

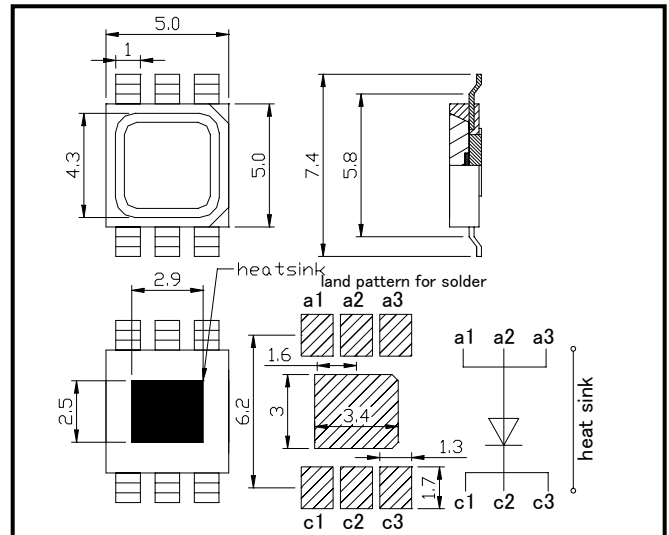
SMB590-1100-I High Power type Top LED

SMB590-1100-I is an AlGaInP LED mounted on copper heat sink with a 5*5 mm package
 These devices are available to be operated and 300mW/sr at IFP=2A.

◆ Specifications

1) Product Name	High Power Top LED
2) Type No.	SMB590-1100-I
3) Chip	
(1) Chip Material	AlGaInP
(2) Chip Dimension	1000um*1000um
(3) Chip Number	1pce
(4) Peak Wavelength	590nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated on Copper
(2) Insulator	AlN ceramics
(3) Package Resin	PPA Resin
(4) Lens	Epoxy or Silicone Resin

◆ Outer dimension (Unit: mm)



◆ Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	PD	1300	mW	Ta=25°C
Forward Current	IF	500	mA	Ta=25°C
Pulse Forward Current	IFP	2000	mA	Ta=25°C
Reverse Voltage	VR	5	V	Ta=25°C
Thermal Resistance	Rthja	10	K/W	
Junction Temperature	Tj	100	°C	
Operating Temperature	TOPR	-30 ~ +85	°C	
Storage Temperature	TSTG	-40 ~ +100	°C	
Soldering Temperature	TSOL	255	°C	

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

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

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

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	VF	IF=350mA		2.5	3.0	V
	VFP	IFP=2A		3.0	3.5	V
Radiated Power	PO	IF=350mA		150		mW
		IFP=2A		860		
Radiant Intensity	IE	IF=350mA		50		mW/sr
		IFP=2A		300		
Brightness	Iv	IF=350mA		9000		mcd
		IFP=2A		51000		
Peak Wavelength	λP	IF=100mA		590		nm
	λD		584	589	594	
Half Width	Δλ	IF=100mA		20		nm
Viewing Half Angle	θ 1/2	IF=100mA		±60		deg.
Rise Time	tr	IF=100mA		300		ns
Fall Time	tf	IF=100mA		100		ns

‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.

SMD LED STORAGE AND HANDLING PRECAUTIONS

< Storage Conditions before Opening a Moisture-Barrier Aluminum Bag >

- Before opening a moisture-barrier aluminum bag, please store it at <30°C, <60%RH. Please note that the maximum shelf life is 12 months under these conditions.

< Storage Conditions after Opening a Moisture-Barrier Aluminum Bag >

- After opening a moisture-barrier aluminum bag, store the aluminum bag and silica gel in a desiccator.
- After opening the bag, please solder the LEDs within 72 hours in a room with 5 - 30°C, <50%RH.
- Please put any unused, remaining LEDs and silica gel back in the same aluminum bag and then vacuum-seal the bag.
- It is recommended to keep the re-sealed bag in a desiccator at <30%RH.

< Notes about Re-sealing a Moisture-Barrier Aluminum Bag >

- When vacuum-sealing an opened aluminum bag, if you find the moisture-indicator of the silica gel has changed to pink from blue (indicating a relative humidity of 30 % or more), please do not use the unused LEDs, the aluminum bag, or the silica gel.

< Notes about Opening a Re-sealed Moisture-Barrier Aluminum Bag >

- When opening a vacuumed and re-sealed aluminum bag in order to use the remaining LEDs stored in the bag, if you find that the moisture-indicator of the silica has changed to pink, please do not use the LEDs.

※The 72-hour- long floor life does not include the time while LEDs are stored in the moisture-barrier aluminum bag.

However, we strongly recommend to solder the LEDs as soon as possible after opening the aluminum bag.