

### PRELIMINARY SPEC

Part Number: APHCM2012-ZCR13

Blue



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

### Features

- 2.0X1.25mm SMT LED, 0.5mm MAX. THICKNESS.
- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- IDEAL FOR BACKLIGHT AND INDICATOR.
- VARIOUS COLORS AND LENS TYPES AVAILABLE.
- PACKAGE : 8K PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

### Description

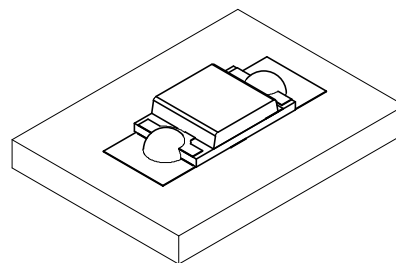
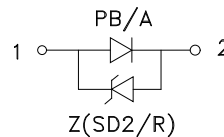
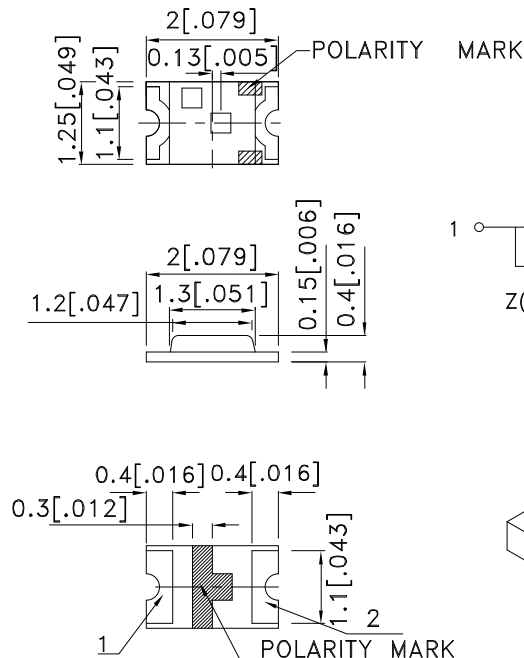
The Blue source color devices are made with InGaN on SiC Light Emitting Diode.

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  $\pm 0.1$  (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]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-----------------|--------------|-------------|------------------------|------|----------------------|
|                 |              |             | Min.                   | Typ. | 2θ1/2                |
| APHCM2012-ZCR13 | Blue (InGaN) | WATER CLEAR | 18                     | 60   | 110°                 |

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   | 468  |      | nm    | If=20mA         |
| λD [1] | Dominant Wavelength      | Blue   | 470  |      | nm    | If=20mA         |
| Δλ1/2  | Spectral Line Half-width | Blue   | 21   |      | nm    | If=20mA         |
| C      | Capacitance              | Blue   | 100  |      | pF    | Vf=0V;f=1MHz    |
| Vf [2] | Forward Voltage          | Blue   | 3.2  | 4.0  | V     | If=20mA         |

Notes:

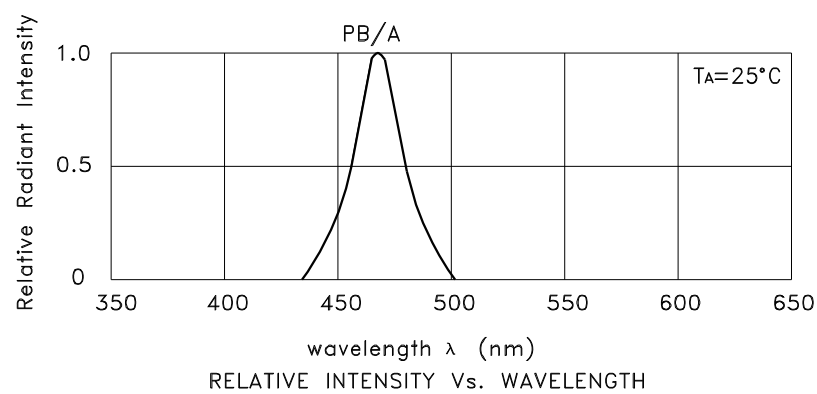
- 1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## 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    |
| Electrostatic Discharge Threshold (HBM) | 5000           | V     |
| Operating Temperature                   | -40°C To +85°C |       |
| Storage Temperature                     | -40°C To +85°C |       |

