

| <b>Order code</b> | <b>Manufacturer code</b> | <b>Description</b>                  |
|-------------------|--------------------------|-------------------------------------|
| 55-2490           | L-7113PWW-A              | L-7113PWW-A LED 5MM WHITE DIFF'D RC |

|  |                          |
|--|--------------------------|
|  | Page 1 of 5              |
| The enclosed information is believed to be correct, Information may change without notice due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E. | Revision A<br>20/02/2007 |

PRELIMINARY SPEC

Part Number: L-7113PWW-A

WHITE



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

### Features

- LOW POWER CONSUMPTION.
- POPULAR T-1 3/4 DIAMETER PACKAGE.
- GENERAL PURPOSE LEADS.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.
- RoHS COMPLIANT.

### Description

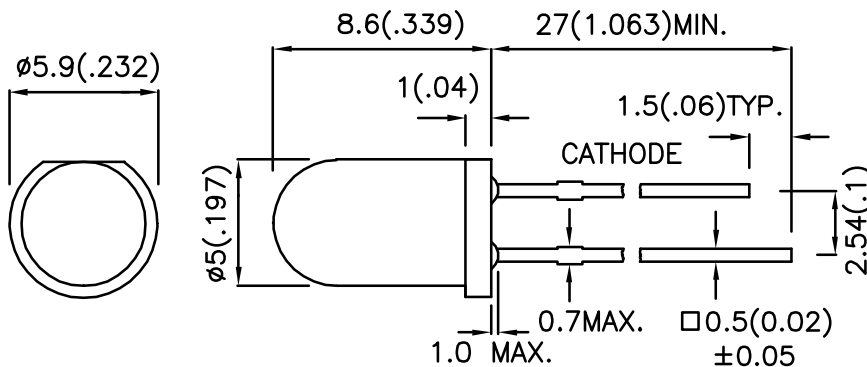
The source color devices are made with InGaN on SiC Light Emitting Diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.



## Selection Guide

| Part No.    | Dice          | Lens Type      | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-------------|---------------|----------------|------------------------|------|----------------------|
|             |               |                | Min.                   | Typ. | 2 θ 1/2              |
| L-7113PWW-A | WHITE (InGaN) | WHITE DIFFUSED | 380                    | 1000 | 30°                  |

Notes:

- 1.θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
- 2.Luminous Intensity / Luminous Flux: +/-15%

## Electrical / Optical Characteristics at TA=25°C

| Symbol             | Parameter                | Device | Typ. | Max. | Units | Test Conditions           |
|--------------------|--------------------------|--------|------|------|-------|---------------------------|
| V <sub>F</sub> [1] | Forward Voltage          | White  | 3.2  | 4.0  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>     | Reverse Current          | White  |      | 10   | uA    | V <sub>R</sub> = 5V       |
| X [2]              | Chromaticity Coordinates | White  | 0.31 |      |       |                           |
| Y [2]              |                          |        | 0.31 |      |       |                           |
| C                  | Capacitance              | White  | 100  |      | pF    | V <sub>F</sub> =0V;f=1MHz |

Notes:

1. Forward Voltage: +/-0.1V.
2. Measurement tolerance of the chromaticity coordinates is ±0.02.

## Absolute Maximum Ratings at TA=25°C

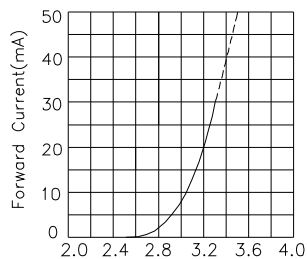
| Parameter                     | White               | Units |
|-------------------------------|---------------------|-------|
| Power dissipation             | 120                 | mW    |
| DC Forward Current            | 30                  | mA    |
| Peak Forward Current [1]      | 100                 | mA    |
| Reverse Voltage               | 5                   | V     |
| Operating/Storage Temperature | -40°C To +85°C      |       |
| Lead Solder Temperature [2]   | 260°C For 3 Seconds |       |
| Lead Solder Temperature [3]   | 260°C For 5 Seconds |       |

Notes:

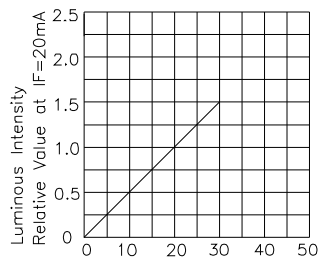
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.

White

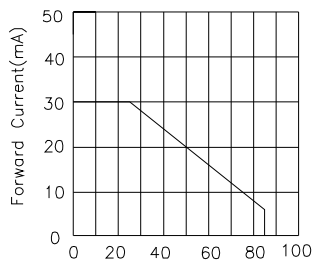
L-7113PWW-A



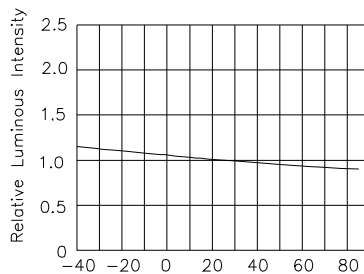
Forward Voltage(V)  
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



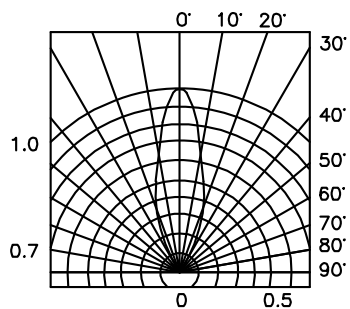
If-Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



