Lead (Pb) Free Product – RoHS Compliant

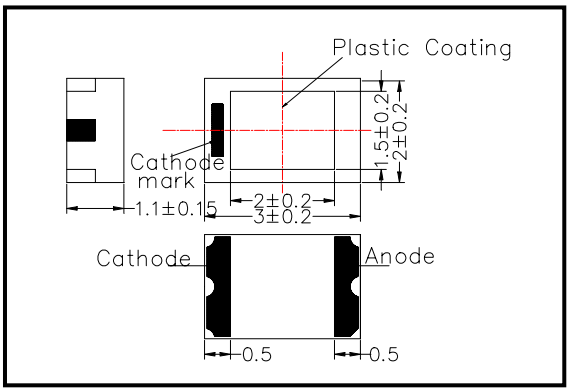
SMC870 (SMC870N) High Performance infrared SMD LED on ceramics

SMC870 consists of an AlGaAs LED mounted on the ceramics package
and is 38mW typical of output power.
It emits a spectral band of radiation at 870nm and is sealed with silicone or epoxy resin.

♦Specifications

1) Product Name	Ceramics SMD IRED
2) Type No.	SMC870
3) Chip	
(1) Chip Material	AlGaAs
(2) Chip Dimension	0.4mm*0.4mm
(3) Peak Wavelength	870nm typ.
4) Package	
(1) Package	Ceramics
(2) Lens	Silicone or Epoxy resin

♦Outer dimension (Unit: mm)



♦Absolute Maximum Rating

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	160	mW	Ta=25°C
Forward Current	I_F	100	mA	Ta=25°C
Pulse Forward Current	I_{FP}	1,000	mA	Ta=25°C
Reverse Voltage	V_R	5	V	Ta=25°C
Junction Temperature	T_J	100	°C	
Thermal Resistance	Rthja	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 [Ta=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	I_F=50mA DC		1.45	1.60	V
		I_F=100mA, tp=20ms		1.50	1.8	
Reverse Current	I_R	V_R=5V			10	uA
Total Radiated Power	P_O	I_F=50mA DC	15.0	19.0		mW
		I_F=100mA, tp=20ms		38.0		
Radiant Intensity	I_E	I_F=50mA DC		10		mW/sr
		I_F=100mA, tp=20ms		20		
Peak Wavelength	λ_P	I_F=50mA DC	860	870	880	nm
Half Width	$\Delta\lambda$	I_F=50mA DC		40		nm
Viewing Half Angle	$\theta_{1/2}$	I_F=50mA DC		±55		deg.
Rise Time	tr	I_F=50mA DC		15		ns
Fall Time	tf	I_F=50mA DC		10		ns

‡Total Radiated Power is measured by Photodyne #500
‡Radiant Intensity is measured by Tektronix J-6512.

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