

### PRELIMINARY SPEC

Part Number: APF3236SURKMGKPBA



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

HYPER RED  
MEGA GREEN  
BLUE

### Features

- LOW POWER CONSUMPTION.
- 3.2mmx3.6mm SMT LED, 1.1mm THICKNESS.
- ONE RED, ONE GREEN AND ONE BLUE CHIPS IN ONE PACKAGE.
- CAN PRODUCE ANY COLOR IN VISIBLE SPECTRUM, INCLUDING WHITE LIGHT.
- PACKAGE : 1000PCS / REEL.
- MOISTURE SENSITIVITY LEVEL : LEVEL 3.
- RoHS COMPLIANT.

### Description

The Hyper Red source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

The Mega Green source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

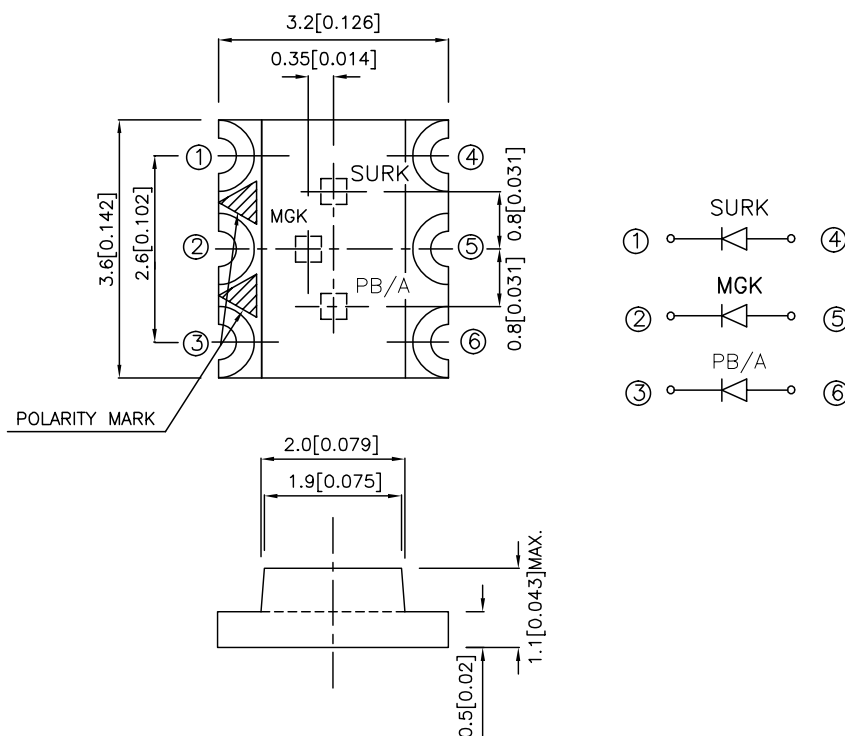
The Blue source color devices are made with InGaN on SiC Light Emitting Diode.

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  $\pm 0.2(0.008)$  unless otherwise noted.
3. Specifications are subjected to change without notice.

## Selection Guide

| Part No.          | Dice                 | Lens Type   | Iv (mcd) [2]<br>@ 20mA |      | Viewing<br>Angle [1] |
|-------------------|----------------------|-------------|------------------------|------|----------------------|
|                   |                      |             | Min.                   | Typ. | 2θ1/2                |
| APF3236SURKMGKPBA | HYPER RED (InGaAlP)  | WATER CLEAR | 70                     | 150  | 120°                 |
|                   | MEGA GREEN (InGaAlP) |             | 18                     | 60   |                      |
|                   | BLUE (InGaN)         |             | 18                     | 60   |                      |

Notes:

1.  $\theta_{1/2}$  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 T<sub>A</sub>=25°C

| Symbol                | Parameter                | Device                          | Typ.               | Max.              | Units | Test Conditions            |
|-----------------------|--------------------------|---------------------------------|--------------------|-------------------|-------|----------------------------|
| $\lambda_{peak}$      | Peak Wavelength          | Hyper Red<br>Mega Green<br>Blue | 650<br>574<br>468  |                   | nm    | I <sub>F</sub> =20mA       |
| $\lambda_D$ [1]       | Dominant Wavelength      | Hyper Red<br>Mega Green<br>Blue | 635<br>570<br>470  |                   | nm    | I <sub>F</sub> =20mA       |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Hyper Red<br>Mega Green<br>Blue | 28<br>20<br>21     |                   | nm    | I <sub>F</sub> =20mA       |
| C                     | Capacitance              | Hyper Red<br>Mega Green<br>Blue | 35<br>15<br>100    |                   | pF    | V <sub>F</sub> =0V; f=1MHz |
| V <sub>F</sub> [2]    | Forward Voltage          | Hyper Red<br>Mega Green<br>Blue | 1.95<br>2.1<br>3.3 | 2.5<br>2.5<br>3.8 | V     | I <sub>F</sub> =20mA       |
| I <sub>R</sub>        | Reverse Current          | Hyper Red<br>Mega Green<br>Blue |                    | 10<br>10<br>10    | uA    | V <sub>R</sub> = 5V        |

