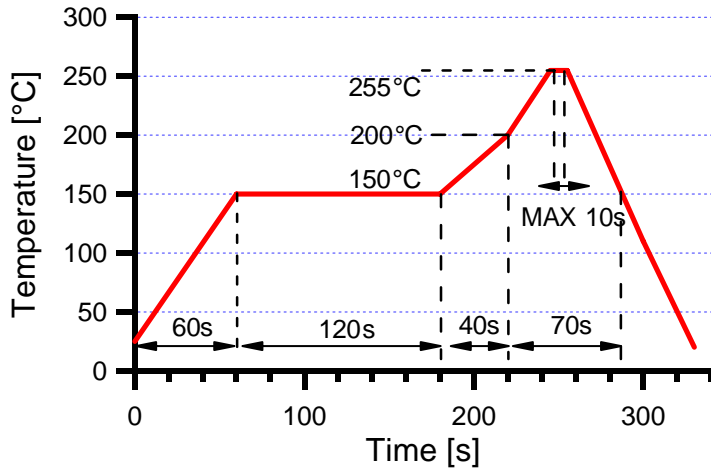
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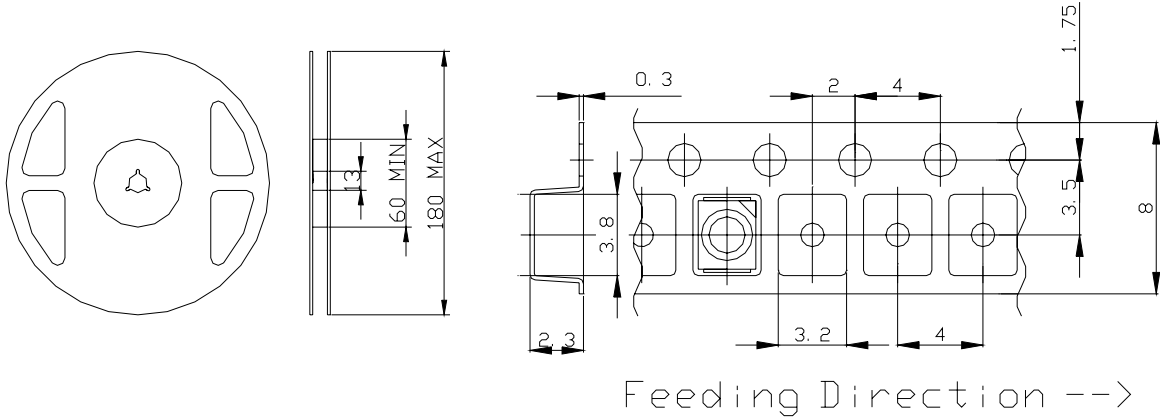
◆ SMD Application
IR-Reflow Soldering Profile for lead free soldering

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)



Feeding Direction -->

◆ Wrapping

Moisture barrier bag aluminum laminated film with a desiccant to keep out the moisture absorption during the transportation and storage.