Ambient Temperature  $T_A$  (°C)  
FORWARD CURRENT  
DERATING CURVE



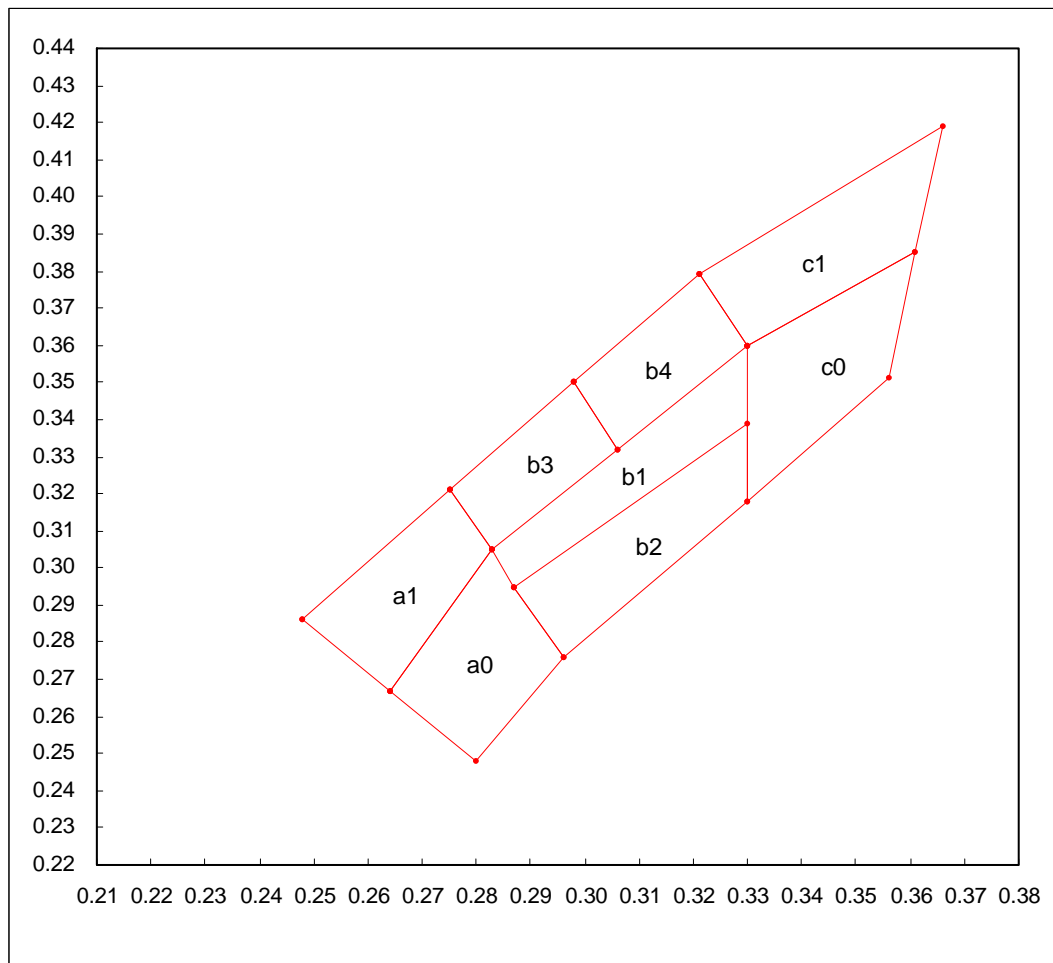
Ambient Temperature  $T_A$  (°C)  
LUMINOUS INTENSITY Vs.  
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

L-7113PWW-A

## White CIE



| a0                         |       |       |       |       |
|----------------------------|-------|-------|-------|-------|
| X                          | 0.264 | 0.283 | 0.296 | 0.280 |
| Y                          | 0.267 | 0.305 | 0.276 | 0.248 |
| Reference CCT: 14000~9000k |       |       |       |       |

| a1                         |       |       |       |       |
|----------------------------|-------|-------|-------|-------|
| X                          | 0.248 | 0.275 | 0.283 | 0.264 |
| Y                          | 0.286 | 0.321 | 0.305 | 0.267 |
| Reference CCT: 14000~9000k |       |       |       |       |

| b1                        |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| X                         | 0.283 | 0.330 | 0.330 | 0.287 |
| Y                         | 0.305 | 0.360 | 0.339 | 0.295 |
| Reference CCT: 9000~5600k |       |       |       |       |

| b2                        |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| X                         | 0.287 | 0.330 | 0.330 | 0.296 |
| Y                         | 0.295 | 0.339 | 0.318 | 0.276 |
| Reference CCT: 9000~5600k |       |       |       |       |

| b3                        |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| X                         | 0.275 | 0.298 | 0.306 | 0.283 |
| Y                         | 0.321 | 0.350 | 0.332 | 0.305 |
| Reference CCT: 9000~7000k |       |       |       |       |

| b4                        |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| X                         | 0.298 | 0.321 | 0.330 | 0.306 |
| Y                         | 0.350 | 0.379 | 0.360 | 0.332 |
| Reference CCT: 7600~5600k |       |       |       |       |

| c0                        |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| X                         | 0.330 | 0.361 | 0.356 | 0.330 |
| Y                         | 0.360 | 0.385 | 0.351 | 0.318 |
| Reference CCT: 5600~4600k |       |       |       |       |

| c1                        |       |       |       |       |
|---------------------------|-------|-------|-------|-------|
| X                         | 0.321 | 0.366 | 0.361 | 0.330 |
| Y                         | 0.379 | 0.419 | 0.385 | 0.360 |
| Reference CCT: 6000~4600k |       |       |       |       |