



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KPFA-3010RGB-11

Hyper Red
Green
Blue

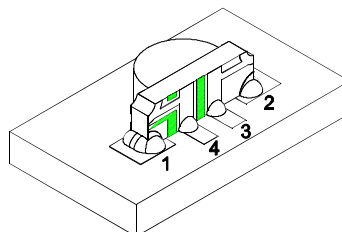
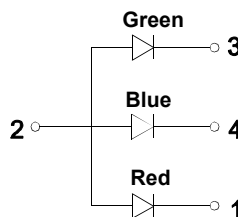
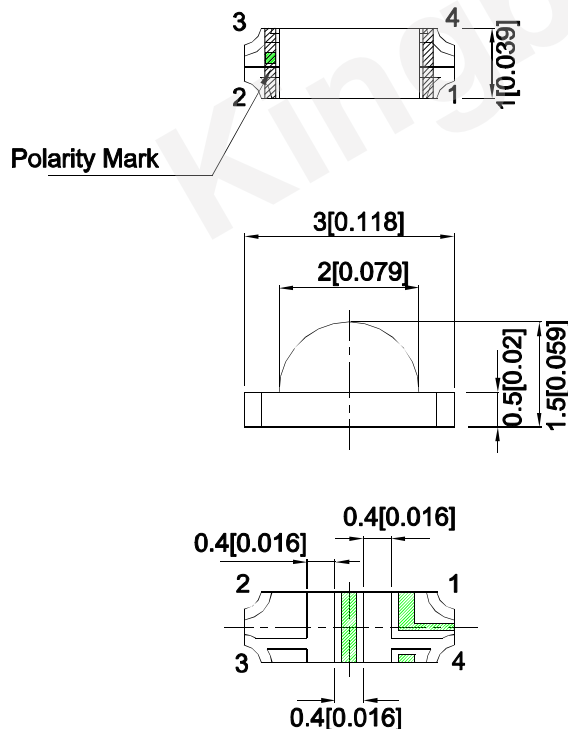
Features

- 3.0mmx1.5mmx1.0mm right angle SMD LED, 1.0mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- RoHS compliant.

Descriptions

- The Hyper Red source color devices are made with AlGaInP on GaAs substrate Light Emitting Diode.
- The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.
- The Blue source color devices are made with InGaN Light Emitting Diode.
- Electrostatic discharge and power surge could damage the LEDs.
- It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.
- All devices, equipments and machineries 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. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.
4. The device has a single mounting surface. The device must be mounted according to the specifications.



Selection Guide

| Part No. | Emitting Color (Material) | Lens Type | Iv (mcd) [2] @ 20mA | | Viewing Angle [1] |
|-------------------|---------------------------|-------------|------------------------|------|----------------------|
| | | | Min. | Typ. | 2θ1/2 |
| KPFA-3010RGB-C-11 | Hyper Red (AlGaInP) | Water Clear | 80 | 140 | 120° |
| | Green (InGaN) | | 300 | 500 | |
| | Blue (InGaN) | | 40 | 70 | |

Notes:

1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
2. Luminous intensity / luminous Flux: + / -15%.
3. Luminous intensity value is traceable to the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

| Symbol | Parameter | Emitting Color | Typ. | Max. | Units | Test Conditions |
|-----------------------|--------------------------|----------------------------|-------------------|-----------------|-------|----------------------------|
| λ_{peak} | Peak Wavelength | Hyper Red Green Blue | 630 515 460 | | nm | I _F =20mA |
| λ_D [1] | Dominant Wavelength | Hyper Red Green Blue | 621 525 465 | | nm | I _F =20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Half-width | Hyper Red Green Blue | 20 30 25 | | nm | I _F =20mA |
| C | Capacitance | Hyper Red Green Blue | 25 45 100 | | pF | V _F =0V; f=1MHz |
| V _F [2] | Forward Voltage | Hyper Red Green Blue | 2 3.3 3.3 | 2.5 4.1 4 | V | I _F =20mA |
| I _R | Reverse Current | Hyper Red Green Blue | | 10 50 50 | uA | V _R =5V |

Notes:

