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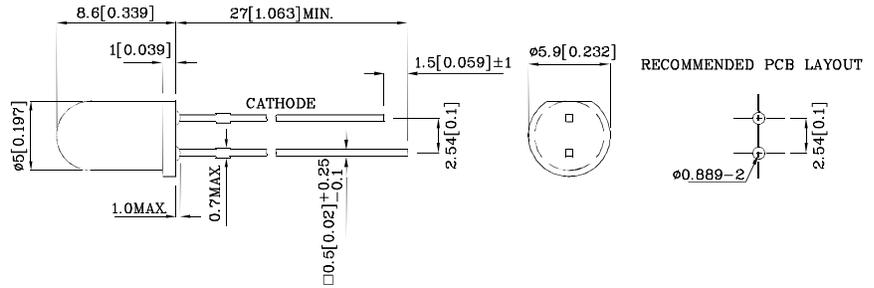
Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

| Absolute Maximum Ratings (T$_A$=25°C)		FWS (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
Operating Temperature	T$_A$	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +85	°C
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$_A$=25°C)		FWS (InGaN)	Unit
Forward Voltage (Typ.) (I$_F$=20mA)	V$_F$	3.3	V
Forward Voltage (Max.) (I$_F$=20mA)	V$_F$	4	V
Reverse Current (Max.) (V$_R$=5V)	I$_R$	50	uA
Chromaticity Coordinates (Typ.)	x	0.31	
	y	0.31	
Capacitance (Typ.) (V$_F$=0V, f=1MHz)	C	100	pF

Part Number	Emitting Color	Emitting Material	Lens-color	Luminous Intensity CIE127-2007* (I$_F$=20mA) mcd		Viewing Angle 2θ 1/2
				min.	typ.	
XLFWS12W	White	InGaN	Water Clear	7000*	9990*	20°

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

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SPATIAL DISTRBUTION

❖ **FWS**

FORWARD CURRENT Vs.
FORWARD VOLTAGE

LUMINOUS INTENSITY Vs.
FORWARD CURRENT

FORWARD CURRENT
DERATING CURVE

LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE
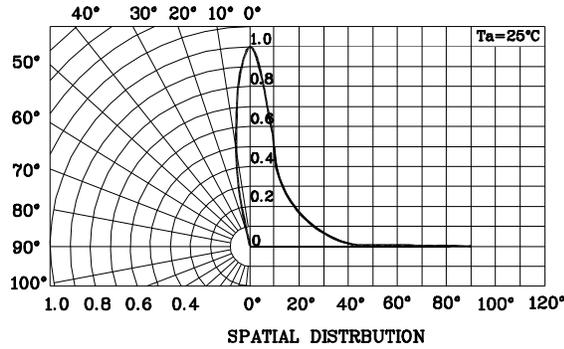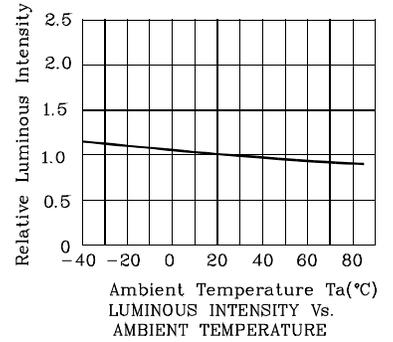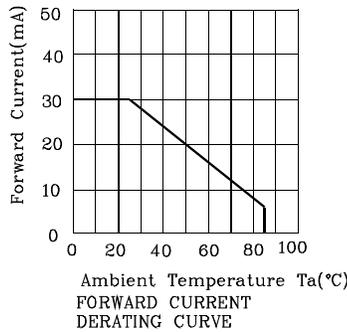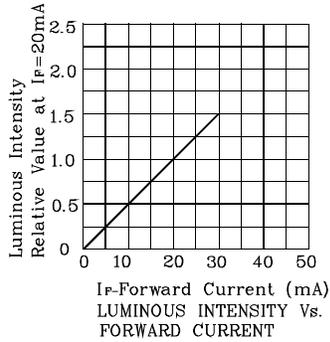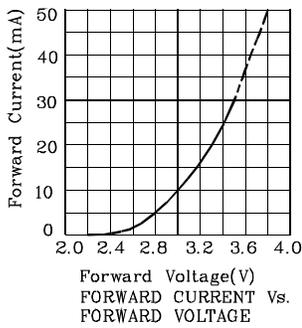
Wave Soldering Profile For Thru-Hole Products (Pb-Free Components)
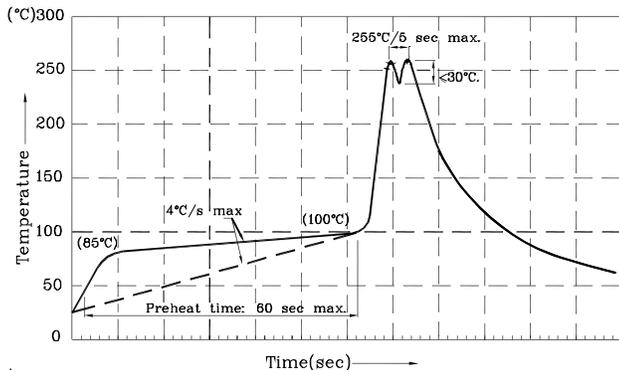
Notes:
1. Recommend pre-heat temperature of 105℃ or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260℃
2. Peak wave soldering temperature between 245℃ ~ 255℃ for 3 sec (5 sec max).
3. Do not apply stress to the epoxy resin while the temperature is above 85℃.
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 ±0.02.

