

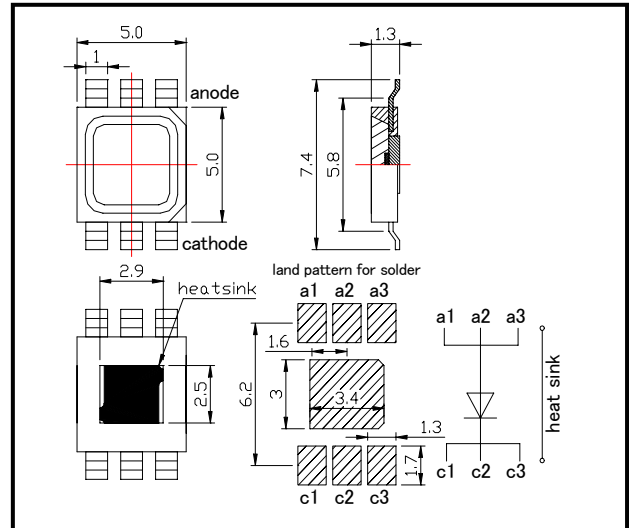
SMB810-1100-I High Power type Top LED

SMB810-1100-I is an AlGaAs LED mounted on copper heat sink with a 5*5 mm package. These devices are available to be operated and 1,250mW at IFP=4A.

◆Outer dimension (Unit: mm)

◆Specifications

- 1) Product Name High Power Top LED
- 2) Type No. SMB810-1100-I
- 3) Chip
 - (1) Chip Material AlGaAs
 - (2) Chip Dimension 1000um*1000um
 - (3) Chip Number 1pce
 - (4) Peak Wavelength 810nm typ.
- 4) Package
 - (1) Lead Frame Die Silver Plated on Copper
 - (2) Package Resin PPA Resin
 - (3) Lens Epoxy Resin



◆Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	1850	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	5	V	$T_a=25^\circ\text{C}$
Thermal Resistance	R_{thja}	10	K/W	
Operating Temperature	T_{OPR}	-30 ~ +85	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-30 ~ +100	$^\circ\text{C}$	
Soldering Temperature	T_{SOL}	255	$^\circ\text{C}$	

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

‡Soldering condition: Soldering condition must be completed within 5 seconds at 255°C

‡Thermal resistance: junction-ambient air flow

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

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	$I_F=600\text{mA}$		1.8	2.3	V
	V_{FP}	$I_{FP}=4\text{A}$		4.0	5.5	
Radiated Power	P_O	$I_F=600\text{mA}$		200		mW
		$I_{FP}=4\text{A}$		1250		
Radiant Intensity	I_E	$I_F=600\text{mA}$		120		mW/sr
		$I_{FP}=4\text{A}$		800		
Peak Wavelength	λ_P	$I_F=100\text{mA}$		810		nm
Half Width	$\Delta\lambda$	$I_F=100\text{mA}$		35		nm
Viewing Half Angle	$\theta_{1/2}$	$I_F=100\text{mA}$		± 8		deg.
Rise Time	t_r	$I_F=100\text{mA}$		25		ns
Fall Time	t_f	$I_F=100\text{mA}$		15		ns

‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.