

## Part number: ZM2BBCRBG45S-A

3.5x2.8mm SURFACE MOUNT SMD CHIP LED

## PRELIMINARY SPEC

### Features

- OUTSTANDING MATERIAL EFFICIENCY.
- LOW POWER CONSUMPTION.
- ONE BLUE , ONE ORANGE AND ONE GREEN CHIPS IN ONE PACKAGE.
- CAN PRODUCE ANY COLOR IN VISIBLE SPECTRUM, INCLUDING WHITE LIGHT.
- SUITABLE FOR ALL SMT ASSEMBLY AND SOLDER PROCESS.
- AVAILABLE ON TAPE AND REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 4.
- PACKAGE: 1500PCS / REEL .
- RoHS COMPLIANT.



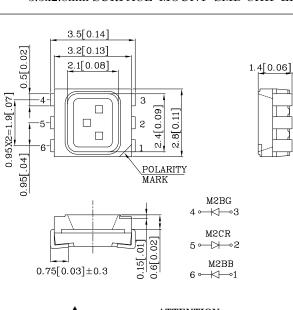
### Notes:

1. All dimensions are in millimeters (inches).

2. Tolerance is  $\pm$  0.2(0.008") unless otherwise noted.

3.Specifications are subject to change without notice.

Absolute Maximum Ratings (TA=25°C)		M2BB (InGa N)	M2CR (AlIn GaP)	M2BG (InGa N)	Unit
Reverse Voltage	VR	5	5	5	V
Forward Current	IF	30	50	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	iFS	100	150	100	mA
Power Dissipation	Рт	111	140	111	mW
Operating Temperature	ТА	-40 ~ +85			°C
Storage Temperature	Tstg	-40 ~ +85			
Electrostatic Discharge Threshold (HBM)		1000	-	1000	V





ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES

Operating Characteristics (TA=25°C)		M2BB (InGa N)	M2CR (AlInG aP)	M2BG (InGa N)	Unit
Forward Voltage (Typ.) (IF=20mA)	VF	3.2	2.2	3.2	v
Forward Voltage (Max.) (IF=20mA)	VF	3.7	2.8	3.7	V
Reverse Current (Max.) (VR=5V)	Ir	10	10	10	uA
Wavelength Of Peak Emission (Typ.) (IF=20mA)	λP	458	640	525	nm
Wavelength Of Dominant Emission (Typ.) (IF=20mA)	λD	465	630	535	nm
Spectral Line Full Width At Half-Maximum (Typ.) (IF=20mA)	Δλ	22	25	39	nm
Capacitance (Typ.) (VF=0V, f=1MHz)	С	110	27	65	$\mathrm{pF}$

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity (IF=20mA) mcd		Wavelength nm λ P	Viewing Angle 2 0 1/2
				min.	typ.		
	Blue	InGaN	_	110	317	458	
	Red	AlInGaP	Water Clear	900	1690	640	120°
	Green	InGaN	-	650	1195	525	

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Drawing No : SDSA6178

Checked : B.L.LIU

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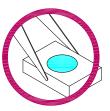


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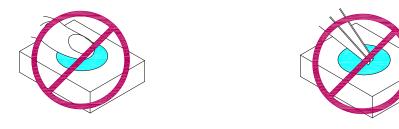
## **Handling Precautions**

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force. As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might leads to damage and premature failure of the LED.

1. Handle the component along the side surfaces by using forceps or appropriate tools.



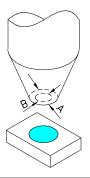
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry.



3. Do not stack together assembled PCBs containing exposed LEDs. Outside impact may scratch the silicone lens or damage the internal circuitry.