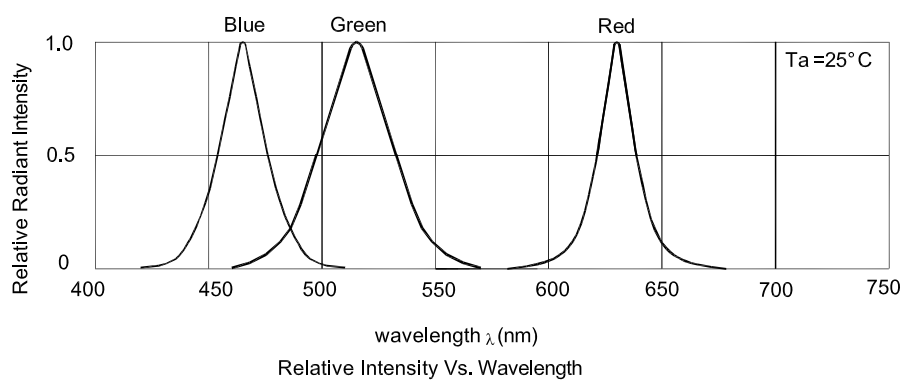
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

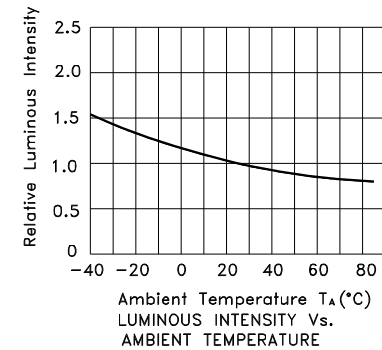
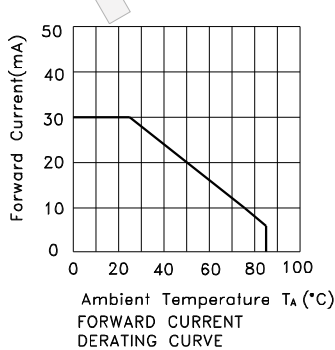
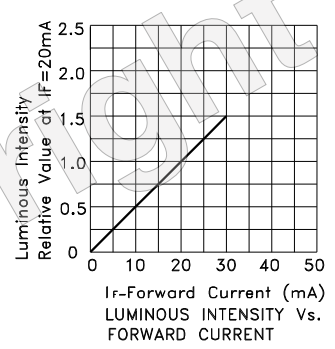
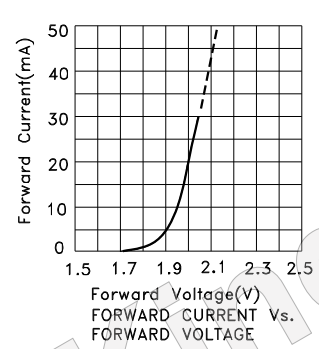
| Parameter | Hyper Red | Green | Blue | Units |
|---|----------------|-------|------|-------|
| Power dissipation | 75 | 102.5 | 120 | mW |
| DC Forward Current | 30 | 25 | 30 | mA |
| Peak Forward Current [1] | 195 | 150 | 150 | mA |
| Electrostatic Discharge Threshold (HBM) | 3000 | 450 | 250 | V |
| Reverse Voltage | 5 | | | V |
| Operating Temperature | -40°C To +85°C | | | |
| Storage Temperature | -40°C To +85°C | | | |

Notes:

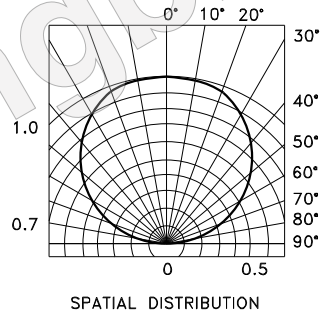
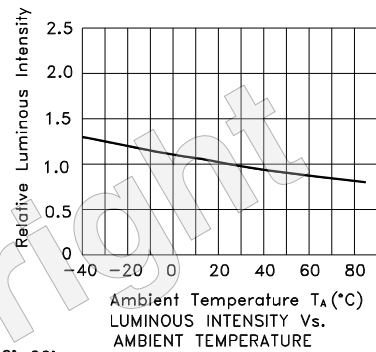
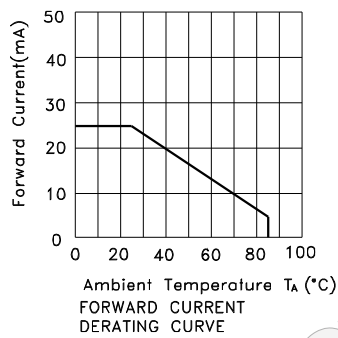
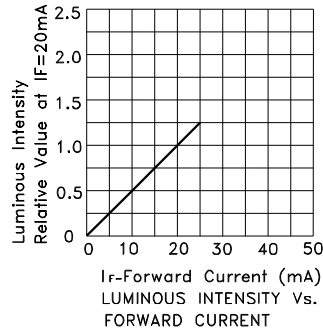
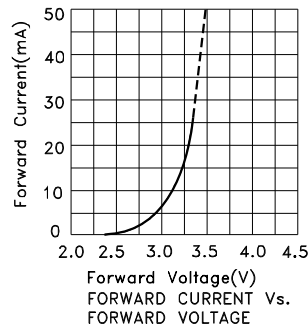
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