Notes:

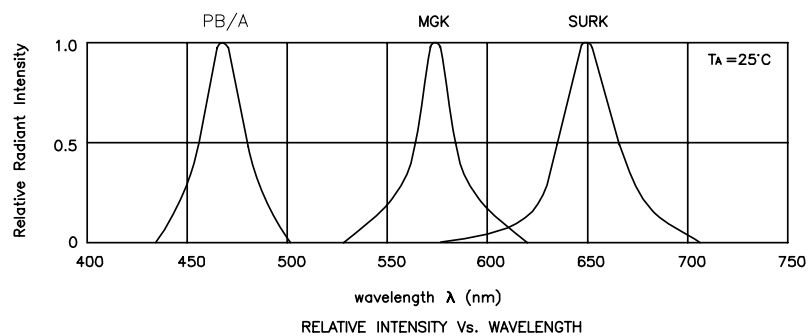
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at T<sub>A</sub>=25°C

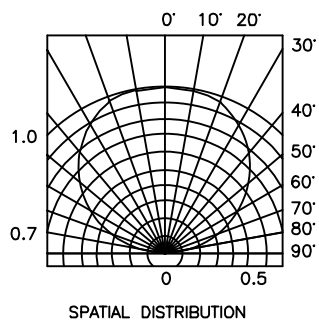
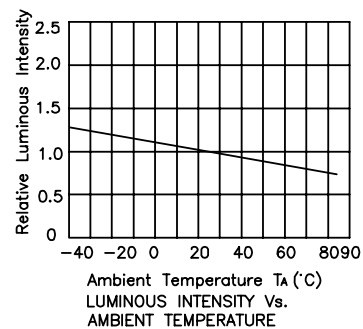
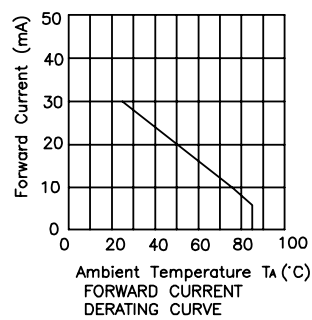
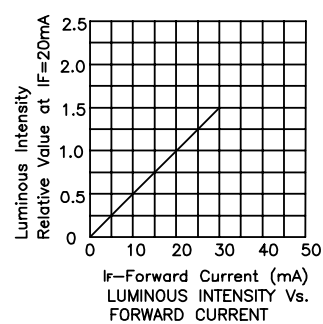
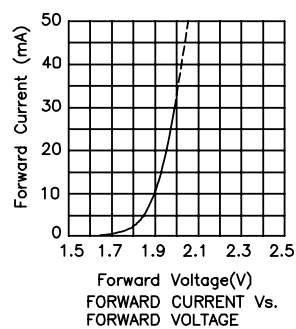
| Parameter                     | Hyper Red      | Mega Green | Blue | Units |
|-------------------------------|----------------|------------|------|-------|
| Power dissipation             | 75             | 75         | 114  | mW    |
| DC Forward Current            | 30             | 30         | 30   | mA    |
| Peak Forward Current [1]      | 185            | 150        | 100  | mA    |
| Reverse Voltage               | 5              |            |      | V     |
| Operating/Storage Temperature | -40°C To +85°C |            |      |       |

Note:

