

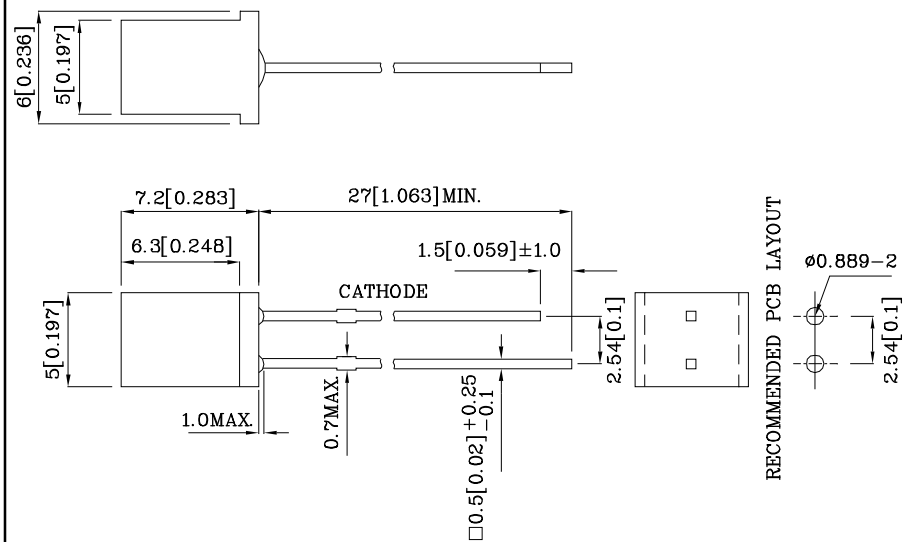
**Features**

- 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:**

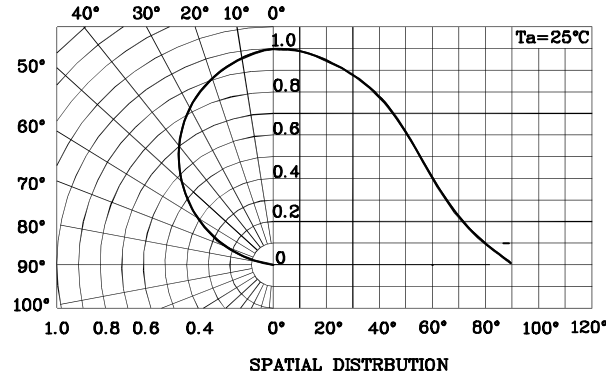
1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Specifications are subject to change without notice.

Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ )		FRS (InGaN)	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	30	mA
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	$i_{FS}$	100	mA
Power Dissipation	$P_D$	120	mW
Electrostatic Discharge Threshold (HBM)		250	V
Operating Temperature	$T_A$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +85	
Lead Solder Temperature [2mm Below Package Base]		260°C For 3 Seconds	
Lead Solder Temperature [5mm Below Package Base]		260°C For 5 Seconds	

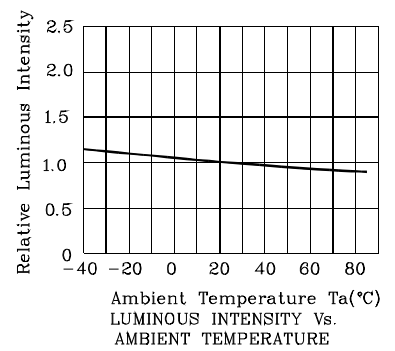
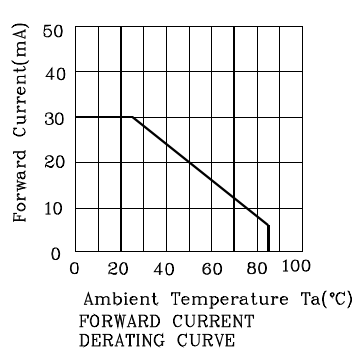
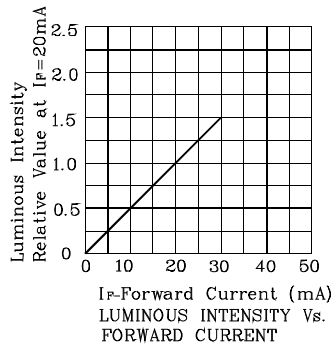
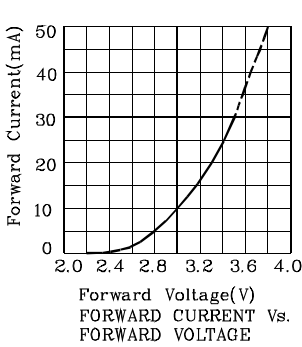
Operating Characteristics ( $T_A=25^\circ\text{C}$ )		FRS (InGaN)	Unit
Forward Voltage (Typ.) ( $I_F=20\text{mA}$ )	$V_F$	3.3	V
Forward Voltage (Max.) ( $I_F=20\text{mA}$ )	$V_F$	4.0	V
Reverse Current (Max.) ( $V_R=5\text{V}$ )	$I_R$	50	uA
Chromaticity Coordinates (Typ.)	x	0.35	
	y	0.15	
Capacitance (Typ.) ( $V_F=0\text{V}$ , $f=1\text{MHz}$ )	C	100	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* ( $I_F=20\text{mA}$ ) mcd		Viewing Angle 2θ 1/2
				min.	typ.	
XSFERS23MBVC	Pink	InGaN	White Triple Diffused	40*	79*	110°