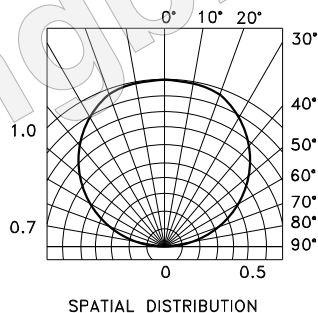
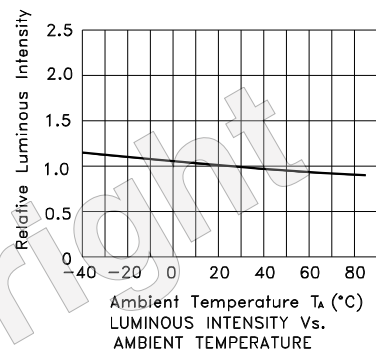
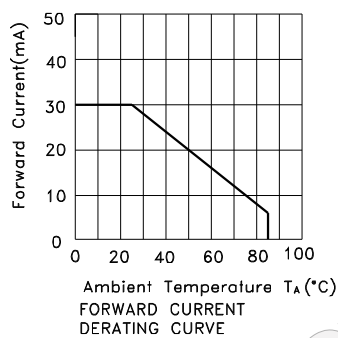
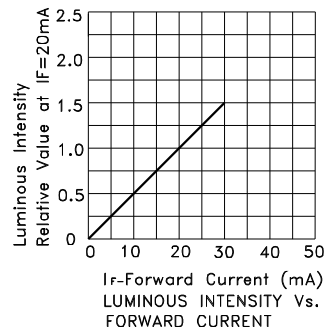
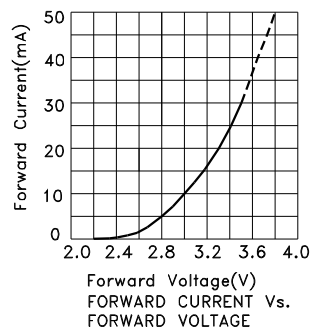
KPFA-3010RGBC-11 Hyper Red



Green



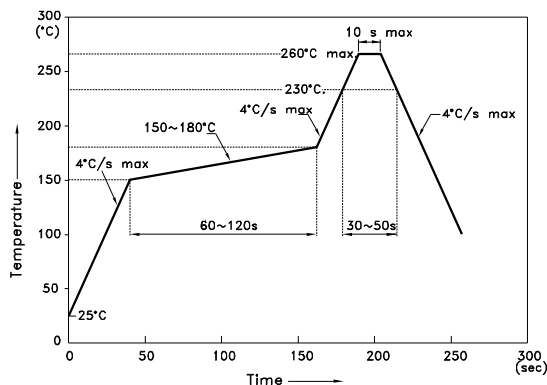
Blue



KPFA-3010RGC-11

Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

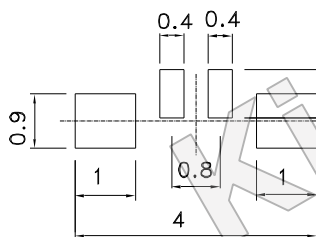
Reflow Soldering Profile For Lead-free SMT Process.



