

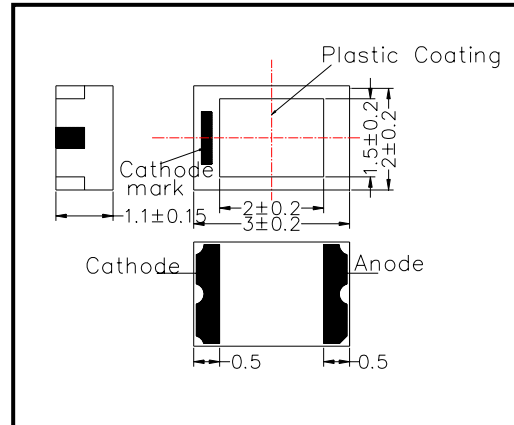
SMC870 (SMC870N) High Performance infrared SMD LED on ceramics

SMC870 consists of an AlGaAs LED mounted on the ceramics package and is sealed with silicone or epoxy resin.

◆ Specifications

1) Product Name	SMD type infrared LED
2) Type No.	SMC870
3) Chip	
(1) Chip Material	AlGaAs
(2) 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	$T_a=25^\circ\text{C}$
Forward Current	I_F	100	mA	$T_a=25^\circ\text{C}$
Pulse Forward Current	I_{FP}	500	mA	$T_a=25^\circ\text{C}$
Reverse Voltage	V_R	5	V	$T_a=25^\circ\text{C}$
Operating Temperature	T_{OPR}	-20 ~ +85	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-30 ~ +100	$^\circ\text{C}$	
Soldering Temperature	T_{SOL}	240	$^\circ\text{C}$	

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

‡Soldering condition: Soldering condition must be completed within 3 seconds at 240°C

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

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=50\text{mA}$		1.50	1.70	V
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Total Radiated Power	P_O	$I_F=50\text{mA}$	5.0	12.0		mW
Radiant Intensity	I_E	$I_F=50\text{mA}$	2.5	6.0		mW/sr
Peak Wavelength	λ_P	$I_F=50\text{mA}$	860	870	880	nm
Half Width	$\Delta\lambda$	$I_F=50\text{mA}$		35		nm
Viewing Half Angle	$\theta_{1/2}$	$I_F=50\text{mA}$		± 55		deg.
Rise Time	t_r	$I_F=50\text{mA}$		15		ns
Fall Time	t_f	$I_F=50\text{mA}$		10		ns

‡Total Radiated Power is measured by Photodyne #500

‡Radiant Intensity is measured by Tektronix J-6512.