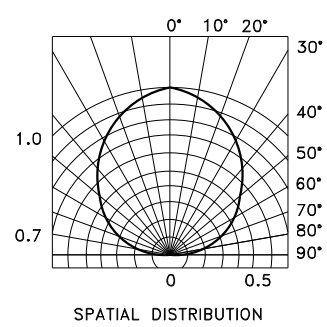
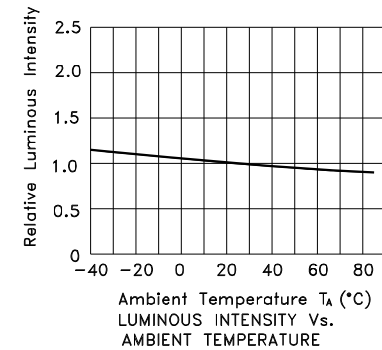
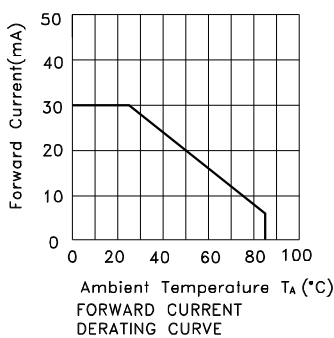
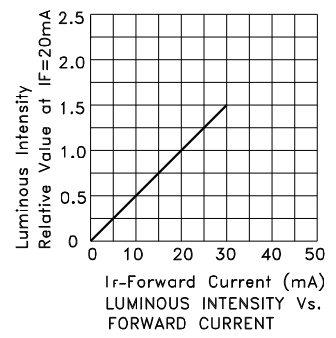
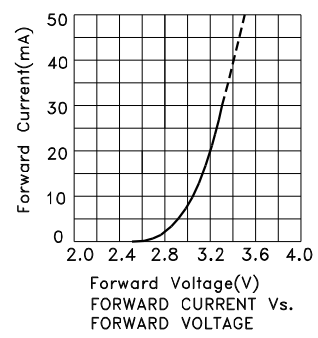
Note:

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



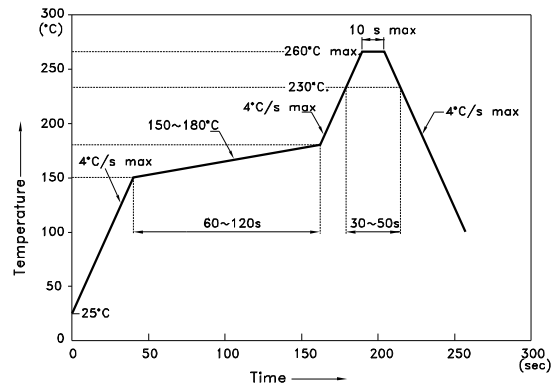
**Blue**

**APHCM2012-ZCR13**



## APHCM2012-ZCR13

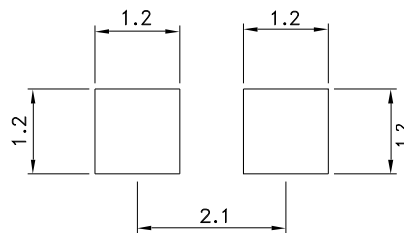
Reflow Soldering Profile For Lead-free SMT Process.



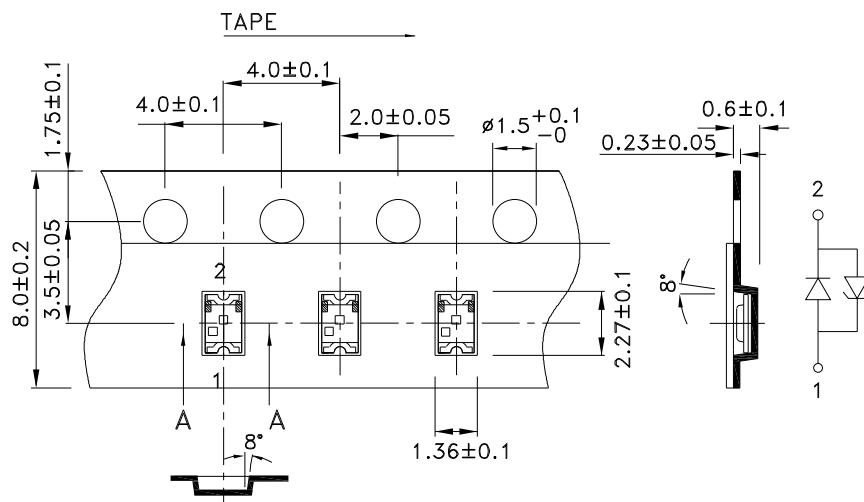
### NOTES:

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: $\pm 0.1$ )

