

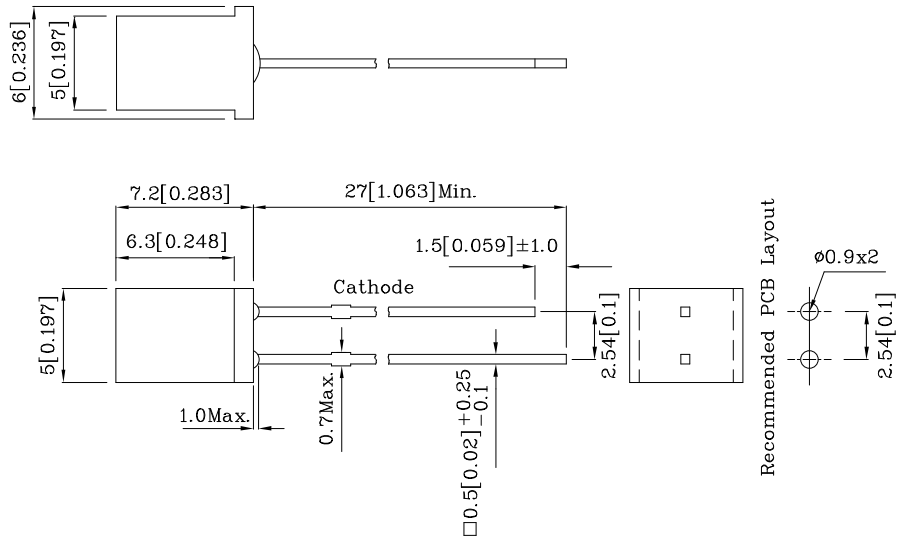
### Features

- Radial / Through hole package
- Reliable & robust
- Low power consumption
- Available on tape and reel
- RoHS Compliant



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

### Package Schematics



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

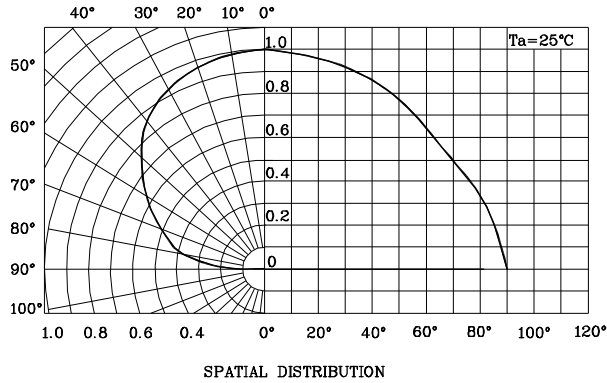
Absolute Maximum Ratings (T <sub>A</sub> =25°C)		Ice Blue (InGaN)	Unit
Reverse Voltage	V <sub>R</sub>	5	V
Forward Current	I <sub>F</sub>	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	i <sub>FS</sub>	100	mA
Power Dissipation	P <sub>D</sub>	120	mW
Operating Temperature	T <sub>A</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85	
Electrostatic Discharge Threshold (HBM)		250	V
Lead Solder Temperature [2mm Below Package Base]	260°C For 3 Seconds		
Lead Solder Temperature [5mm Below Package Base]	260°C For 5 Seconds		

Operating Characteristics (T <sub>A</sub> =25°C)		Ice Blue (InGaN)	Unit
Forward Voltage (Typ.) (I <sub>F</sub> =20mA)	V <sub>F</sub>	3.3	V
Forward Voltage (Max.) (I <sub>F</sub> =20mA)	V <sub>F</sub>	4.0	V
Reverse Current (Max.) (V <sub>R</sub> =5V)	I <sub>R</sub>	50	uA
Chromaticity Coordinates (Typ.)	x	0.18	
	y	0.29	
Capacitance (Typ.) (V <sub>F</sub> =0V, f=1MHz)	C	100	pF

