

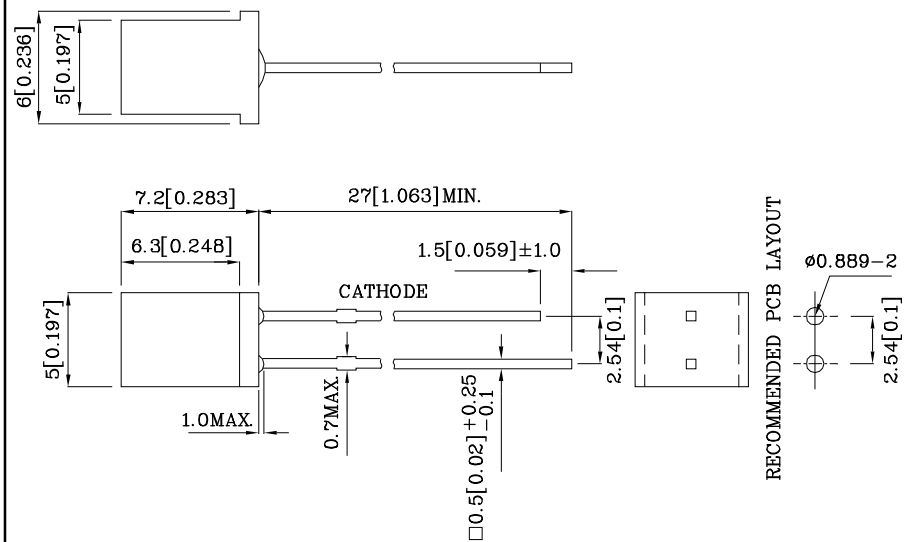
Features

- 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:

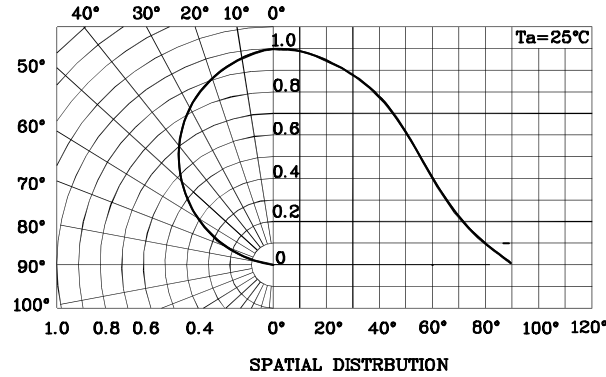
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Specifications are subject to change without notice.

| Absolute Maximum Ratings (T _A =25°C) | | 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 |
| Operating Temperature | T _A | -40 ~ +85 | °C |
| Storage Temperature | T _{stg} | -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 | | |

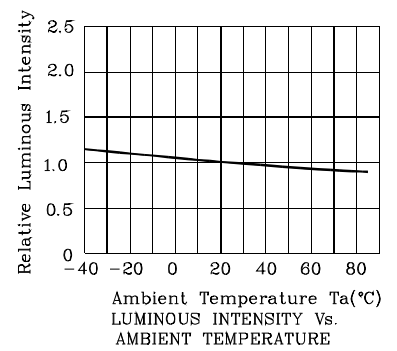
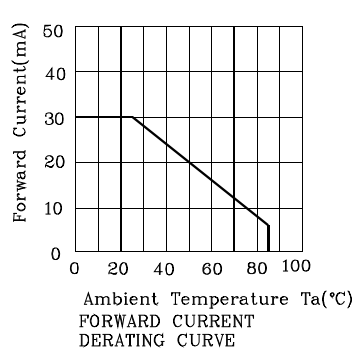
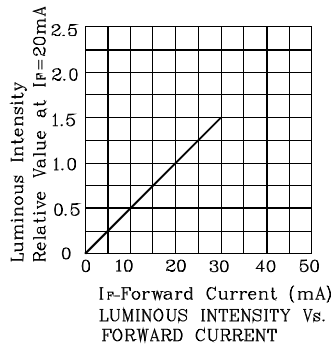
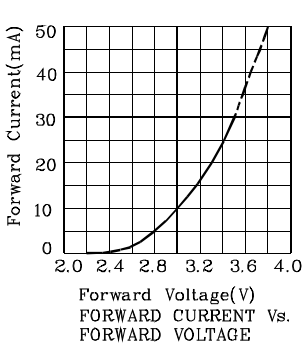
| Operating Characteristics (T _A =25°C) | | FRS (InGaN) | Unit |
|---|----------------|----------------|------|
| Forward Voltage (Typ.) (I _F =20mA) | V _F | 3.3 | V |
| Forward Voltage (Max.) (I _F =20mA) | V _F | 4.0 | V |
| Reverse Current (Max.) (V _R =5V) | I _R | 50 | uA |
| Chromaticity Coordinates (Typ.) | x | 0.20 | |
| | y | 0.46 | |
| 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. | |
| XSFERS23MBCA | Cyan | InGaN | White Triple Diffused | 120* | 297* | 110° |

