RoHS Compliant

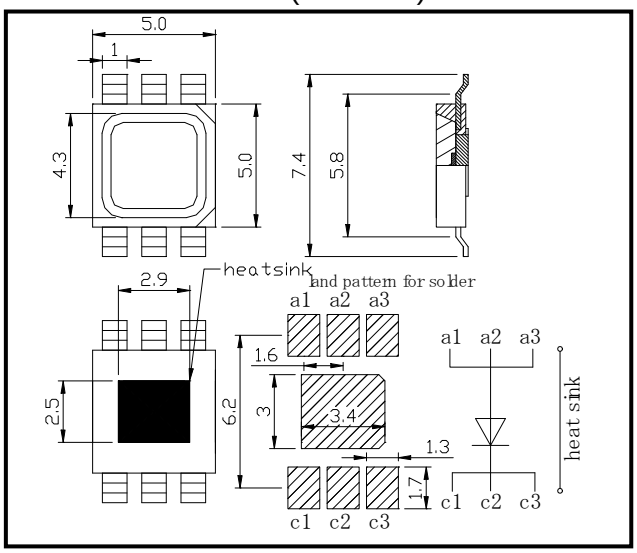
SMB940-1100-I High Power type Top LED

SMB940-1100-I is an AlGaAs LED mounted on copper heat sink with a 5*5 mm package
These devices are available to be operated and 480mW/sr at IFP=4A.

♦Specifications

1) Product Name	High Power Top LED
2) Type No.	SMB940-1100-I
3) Chip	
(1) Chip Material	GaAs
(2) Chip Dimension	1000um*1000um
(3) Chip Number	1pcs
(4) Peak Wavelength	940nm typ.
4) Package	
(1) Lead Frame Die	Silver Plated on Copper
(2) Insulator	AlN ceramics
(3) Package Resin	PPA Resin
(4) Lens	Epoxy Resin

♦Outer dimension (Unit: mm)



♦Absolute Maximum Ratings

Item	Symbol	Maximum Rated Value	Unit	Ambient Temperature
Power Dissipation	P_D	1000	mW	Ta=25°C
Forward Current	I_F	600	mA	Ta=25°C
Pulse Forward Current	I_{FP}	4000	mA	Ta=25°C
Reverse Voltage	V_R	5	V	Ta=25°C
Thermal Resistance	R_{thja}	10	K/W	
Junction Temperature	T_j	100	°C	
Operating Temperature	T_{OPR}	-30 ~ +85	°C	
Storage Temperature	T_{STG}	-30 ~ +100	°C	
Soldering Temperature	T_{SOL}	255	°C	

‡Pulse Forward Current condition: Duty=1% and Pulse Width=10us.
‡Soldering condition: Soldering condition must be completed within 3 seconds at 265°C

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

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	V_F	I_F=500mA		1.4	1.65	V
	V_{FP}	I_{FP}=4A		2.6	3.5	
Radiated Power	P_O	I_F=500mA	70	110		mW
		I_{FP}=4A		880		
Radiant Intensity	I_E	I_F=500mA		60		mW/sr
		I_{FP}=4A		480		
Peak Wavelength	λ_P	I_F=100mA		940		nm
Half Width	$\Delta\lambda$	I_F=100mA		60		nm
Viewing Half Angle	$\theta_{1/2}$	I_F=100mA		±64		deg.
Rise Time	t r	I_F=100mA		1000		ns
Fall Time	t f	I_F=100mA		500		ns

‡Radiated Power is measured by S3584-08.
‡Radiant Intensity is measured by Tektronix J-6512.

