

RoHS Compliant

SMB940-1100-02

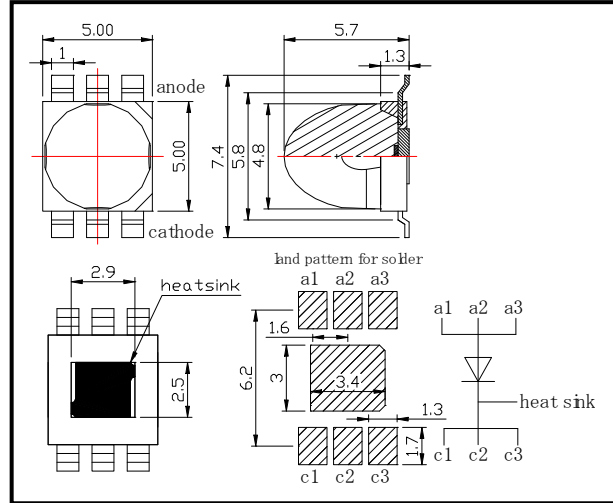
High Power type Top LED

SMB940-1100-02 is GaAs LED mounted on insulating heat sink with a 5*5 mm package and molded with epoxy resin lens. These devices is available to operated at IFP=4A.

◆ Specifications

- | | |
|---------------------|-------------------------|
| 1) Product Name | High Power Top LED |
| 2) Type No. | SMB940-1100-02 |
| 3) Chip | |
| (1) Chip Material | GaAs |
| (2) Chip Dimension | 1000um*1000um |
| (3) Chip Number | 1pce |
| (4) Peak Wavelength | 940nm 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	1000	mW	$T_a=25^{\circ}\text{C}$
Forward Current	I_F	600	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	$T_a=25^{\circ}\text{C}$
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}	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°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	$I_F=500\text{mA}$		1.40	1.50	V
		$I_F=600\text{mA}$		1.44	1.55	
Pulsed Forward Voltage	V_F	$I_{FP}=4\text{A}$		2.6	3.5	V
Reverse Current	I_R	$V_R=10\text{V}$			10	μA
Radiated Power	P_O	$I_F=500\text{mA}$	90	140		mW
		$I_F=600\text{mA}$		170		
Radiant Intensity	I_E	$I_F=500\text{mA}$		270		mW/sr
Peak Wavelength	λ_P	$I_F=100\text{mA}$		940		nm
Half Width	$\Delta\lambda$	$I_F=100\text{mA}$		60		nm
Viewing Half Angle	$\theta_{1/2}$	$I_F=100\text{mA}$		± 11		deg.
Rise Time	t_r	$I_F=100\text{mA}$		1000		ns
Fall Time	t_f	$I_F=100\text{mA}$		500		ns

‡Radiated Power is measured by S3584-08.

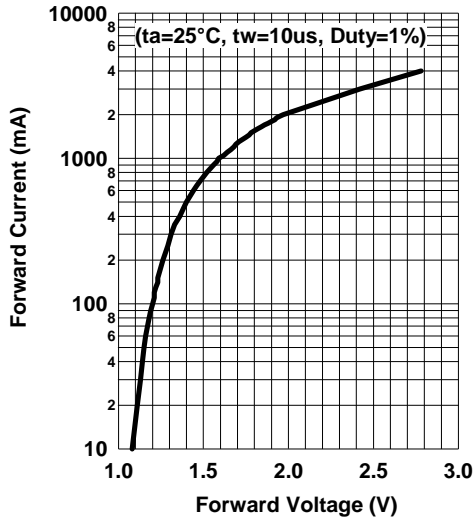
‡Radiant Intensity is measured by Tektronix J-6512.

Tel: +31-20-4469-333

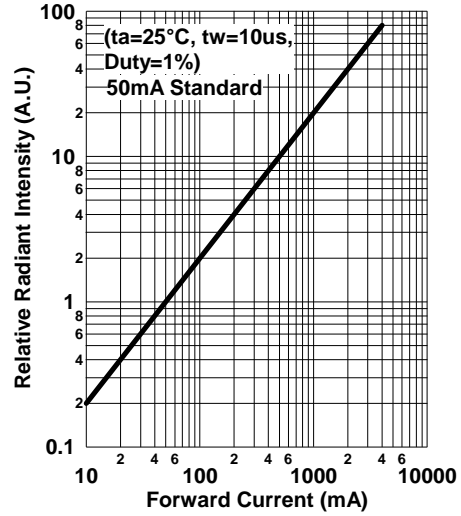
Fax: +31-20-4469-360

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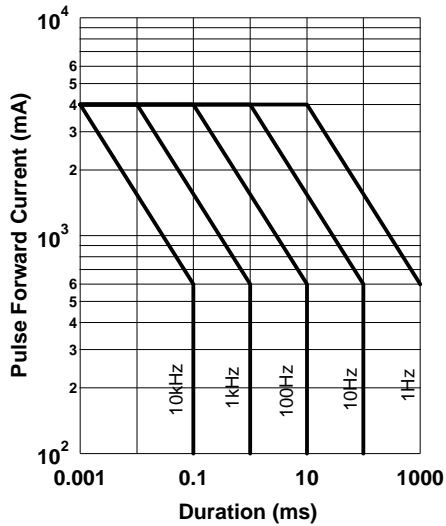
Forward Current - Forward Voltage