2. Luminous Intensity / Luminous Flux: +/-15%

3. Forward Voltage: +/-0.1V

Note: Accuracy may depend on the sorting parameters.

XLFWS12W

White CIE
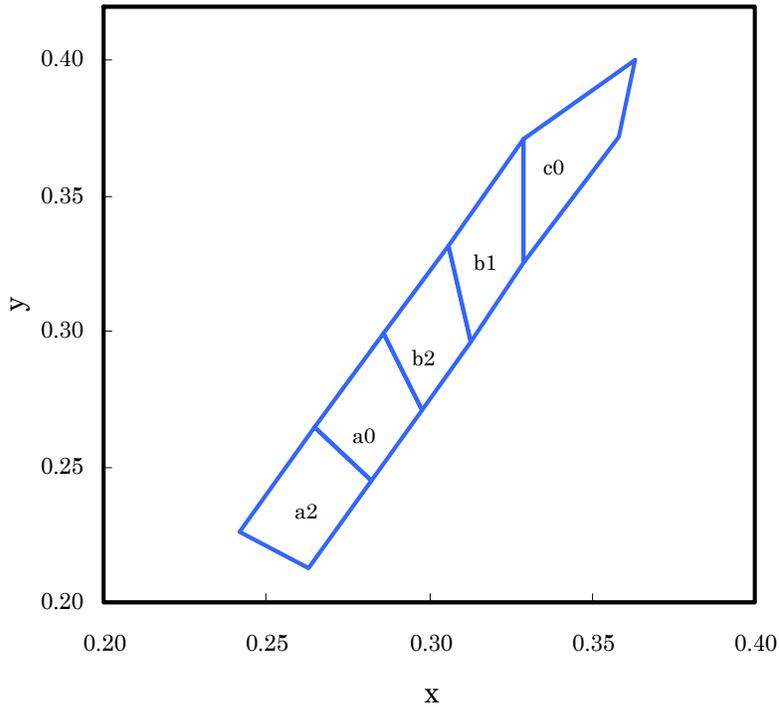
|	x	y		x	y		x	y
a2	0.263	0.213	a0	0.282	0.245	b2	0.298	0.271
	0.282	0.245		0.298	0.271		0.313	0.296
	0.265	0.265		0.286	0.299		0.306	0.332
	0.242	0.226		0.265	0.265		0.286	0.299
b1	0.313	0.296	c0	0.329	0.325			
	0.329	0.325		0.358	0.372			
	0.329	0.371		0.363	0.400			
	0.306	0.332		0.329	0.371			

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 ±0.02.

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PACKING & LABEL SPECIFICATIONS

P. 4/4

LABEL

500PCS/BAG

OUTSIDE LABEL

20K/BOX

10K/BOX

Q.C.

Q C
XX XX. XXXX
PASSED
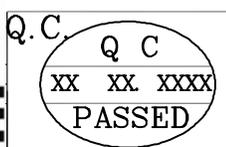
P/NO : XLxx12x

QTY : 500 pcs   CODE: XXX

S/N : XX

LOT NO:

XXXXXXXXXXXXXXXXXXXXXXX

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.
5. The contents within this document may not be altered without prior consent by SunLED.
6. Additional technical notes are available at http://www.SunLEDusa.com/TechnicalNotes.asp