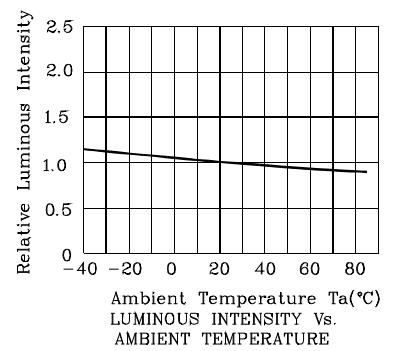
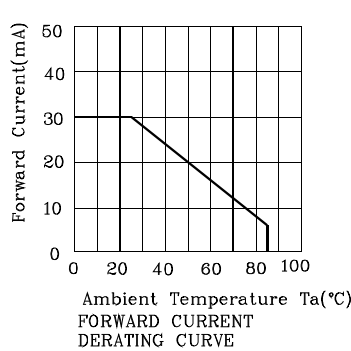
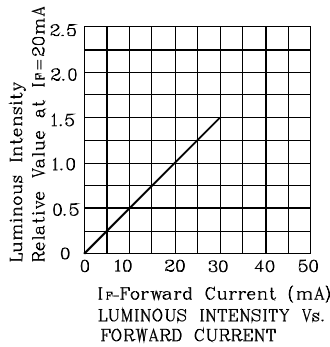
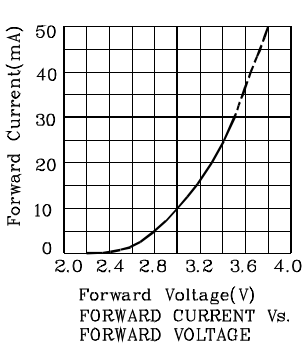
A Relative Humidity between 40% and 60% is recommended in ESD-protected work areas to reduce static build up during assembly process (Reference JEDEC/JESD625-A and JEDEC/J-STD-033)

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I <sub>F</sub> =20mA) mcd	Viewing Angle 2θ 1/2
				min.      typ.	
XSFERS23MBBA	Ice Blue	InGaN	White Triple Diffused	120*	258*      140°

\*Luminous intensity value is in accordance with CIE127-2007 standards.



❖ Ice Blue



Wave Soldering Profile For Thru-Hole Products (Pb-Free Components)



Notes:

- 1.Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- 2.Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
- 3.Do not apply stress to the epoxy resin while the temperature is above 85°C.
- 4.Fixtures should not incur stress on the component when mounting and during soldering process.
- 5.SAC 305 solder alloy is recommended.
- 6.No more than one wave soldering pass.

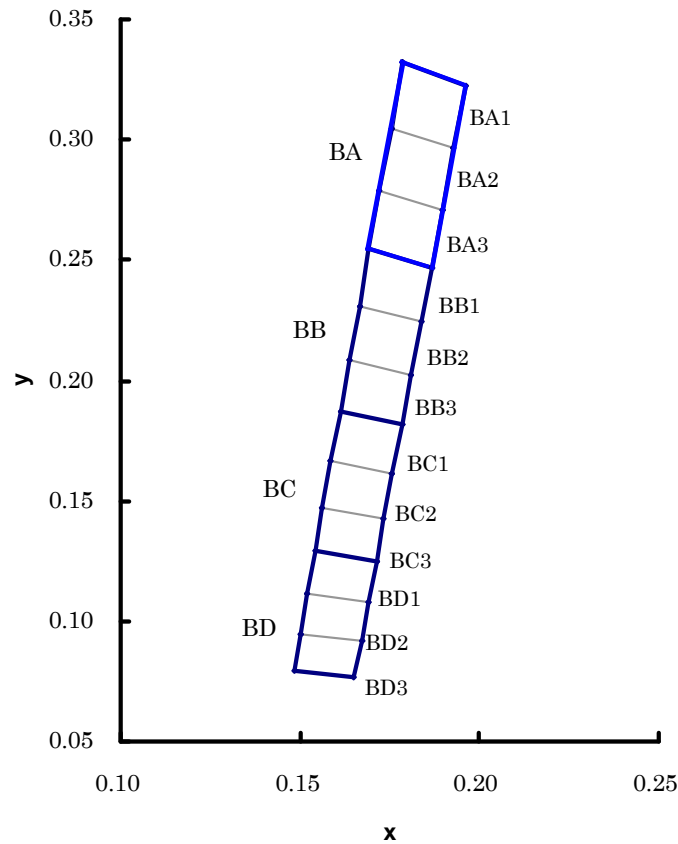
Remarks:

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

1. Measurement tolerance of the chromaticity coordinates is  $\pm 0.02$ .
2. Luminous Intensity/ Luminous Flux:  $\pm 15\%$
3. Forward Voltage:  $\pm 0.1\text{V}$

Note: Accuracy may depend on the sorting parameters.