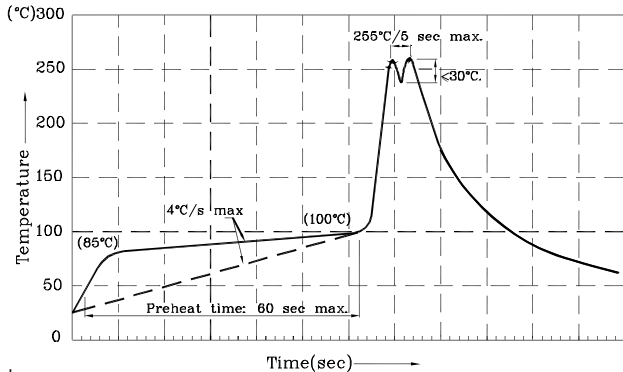
*Luminous intensity value is in accordance with CIE127-2007 standards.



❖ 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.

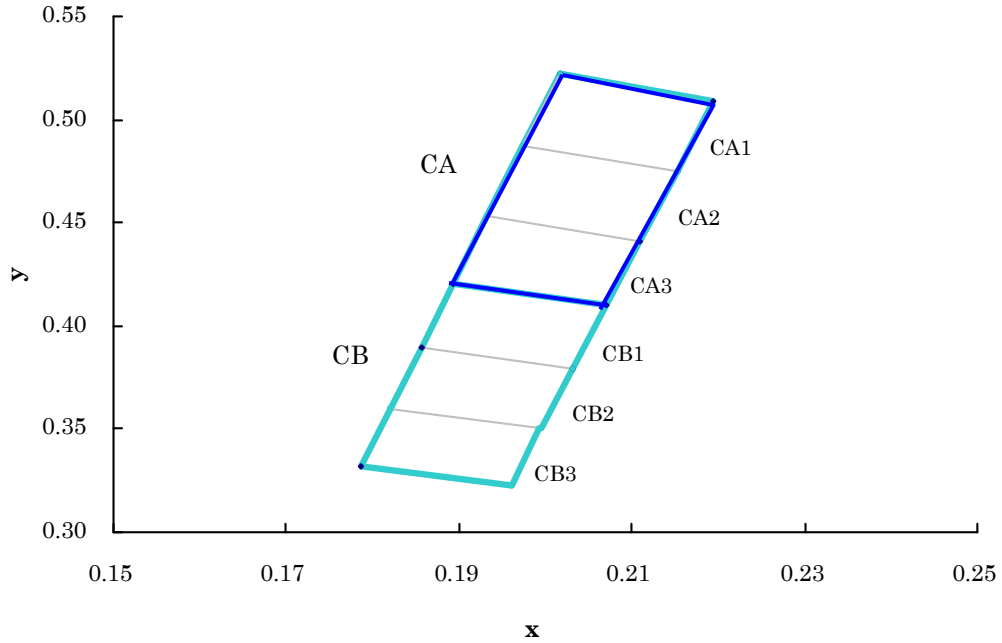
Remarks:

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 ± 0.02 .
2. Luminous Intensity/ Luminous Flux: $\pm 15\%$
3. Forward Voltage: $\pm 0.1V$

Note: Accuracy may depend on the sorting parameters.

