

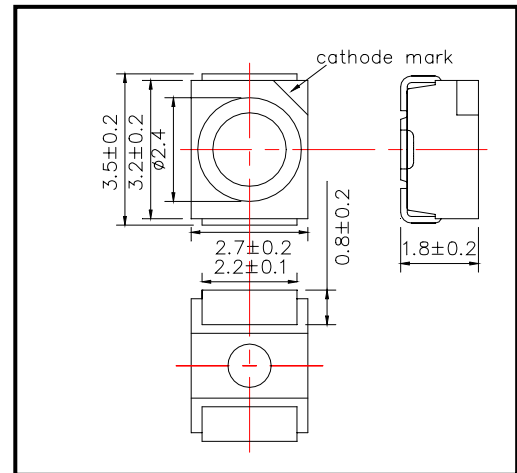
# SMT850N

High Performance Infrared TOP IR LED

SMT850N 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 850nm.

◆ Outer dimension (Unit: mm)



◆ Specifications

1) Product Name	TOP IR LED
2) Type No.	SMT850N
3) Chip	
(1) Chip Material	AlGaAs
(2) Peak Wavelength	850nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated
(2) Package Resin	PPA Resin
(3) Lens	Epoxy Resin

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

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P <sub>D</sub>	160	mW	Ta=25°C
Forward Current	I <sub>F</sub>	100	mA	Ta=25°C
Pulse Forward Current	I <sub>FP</sub>	500	mA	Ta=25°C
Reverse Voltage	V <sub>R</sub>	5	V	Ta=25°C
Operating Temperature	T <sub>OPR</sub>	-20 ~ +80	°C	
Storage Temperature	T <sub>STG</sub>	-30 ~ +80	°C	
Soldering Temperature	T <sub>SOL</sub>	240	°C	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.

‡Soldering condition: Soldering condition must be completed within 3 seconds at 230°C

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

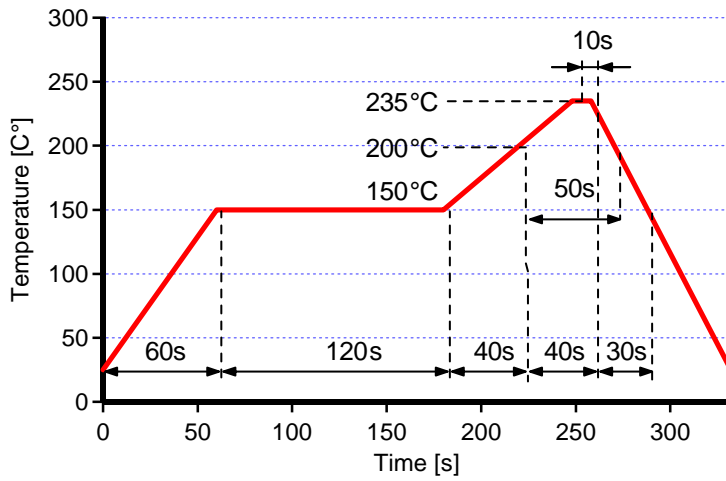
Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =50mA		1.50	1.70	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V			10	uA
Total Radiated Power	P <sub>O</sub>	I <sub>F</sub> =50mA	10.0	20.0		mW
Radiant Intensity	I <sub>E</sub>	I <sub>F</sub> =50mA	5	10		mW/sr
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =50mA	840	850	860	nm
Half Width	Δλ	I <sub>F</sub> =50mA		40		nm
Viewing Half Angle	θ <sub>1/2</sub>	I <sub>F</sub> =50mA		±63		deg.
Rise Time	t <sub>r</sub>	I <sub>F</sub> =50mA		15		ns
Fall Time	t <sub>f</sub>	I <sub>F</sub> =50mA		10		ns

‡Total Radiated Power is measured by Photodyne #500

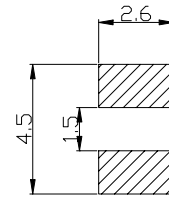
‡Radiant Intensity is measured by Tektronix J-6512.

◆ SMD Application

Recommended reflow soldering profile



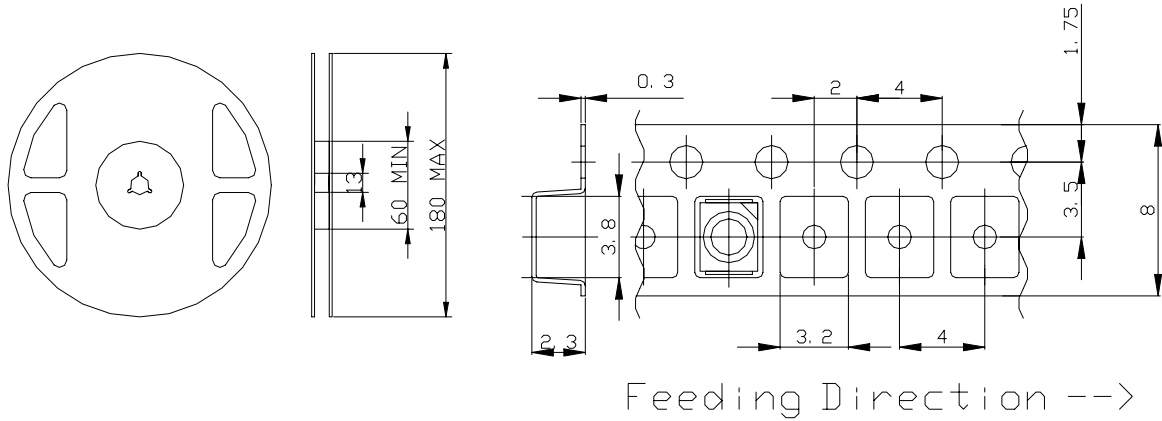
Recommended Land Layout (Unit: mm)



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.