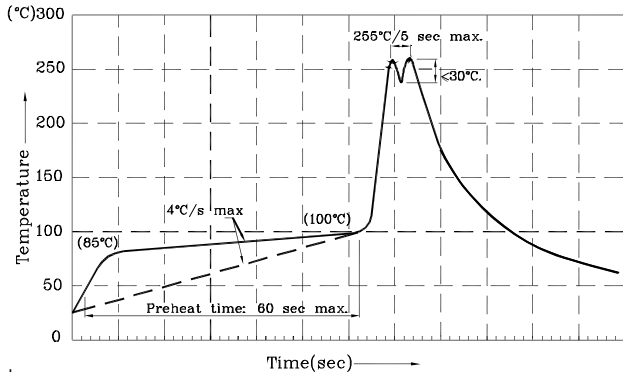
\*Luminous intensity value is in accordance with CIE127-2007 standards.



❖ FRS



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:

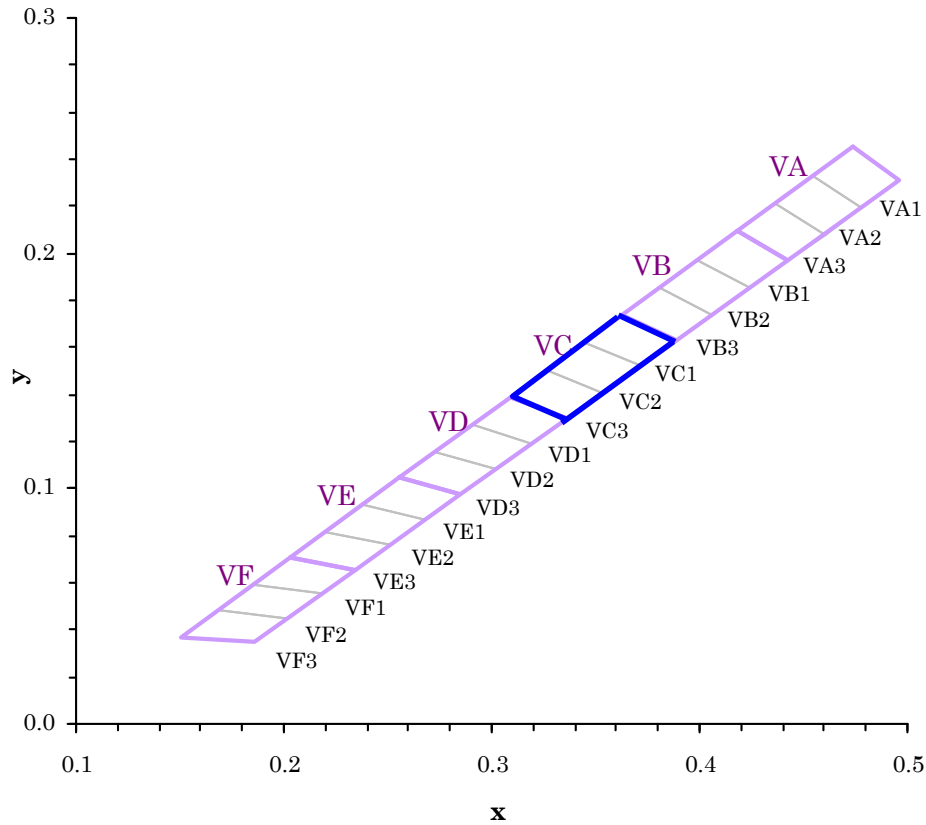
If special sorting is required (e.g. binning based on forward voltage, luminous intensity/ luminous flux or chromaticity), the typical accuracy of the sorting process is as follows:

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

Note: Accuracy may depend on the sorting parameters.