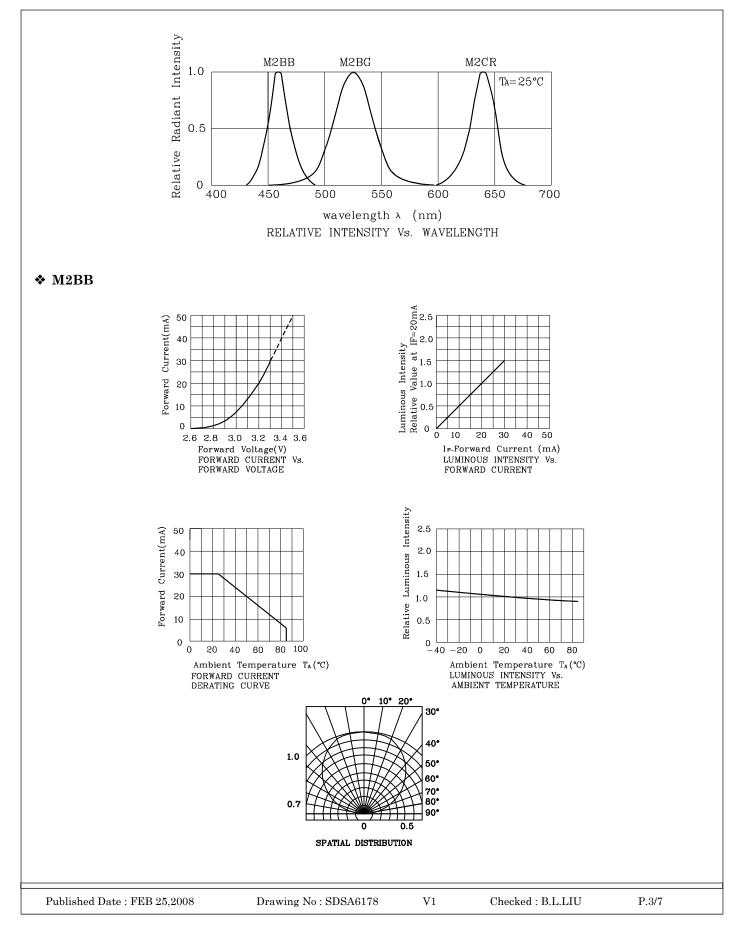


- 4. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible.
- 5. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup.
- 6. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.





