

Lead (Pb) Free Product – RoHS Compliant

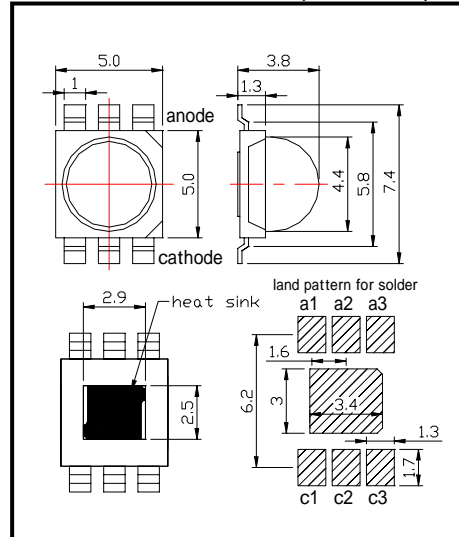
SMB850D-2100-05(I) High Power Top LED with Lens

SMB850D-2100-05(I) is an AlGaAs LED mounted on insulating heat sink with a 5*5 mm package and molded with epoxy resin lens. These devices are intended to be operated at pulsed current of 3A for stable long life.

◆ Specifications

1) Product Name	High Power Top LED
2) Type No.	SMB850D-2100-05(I)
3) Chip	
(1) Chip Material	GaAlAs
(2) Chip Dimension	1000um*1000um
(3) Chip Number	2pcs
(4) Peak Wavelength	850nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated on Copper
(2) Package Resin	PPA Resin
(3) Lens	Epoxy Resin

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	1500	mW	$T_a=25^{\circ}\text{C}$
Forward Current	I_F	800	mA	$T_a=25^{\circ}\text{C}$
Pulse Forward Current	I_{FP}	4000	mA	$T_a=25^{\circ}\text{C}$
Reverse Voltage	V_R	10	V	$T_a=25^{\circ}\text{C}$
Operating Temperature	T_{OPR}	-30 ~ +85	$^{\circ}\text{C}$	
Storage Temperature	T_{STG}	-30 ~ +100	$^{\circ}\text{C}$	
Soldering Temperature	T_{SOL}	265	$^{\circ}\text{C}$	

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

‡Soldering condition: Soldering condition must be completed within 3 seconds at 265 $^{\circ}\text{C}$

◆ Electro-Optical Characteristics [$T_a=25^{\circ}\text{C}$]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=400\text{mA}$		1.7	1.9	V
Pulsed Forward Voltage	V_F	$I_{FP}=3\text{A}$		3.0	4.0	V
Reverse Current	I_R	$V_R=10\text{V}$			10	μA
Radiated Power	P_O	$I_F=400\text{mA}$	180	260		mW
Radiant Intensity	I_E	$I_F=400\text{mA}$		140		mW/sr
Peak Wavelength	λ_P	$I_F=100\text{mA}$		850		nm
Half Width	$\Delta\lambda$	$I_F=100\text{mA}$		20		nm
Viewing Angle	$\theta_{1/2}$	$I_F=100\text{mA}$		± 37		deg.
				± 33		
Rise Time	t_r	$I_F=100\text{mA}$		65		ns
Fall Time	t_f	$I_F=100\text{mA}$		25		ns

‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.