XSFRS23MBVC

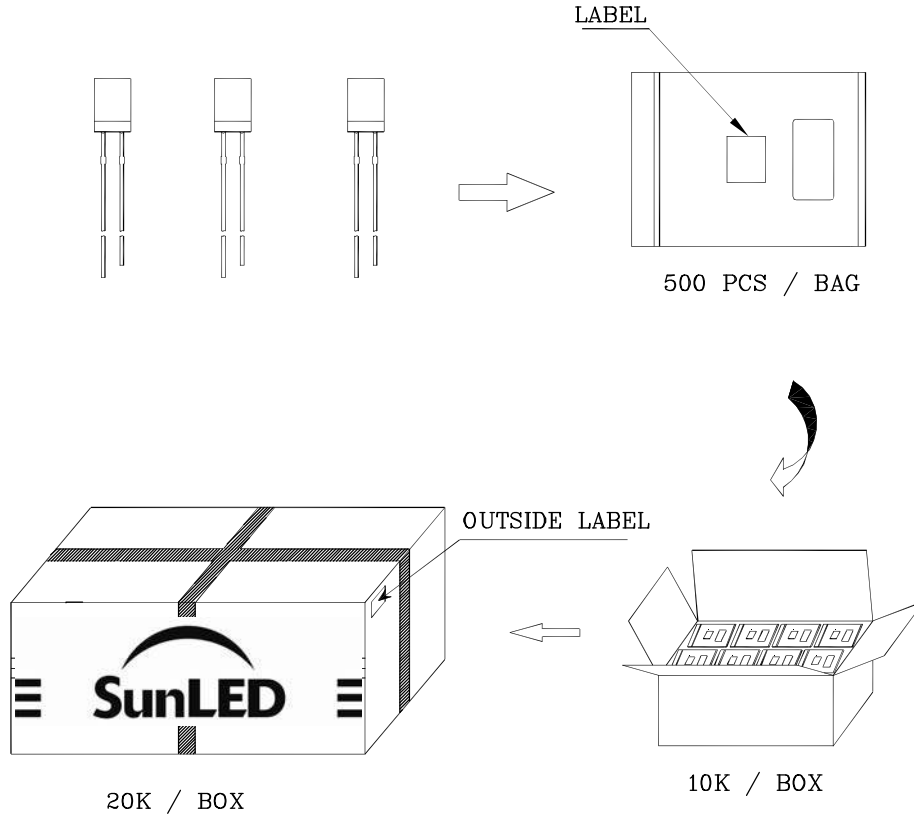
Violet CIE





Bin code	x	y	Bin code	x	y	Bin code	x	y
VA1	0.4735	0.2451	VC1	0.3629	0.1737	VE1	0.2556	0.1044
	0.4548	0.2330		0.3448	0.1620		0.2380	0.0931
	0.4783	0.2194		0.3713	0.1518		0.2682	0.0867
	0.4964	0.2309		0.3888	0.1629		0.2850	0.0973
VA2	0.4548	0.2330	VC2	0.3448	0.1620	VE2	0.2380	0.0931
	0.4363	0.2211		0.3267	0.1504		0.2205	0.0818
	0.4602	0.2080		0.3538	0.1408		0.2514	0.0761
VA3	0.4783	0.2194	VC3	0.3713	0.1518	VE3	0.2682	0.0867
	0.4363	0.2211		0.3267	0.1504		0.2205	0.0818
	0.4178	0.2091		0.3088	0.1388		0.2030	0.0705
VB1	0.4422	0.1966	VD1	0.3364	0.1298	VF1	0.2347	0.0656
	0.4602	0.2080		0.3538	0.1408		0.2514	0.0761
	0.4178	0.2091		0.3088	0.1388		0.2030	0.0705
	0.3994	0.1973		0.2910	0.1273		0.1857	0.0593
VB2	0.4243	0.1853	VD2	0.3192	0.1189	VF2	0.2182	0.0551
	0.4422	0.1966		0.3364	0.1298		0.2347	0.0656
	0.3994	0.1973		0.2910	0.1273		0.1857	0.0593
VB3	0.3811	0.1855	VD3	0.2732	0.1158	VF3	0.1683	0.0481
	0.4065	0.1741		0.3021	0.1081		0.2018	0.0448
	0.4243	0.1853		0.3192	0.1189		0.2182	0.0551
	0.3811	0.1855		0.2732	0.1158		0.1683	0.0481
VF1	0.3629	0.1737	VD3	0.2556	0.1044	VF3	0.1510	0.0369
	0.3888	0.1629		0.2850	0.0973		0.1856	0.0345
	0.4065	0.1741		0.3021	0.1081		0.2018	0.0448

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**



		<table border="1"> <tr><td>Q.C.</td></tr> <tr><td>Q C</td></tr> <tr><td>XX XX XXXX</td></tr> <tr><td>PASSED</td></tr> </table>	Q.C.	Q C	XX XX XXXX	PASSED
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>