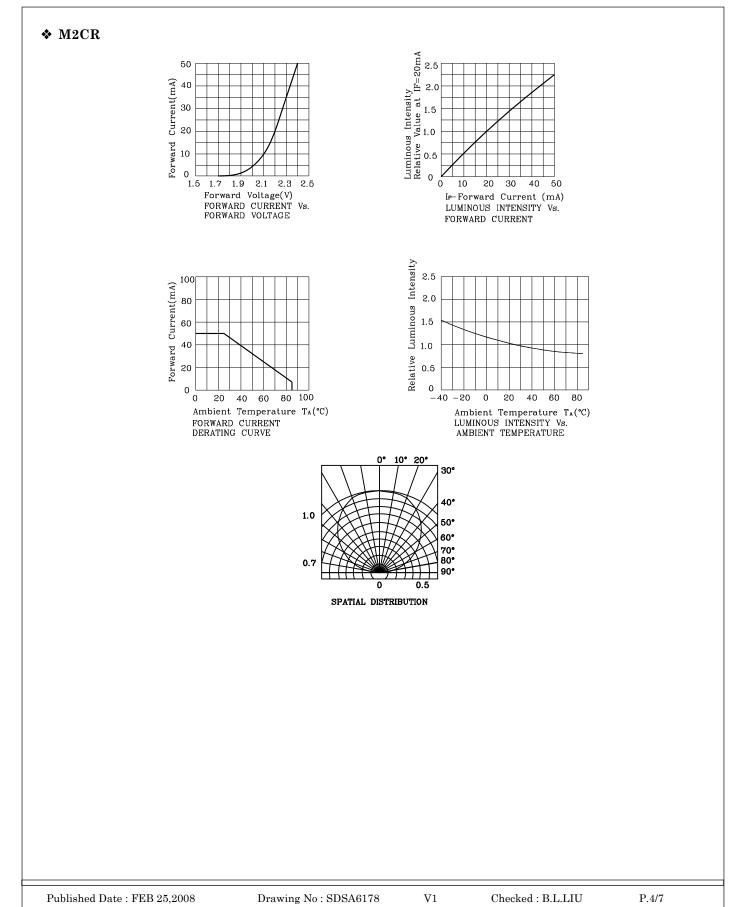
3.5x2.8mm SURFACE MOUNT SMD CHIP LED





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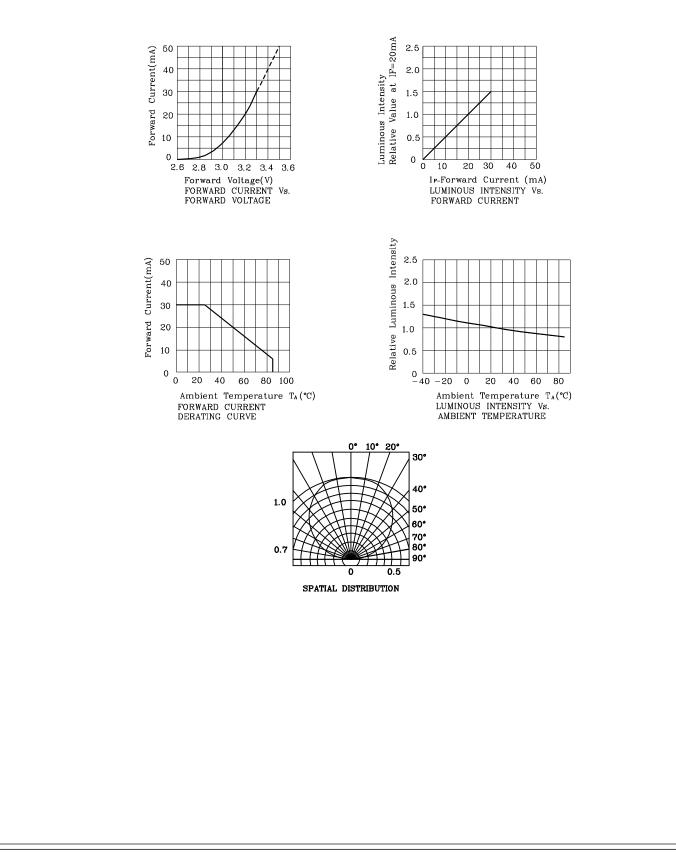




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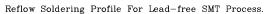
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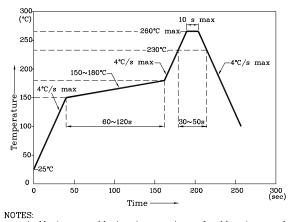
## ♦ M2BG





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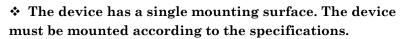
1. Maximum soldering temperature should not exceed 260°c.

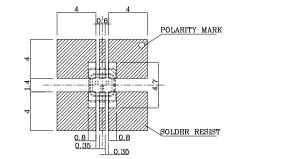
2. Recommended reflow temperature: 145°c-260°c.

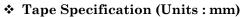
3. Do not put stress to the epoxy resin during high

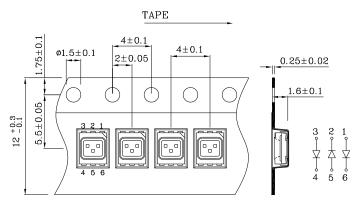
temperatures conditions.

Recommended Soldering Pattern (Units : mm;Tolerance: ±0.1)









### Remarks:

If special sorting is required (e.g. binning based on forward voltage, Luminous intensity / luminous flux, or wavelength), the typical accuracy of the sorting process is as follows:

- 1. Wavelength: +/-1nm
- 2. Luminous Intensity / Luminous Flux: +/-15%
- 3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

Checked : B.L.LIU

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