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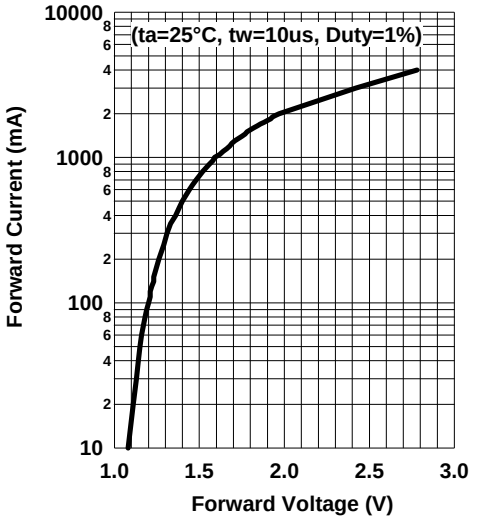
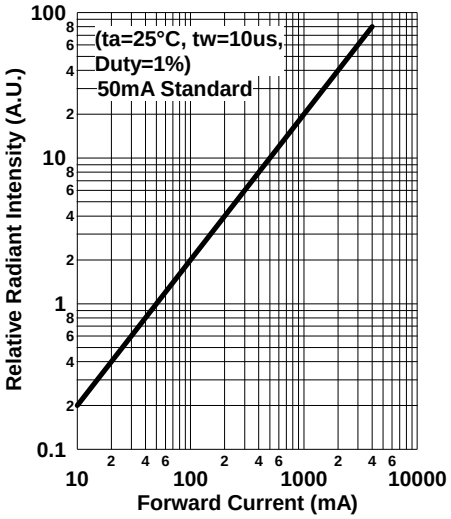
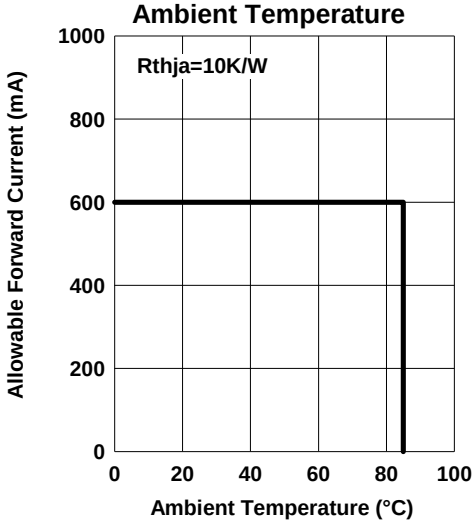
Forward Curent - Forward Voltage



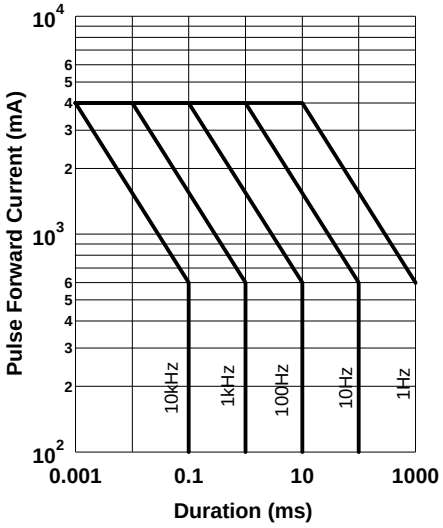
Relative Radiant Intensity - Forward Current



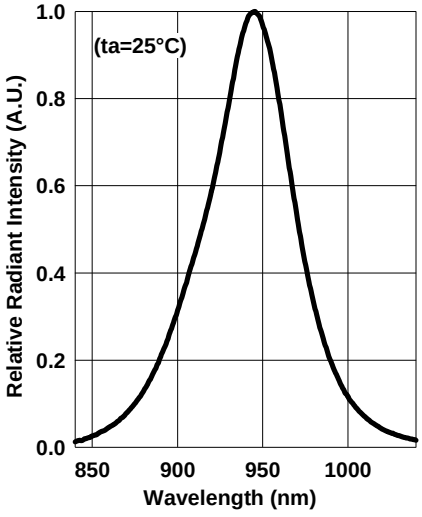
Allowable Forward Current - Ambient Temperature



Forward Currrent-Pulse Duration



Relative Spectral Emission



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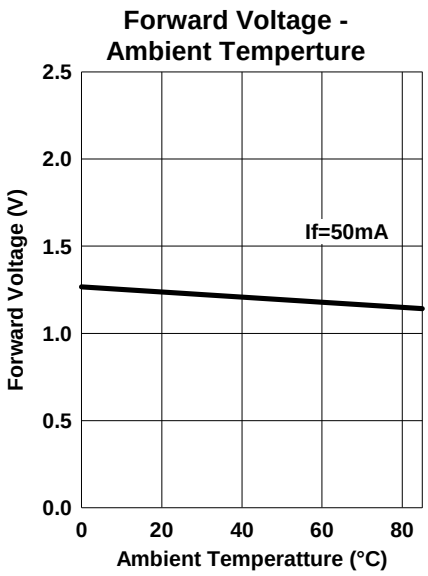