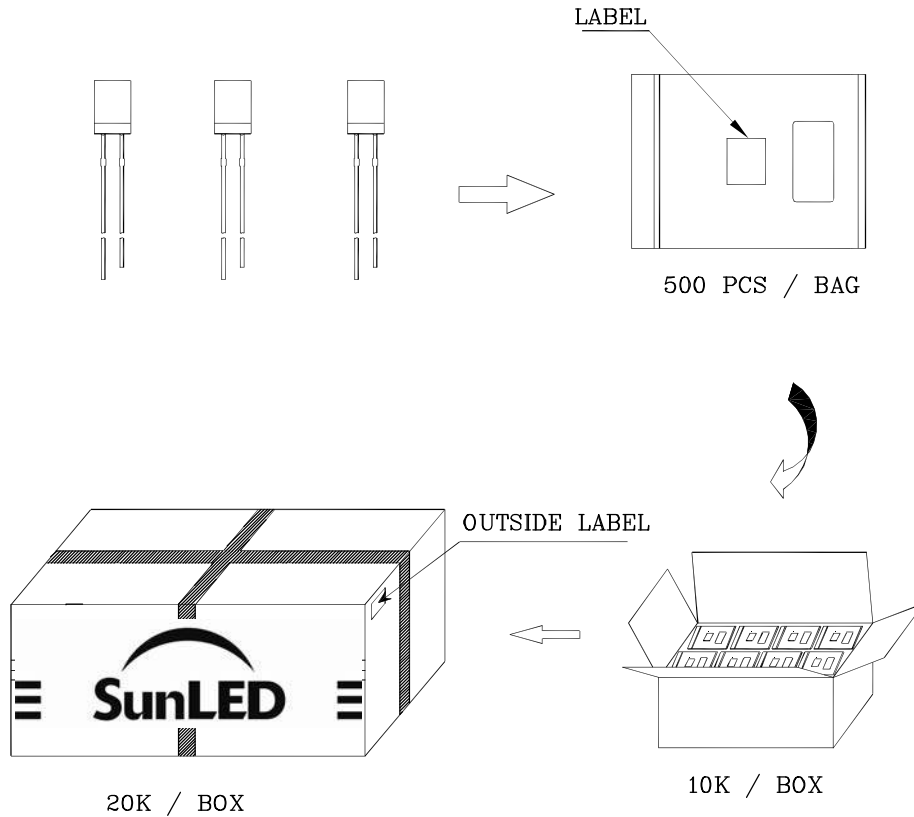

XSFRS23MBCA

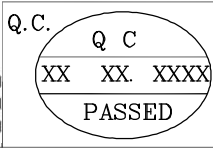



| Bin code | x | y | Bin code | x | y |
|----------|--------|--------|----------|--------|--------|
| CA1 | 0.2016 | 0.5221 | CB1 | 0.1894 | 0.4206 |
| | 0.1973 | 0.4868 | | 0.1856 | 0.3897 |
| | 0.2152 | 0.4744 | | 0.2032 | 0.3794 |
| | 0.2195 | 0.5089 | | 0.2070 | 0.4097 |
| CA2 | 0.1973 | 0.4868 | CB2 | 0.1856 | 0.3897 |
| | 0.1933 | 0.4530 | | 0.1821 | 0.3601 |
| | 0.2110 | 0.4413 | | 0.1996 | 0.3505 |
| | 0.2152 | 0.4744 | | 0.2032 | 0.3794 |
| CA3 | 0.1933 | 0.4530 | CB3 | 0.1821 | 0.3601 |
| | 0.1894 | 0.4206 | | 0.1786 | 0.3318 |
| | 0.2070 | 0.4097 | | 0.1961 | 0.3228 |
| | 0.2110 | 0.4413 | | 0.1996 | 0.3505 |

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 .

PACKING & LABEL SPECIFICATIONS

| | |
|--|-----------|
|  | |
| 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.
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