

# SMT690

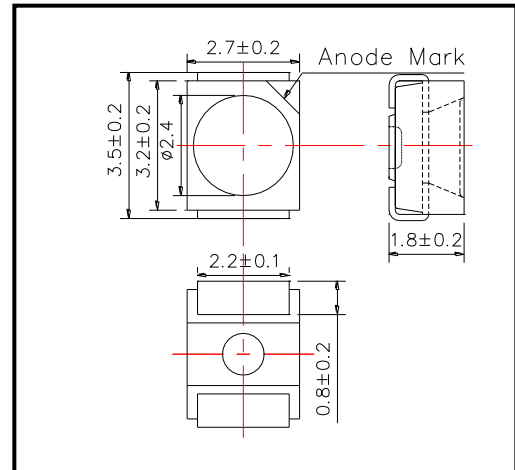
High Performance Infrared TOP IR LED

SMT690 consists of an AlGaAs LED mounted on the lead frame as TOP LED package and is sealed with epoxy resin. It emits a spectral band of radiation at 690nm.

◆ Specifications

- 1) Product Name      TOP IR LED
- 2) Type No.          SMT690
- 3) Chip
- (1) Chip Material     AlGaAs
- (2) Peak Wavelength 690nm typ.
- 4) Package
- (1) Lead Frame Die   Silver Plated
- (2) Package Resin     PPA Resin
- (3) Lens                Epoxy Resin

◆ Outer dimension (Unit:mm)



◆ Absolute Maximum Rating

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P <sub>D</sub>	100	mW	T <sub>a</sub> =25°C
Forward Current	I <sub>F</sub>	50	mA	T <sub>a</sub> =25°C
Pulse Forward Current	I <sub>FP</sub>	200	mA	T <sub>a</sub> =25°C
Reverse Voltage	V <sub>R</sub>	5	V	T <sub>a</sub> =25°C
Operating Temperature	T <sub>OPR</sub>	-40 ~ +80	°C	
Storage Temperature	T <sub>STG</sub>	-40 ~ +80	°C	
Soldering Temperature	T <sub>SOL</sub>	255	°C	

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

‡Soldering condition: Soldering condition must be completed within 10seconds at 255°C

◆ Electro-Optical Characteristics [T<sub>a</sub>=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =50mA		1.90	2.30	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	5.0	8.0		mW
Radiant Intensity	I <sub>E</sub>	I <sub>F</sub> =50mA		6.0		mW/sr
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =50mA	680	690	700	nm
Half Width	Δλ	I <sub>F</sub> =50mA		20		nm
Viewing Half Angle	θ <sub>1/2</sub>	I <sub>F</sub> =50mA		±55		deg.
Rise Time	t <sub>r</sub>	I <sub>F</sub> =50mA		80		ns
Fall Time	t <sub>f</sub>	I <sub>F</sub> =50mA		80		ns

‡Total Radiated Power is measured by Photodyne #500

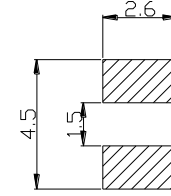
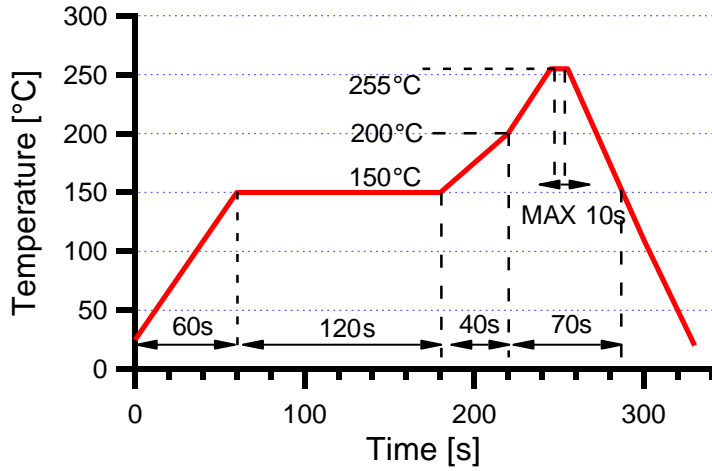
‡Radiant Intensity is measured by Tektronix J-6512.

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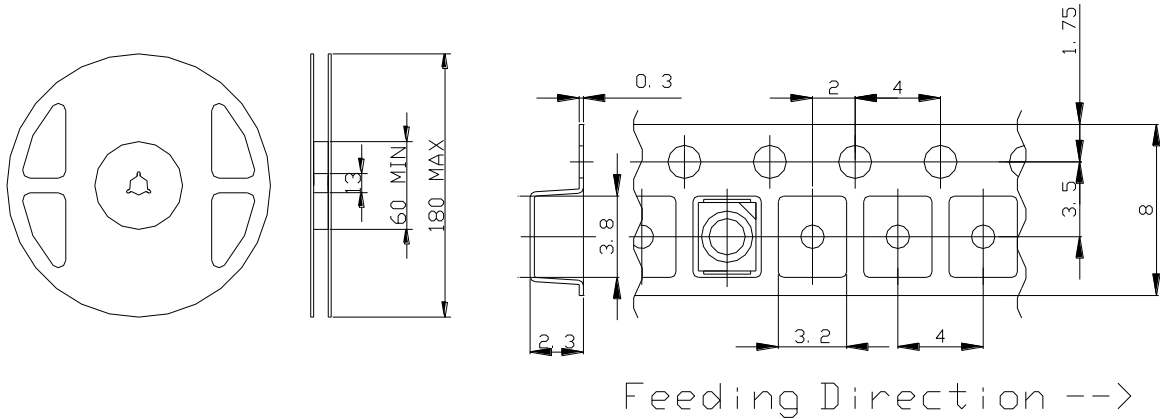
◆ SMD Application  
IR-Reflow Soldering Profile for lead free soldering

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)



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