

# SMB850D-1100-05

## High Power type Top LED with Lens

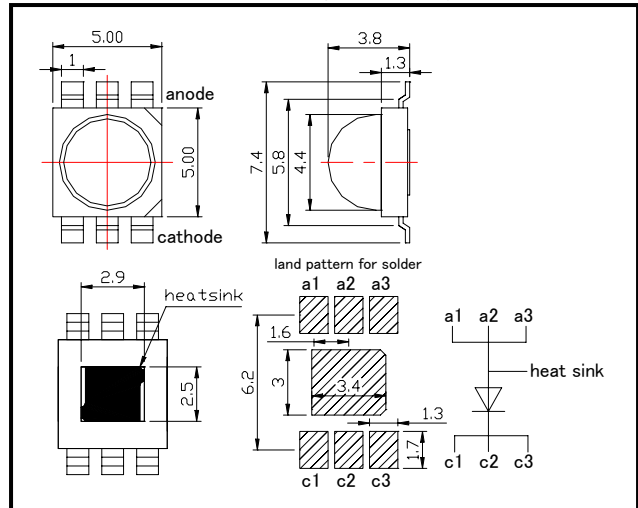
SMB850D-1100-05 is an AlGaAs LED mounted on insulating heat sink with a 5\*5 mm package with epoxy resin lens and is 750mW typical of output power.

These devices are intended to be operated at pulsed current of 3A.

### ◆ Specifications

- 1) Product Name           High Power Top LED
- 2) Type No.                SMB850D-1100-05
- 3) Chip
  - (1) Chip Material        GaAlAs
  - (2) Chip Dimension    1000um\*1000um
  - (3) Chip Number        1pce
  - (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 <sub>D</sub>	3000	mW	T <sub>a</sub> =25°C
Forward Current	I <sub>F</sub>	1200	mA	T <sub>a</sub> =25°C
Pulse Forward Current	I <sub>FP</sub>	3000	mA	T <sub>a</sub> =25°C
Reverse Voltage	V <sub>R</sub>	10	V	T <sub>a</sub> =25°C
Thermal Resistance	R <sub>thja</sub>	6	K/W	
Operating Temperature	T <sub>OPR</sub>	-30 ~ +85	°C	
Storage Temperature	T <sub>STG</sub>	-30 ~ +100	°C	
Soldering Temperature	T <sub>SOL</sub>	265	°C	

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

‡Soldering condition: Soldering condition must be completed within 3 seconds at 265°C

‡Thermal resistance: junction – ambient air flow

### ◆ Electro-Optical Characteristics [T<sub>a</sub>=25°C]

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =1A		2.1	2.5	V
		I <sub>F</sub> =1.2A		2.2	2.6	
Pulsed Forward Voltage	V <sub>F</sub>	I <sub>FP</sub> =3A		3.5	4.5	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =10V			10	uA
Radiated Power	P <sub>O</sub>	I <sub>F</sub> =1A	470	620		mW
		I <sub>F</sub> =1.2A		750		
Radiant Intensity	I <sub>E</sub>	I <sub>F</sub> =1.2A		590		mW/sr
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> =100mA		850		nm
Half Width	Δλ	I <sub>F</sub> =100mA		20		nm
Viewing Half Angle	θ <sub>1/2</sub>	I <sub>F</sub> =100mA		±40		deg.
Rise Time	t <sub>r</sub>	I <sub>F</sub> =100mA		25		ns
Fall Time	t <sub>f</sub>	I <sub>F</sub> =100mA		15		ns

‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.