Kingbright

**3.2x1.6mm SMD CHIP LED LAMP**

PRELIMINARY SPEC

Part Number: APTL3216PBC/Z Blue



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

## Features

- 3.2mmx1.6mm SMT LED, 1.1mm THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 2000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

## Description

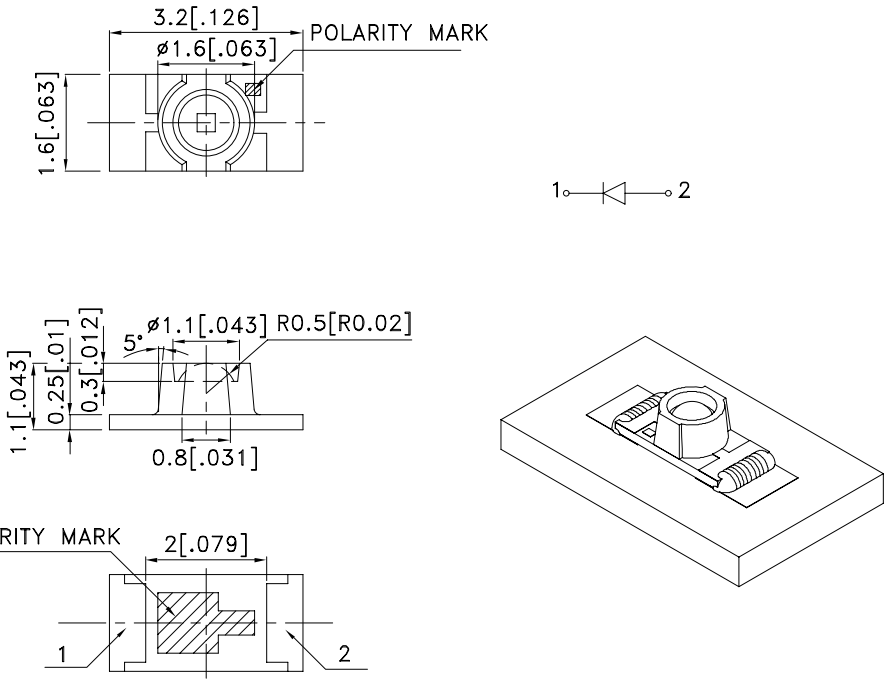
The Blue source color devices are made with InGaN on SiC Light Emitting Diode.

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 ±0.1(0.004") unless otherwise noted.
3.Specifications are subject to change without notice.
4.The device has a single mounting surface. The device must be mounted according to the specifications.

## Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) [2] @ 20mA | | Viewing Angle [1] |
|---|---|---|---|---|---|
| | | | Min. | Typ. | 2θ1/2 |
| APTL3216PBC/Z | Blue (InGaN) | WATER CLEAR | 180 | 400 | 70° |

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

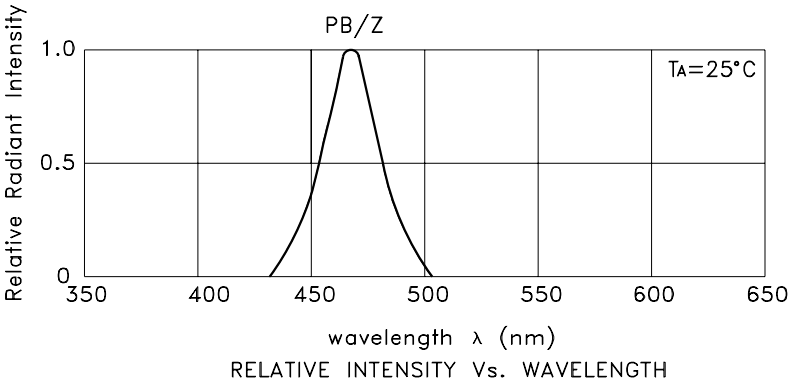
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| λpeak | Peak Wavelength | Blue | 467 | | nm | $I_F$=20mA |
| λD [1] | Dominant Wavelength | Blue | 470 | | nm | $I_F$=20mA |
| Δλ1/2 | Spectral Line Half-width | Blue | 22 | | nm | $I_F$=20mA |
| C | Capacitance | Blue | 110 | | pF | $V_F$=0V;f=1MHz |
| $V_F$ [2] | Forward Voltage | Blue | 3.2 | 4 | V | $I_F$=20mA |
| $I_R$ | Reverse Current | Blue | | 10 | uA | $V_R$=5V |

Notes:
1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

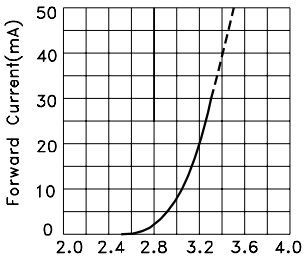
| Parameter | Blue | Units |
|---|---|---|
| Power dissipation | 120 | mW |
| DC Forward Current | 30 | mA |
| Peak Forward Current [1] | 100 | mA |
| Reverse Voltage | 5 | V |
| Operating Temperature | -40°C To +85°C | |
| Storage Temperature | -40°C To +85°C | |