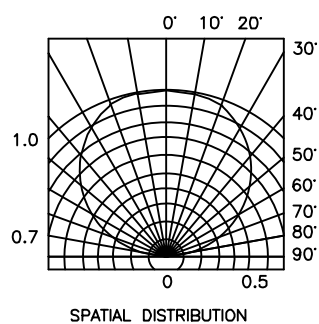
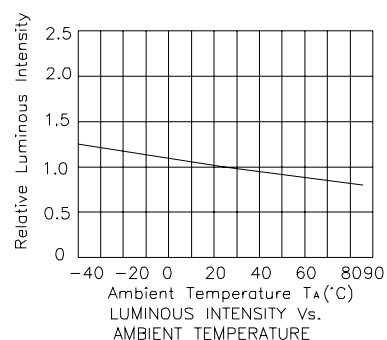
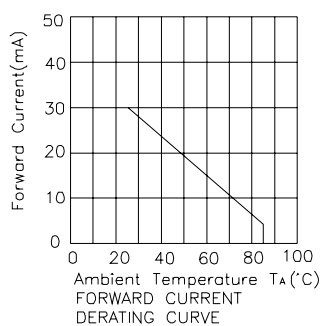
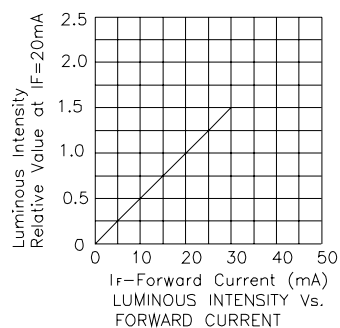
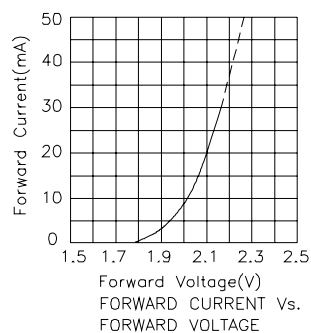
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



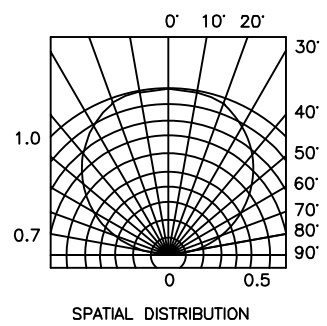
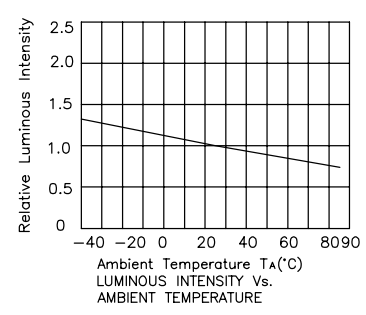
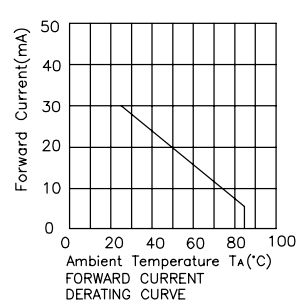
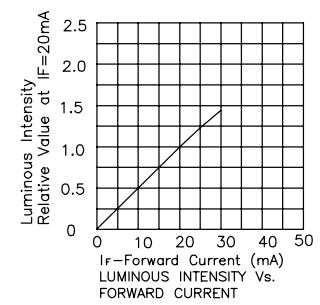
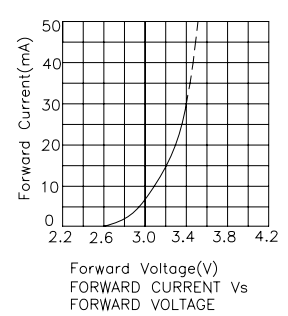
## APF3236SURKMGKPBA Hyper Red



## Mega Green

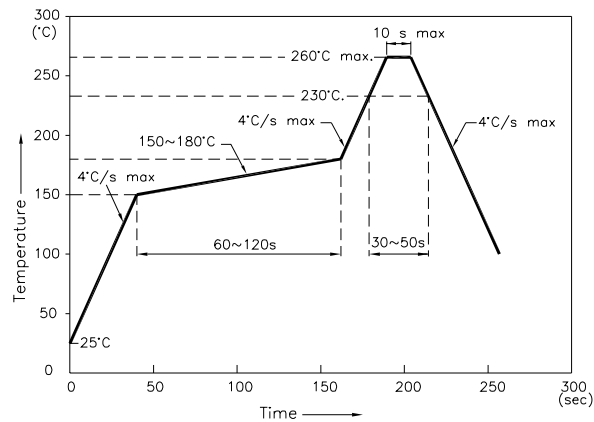


## Blue



## APF3236SURKMGPBA

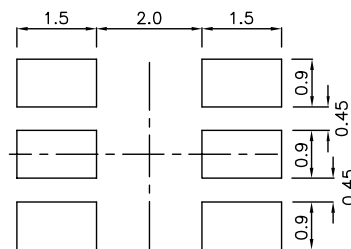
Reflow Soldering Profile For Lead-free SMT Process.