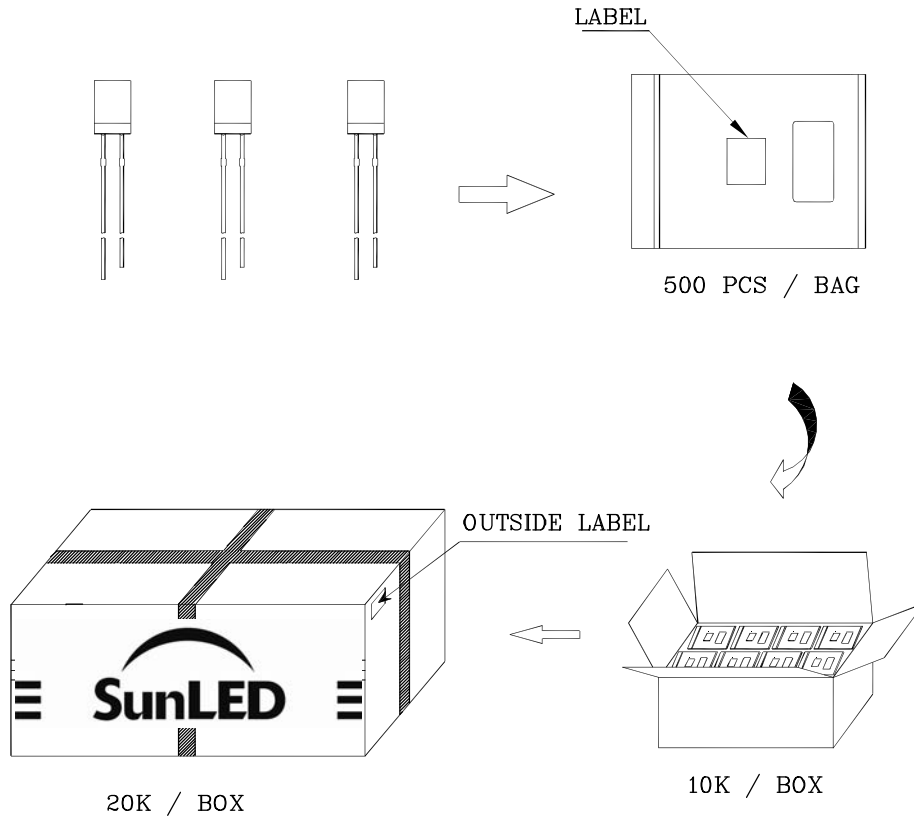

XSFRS23MBBA




Bin code	x	y	Bin code	x	y	Bin code	x	y	Bin code	x	y
BA1	0.1786	0.3318	BB1	0.1693	0.2543	BC1	0.1612	0.1870	BD1	0.1542	0.1288
	0.1754	0.3048		0.1665	0.2308		0.1587	0.1666		0.1521	0.1114
	0.1928	0.2964		0.1837	0.2241		0.1758	0.1615		0.1691	0.1077
	0.1961	0.3228		0.1866	0.2471		0.1783	0.1814		0.1712	0.1247
BA2	0.1754	0.3048	BB2	0.1665	0.2308	BC2	0.1587	0.1666	BD2	0.1521	0.1114
	0.1723	0.2790		0.1638	0.2084		0.1564	0.1473		0.1501	0.0948
	0.1896	0.2712		0.1810	0.2022		0.1735	0.1427		0.1670	0.0917
	0.1928	0.2964		0.1837	0.2241		0.1758	0.1615		0.1691	0.1077
BA3	0.1723	0.2790	BB3	0.1638	0.2084	BC3	0.1564	0.1473	BD3	0.1501	0.0948
	0.1693	0.2543		0.1612	0.1870		0.1542	0.1288		0.1482	0.0791
	0.1866	0.2471		0.1783	0.1814		0.1712	0.1247		0.1651	0.0765
	0.1896	0.2712		0.1810	0.2022		0.1735	0.1427		0.1670	0.0917

Notes:  
 Shipment may contain more than one chromaticity regions.  
 Orders for single chromaticity region are generally not accepted.  
 Measurement tolerance of the chromaticity coordinates is  $\pm 0.02$ .

**PACKING & LABEL SPECIFICATIONS**

	Q.C. Q C XX XX XXXX PASSED
P/N0 : XSxxx23x	
QTY : 500 pcs	CODE: XXX
S/N : XX	
LOT NO:	
 XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
RoHS Compliant	

**TERMS OF USE**

1. Data presented in this document reflect statistical figures and should be treated as technical reference only.
2. Contents within this document are subject to improvement and enhancement changes without notice.
3. The product(s) in this document are designed to be operated within the electrical and environmental specifications indicated on the datasheet. User accepts full risk and responsibility when operating the product(s) beyond their intended specifications.
4. The product(s) described in this document are intended for electronic applications in which a person's life is not reliant upon the LED. Please consult with a SunLED representative for special applications where the LED may have a direct impact on a person's life.
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6. Additional technical notes are available at <http://www.SunLEDusa.com/TechnicalNotes.asp>