

SMB850D-1100-09

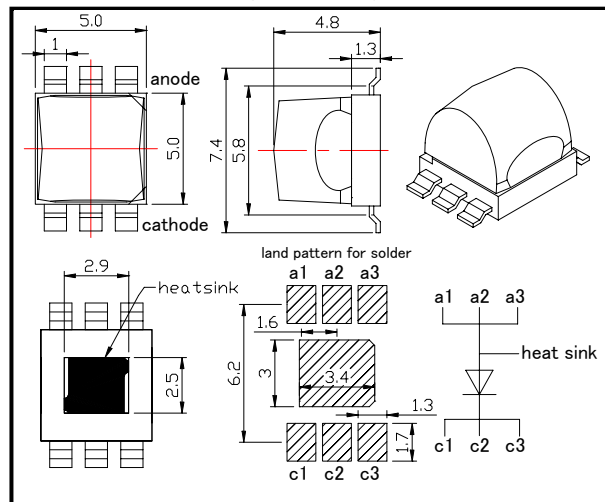
High Power type Top LED with Lens

SMB850D-1100-09 is an AlGaAs LED mounted on copper heat sink with a 5*5 mm package and molded with oval beam lens. These devices are intended to be operated at pulsed current of 3A.

◆ Specifications

- | | |
|---------------------|-------------------------|
| 1) Product Name | High Power Top LED |
| 2) Type No. | SMB850D-1100-09 |
| 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_D	3500	mW	$T_a=25^\circ\text{C}$
Forward Current	I_F	1200	mA	$T_a=25^\circ\text{C}$
Pulse Forward Current	I_{FP}	3000	mA	$T_a=25^\circ\text{C}$
Reverse Voltage	V_R	10	V	$T_a=25^\circ\text{C}$
Thermal Resistance	R_{thja}	6	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	$I_F=1\text{A}$		2.1	2.8	V
Pulsed Forward Voltage	V_F	$I_{FP}=3\text{A}$		3.5	4.7	V
Reverse Current	I_R	$V_R=5\text{V}$			10	μA
Radiated Power	P_o	$I_F=1\text{A}$	450	620		mW
Radiant Intensity	I_E	$I_F=1\text{A}$		450		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 Half Angle	$\theta_{1/2}$	$I_F=100\text{mA}$		± 42		deg.
				± 24		
Rise Time	t_r	$I_F=100\text{mA}$		15		ns
Fall Time	t_f	$I_F=100\text{mA}$		10		ns

‡Radiated Power is measured by S3584-08.

‡Radiant Intensity is measured by Tektronix J-6512.