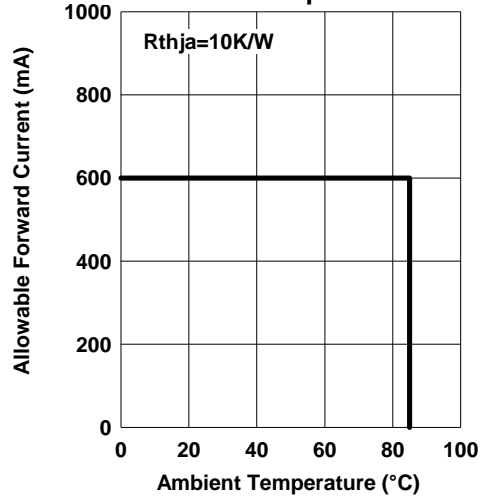
Relative Radiant Intensity - Forward Current



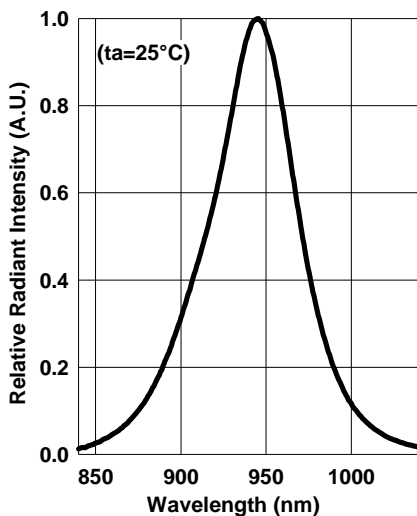
Forward Current-Pulse Duration

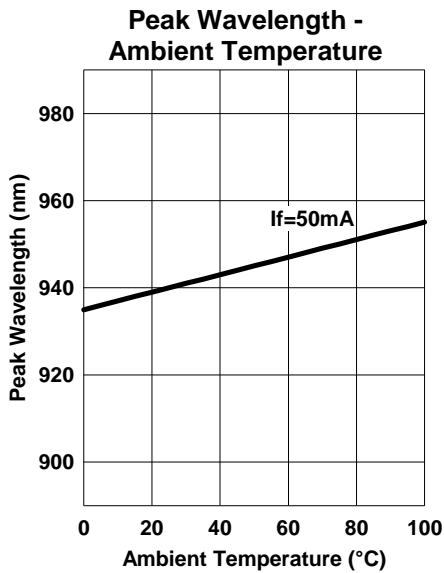
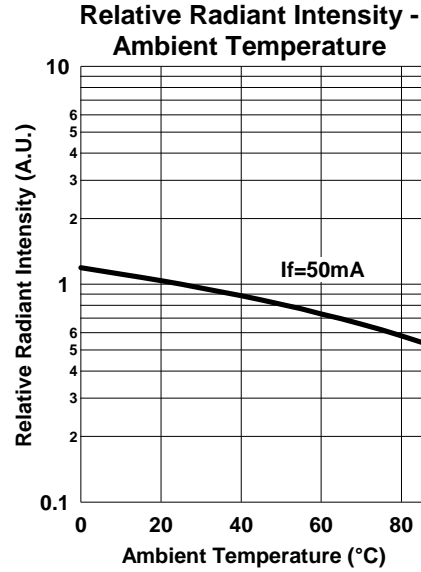
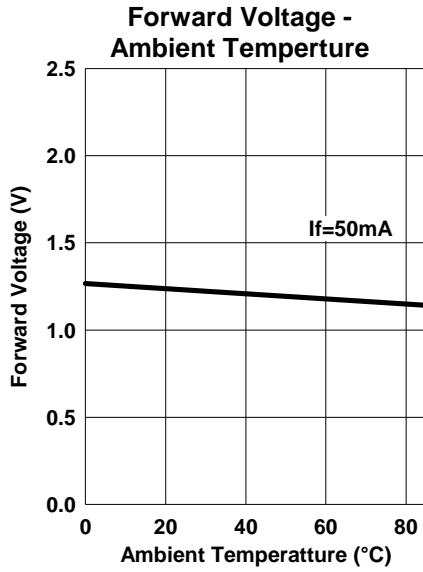


Allowable Forward Current - Ambient Temperature



Relative Spectral Emission





◆ Wrapping

Moisture barrier bag aluminum laminated film with a desiccant to keep out the moisture absorption during the transportation and storage.