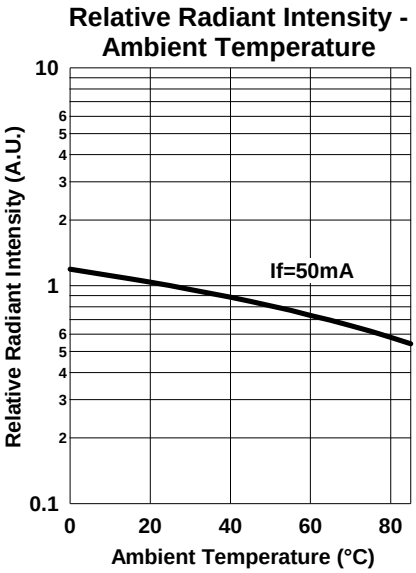

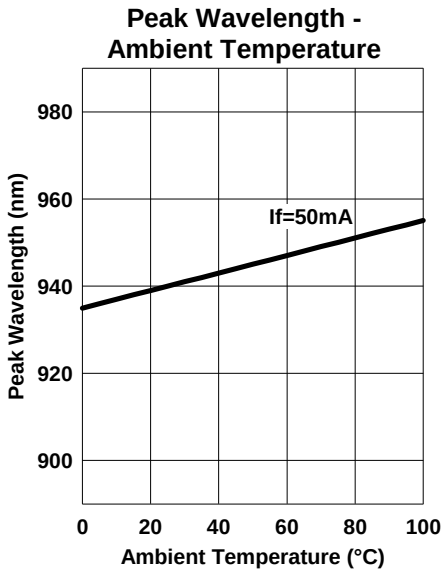

♦ Wrapping

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

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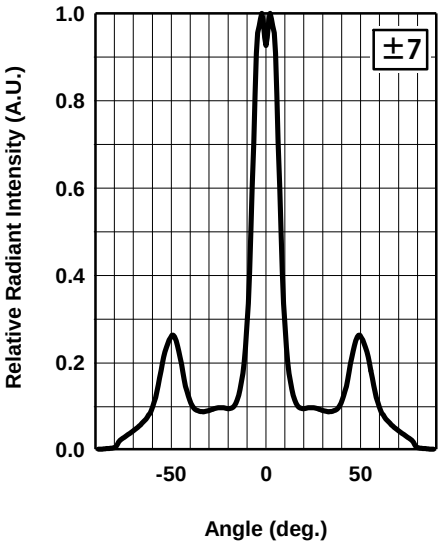
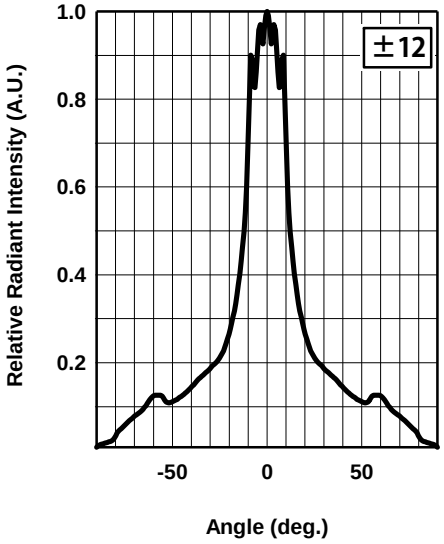
Radiation Pattern