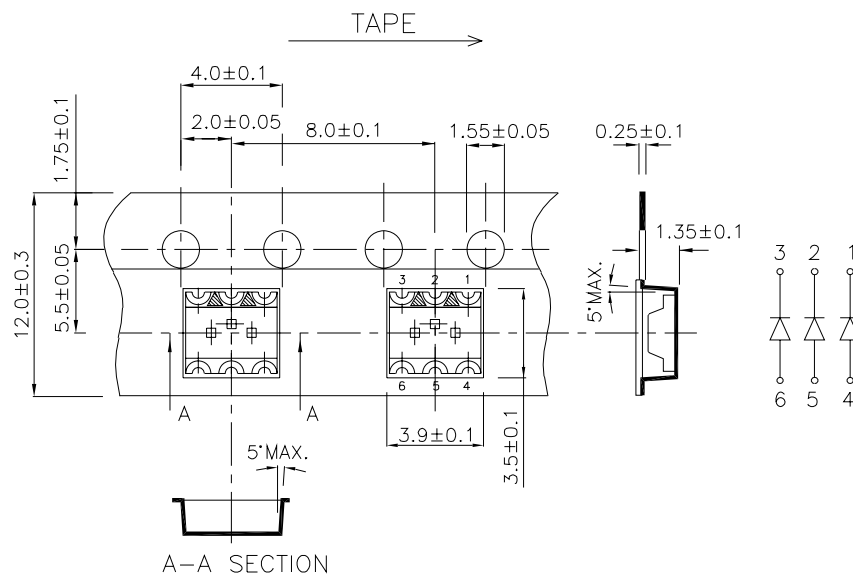
### NOTES:

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)

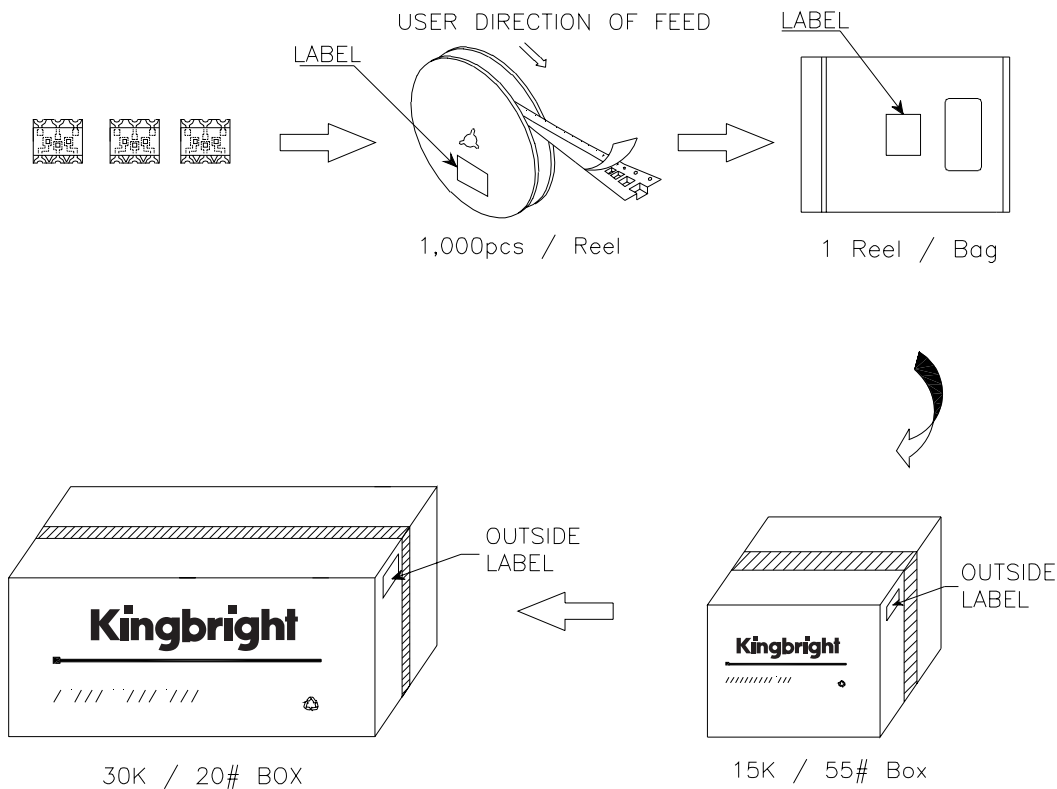


## Tape Specifications (Units : mm)



PACKING & LABEL SPECIFICATIONS

APF3236SURKMGKPBA



|                                                                                                                                 |                                                |
|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>Kingbright</b>                                                                                                               |                                                |
| P/NO: APF3236XXX                                                                                                                |                                                |
| QTY: 1,000 pcs                                                                                                                  | Q.C. <div>Q C<br/>xx xx. xxxx<br/>PASSED</div> |
| S/N: XXXX                                                                                                                       |                                                |
| CODE: XXX                                                                                                                       |                                                |
| LOT NO:<br><br>xxxxxxxxxxxxxxxxxxxxxxxxxxxx |                                                |
| RoHS Compliant                                                                                                                  |                                                |