Note:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

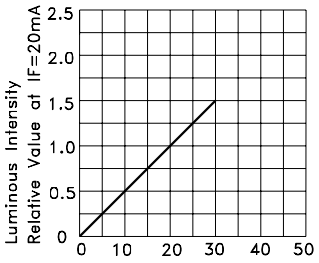


RELATIVE INTENSITY Vs. WAVELENGTH

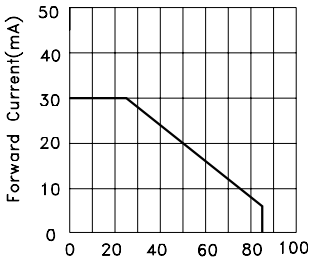
**Blue** **APTL3216PBC/Z**



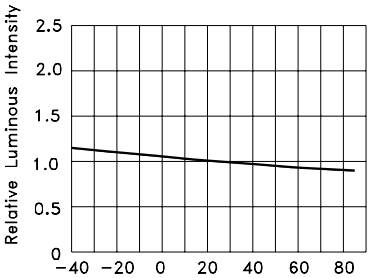
FORWARD CURRENT Vs.
FORWARD VOLTAGE



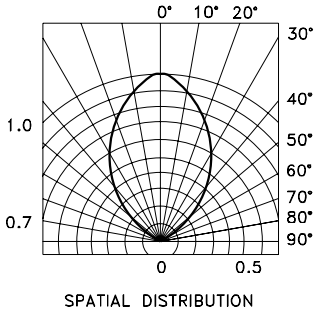
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



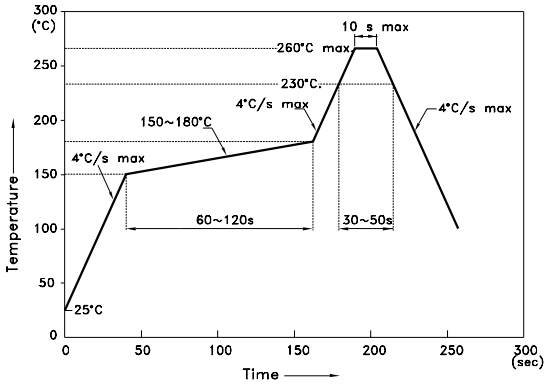
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

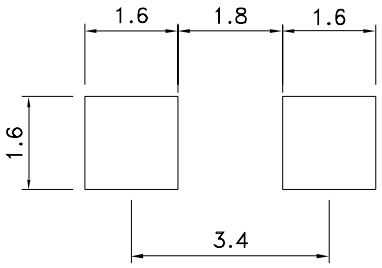
**APTL3216PBC/Z**

Reflow Soldering Profile For Lead-free SMT Process.

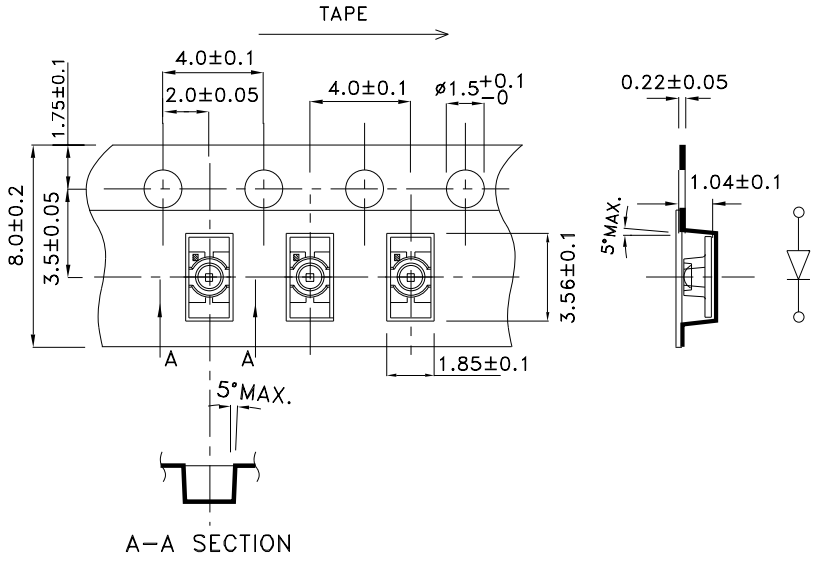



NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

**Recommended Soldering Pattern**
**(Units : mm; Tolerance: ± 0.1)**




**Tape Specifications**
**(Units : mm)**



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**PACKING & LABEL SPECIFICATIONS** **APTL3216PBC/Z**