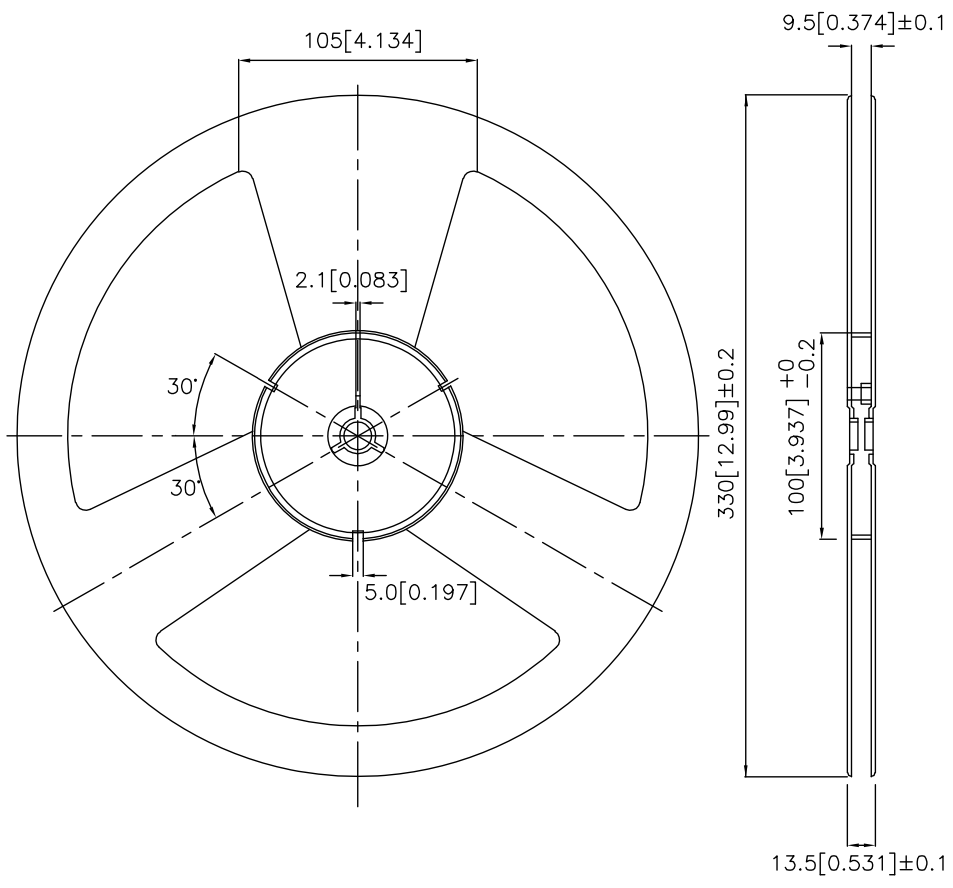


## Tape Specifications (Units : mm)



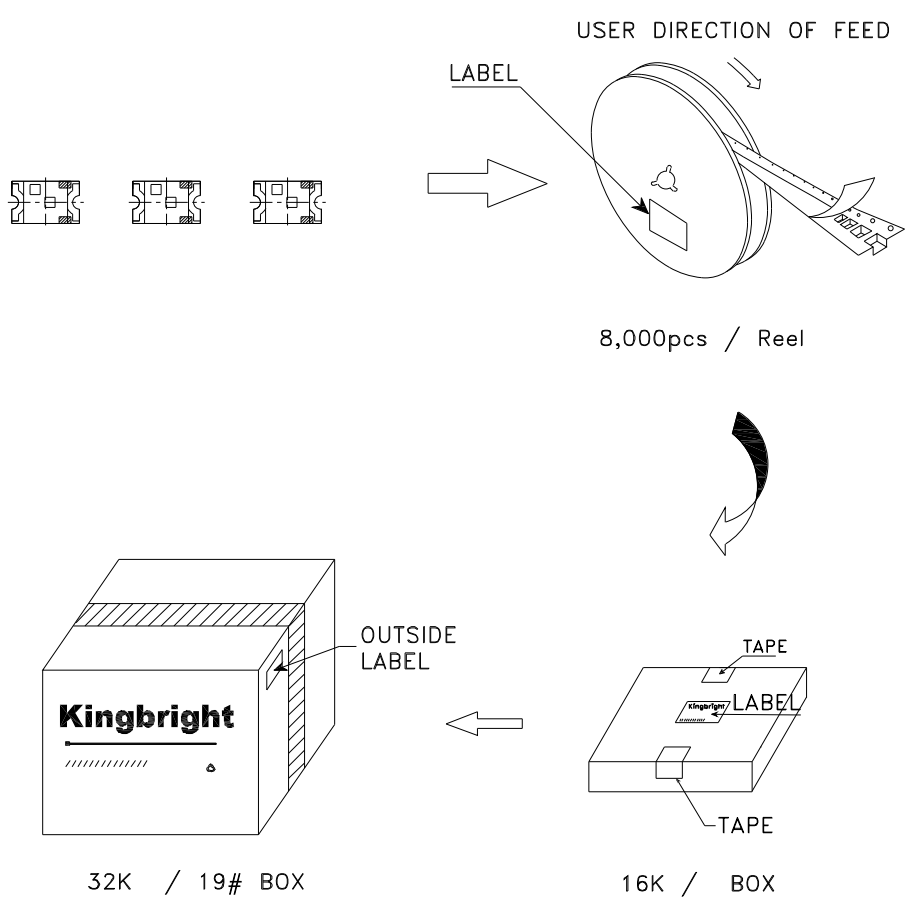
Reel Dimensions

APHCM2012-ZCR13



PACKING & LABEL SPECIFICATIONS

APHCM2012-ZCR13



|                                                                                              |            |
|----------------------------------------------------------------------------------------------|------------|
| <b>Kingbright</b>                                                                            |            |
| Q.C.                                                                                         |            |
| TYPE NO : APHCM2012-ZCR13                                                                    |            |
| QUANTITY : 8,000 pcs                                                                         |            |
| S/N : XXX                                                                                    | CODE: XXXX |
| LOT NO :  |            |
| RoHS Compliant                                                                               |            |