SMB940-1100-01-I



SMB940-1100-02-I



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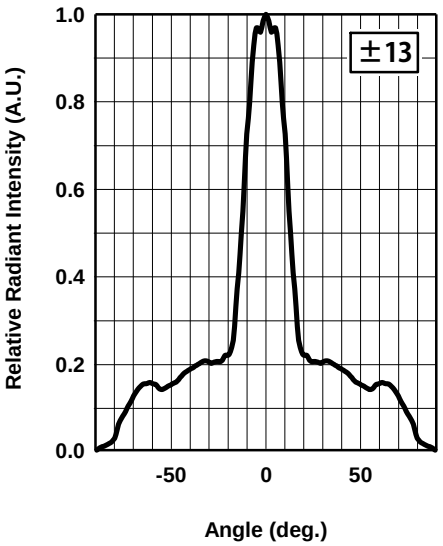
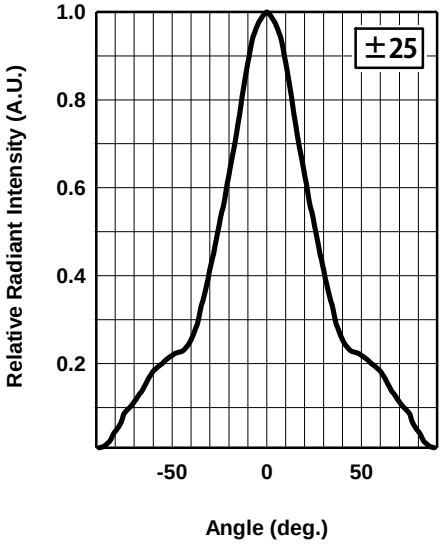


SMB940-1100-04-I



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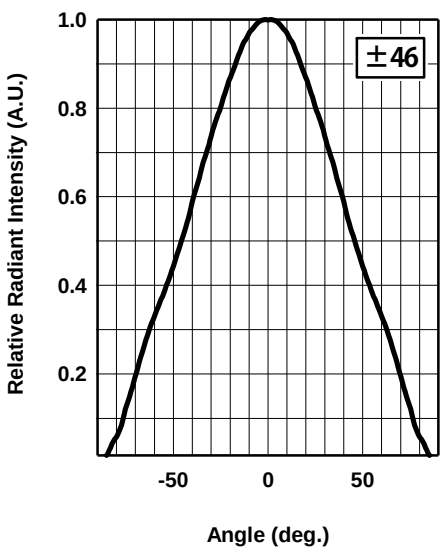
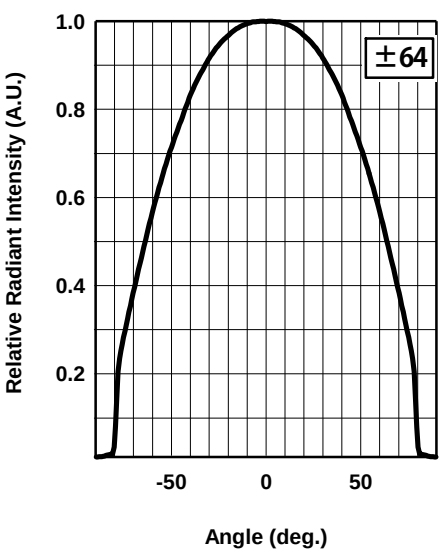


SMB940-1100-I



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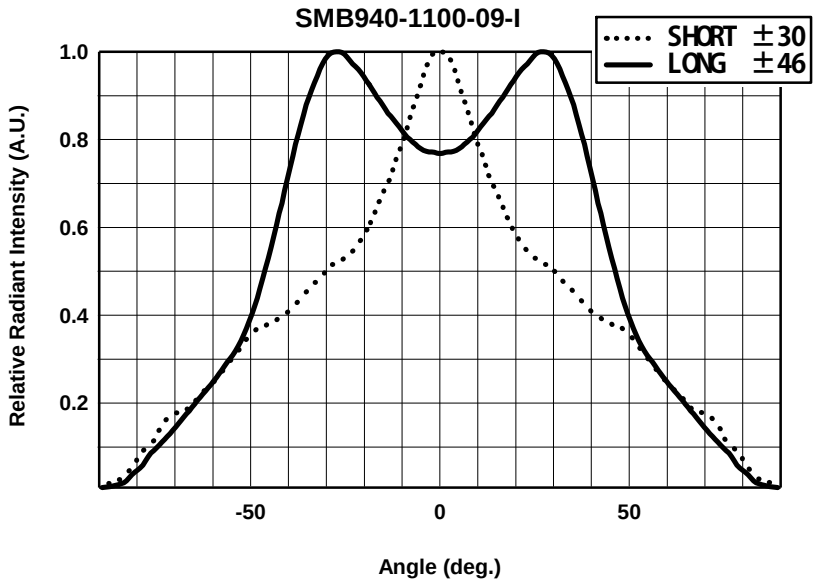

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SMD LED STORAGE AND HANDLING PRECAUTIONS

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

・ Before opening a moisture-barrier aluminum bag, please store it at <30ºC, <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 - 30ºC, <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.