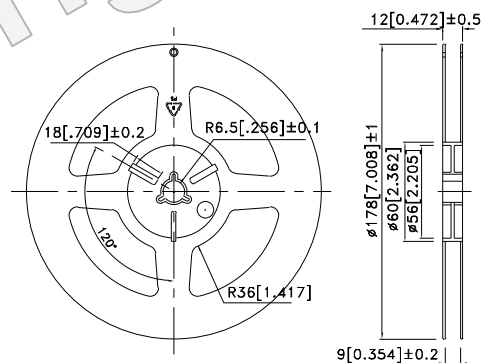
NOTES:

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.

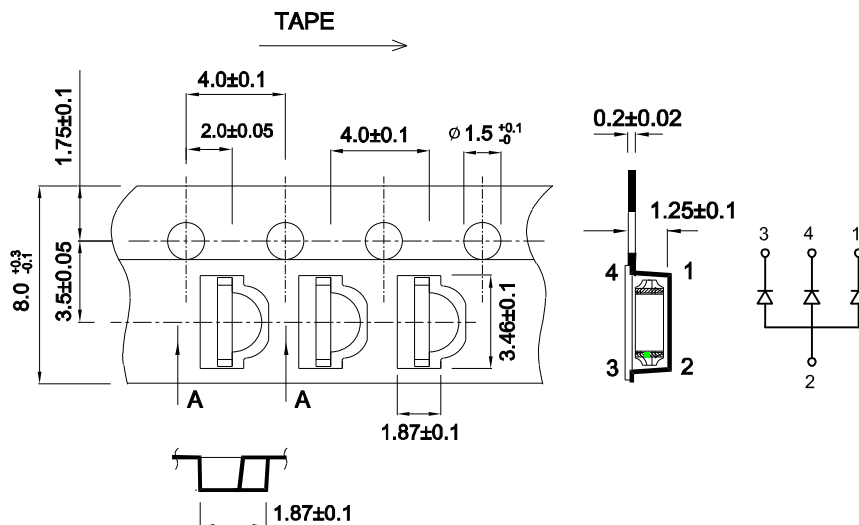
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension



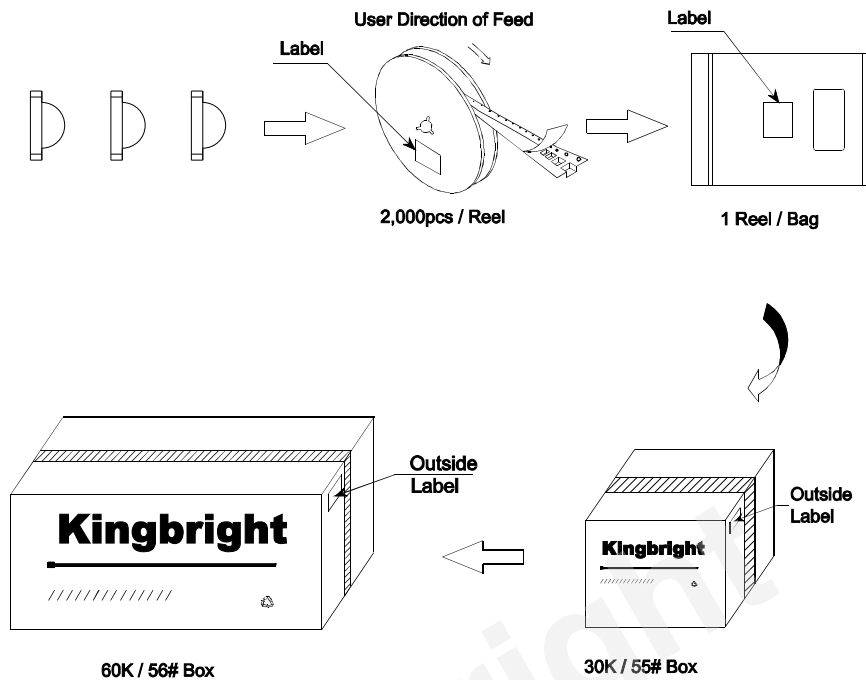
Tape Dimensions (Units : mm)



A-A SECTION

PACKING & LABEL SPECIFICATIONS

KPFA-3010RGBC-11



| | | |
|--------------------|------|---|
| Kingbright | | |
| P/NO: KPFA-3010xxx | | |
| QTY: 2,000 pcs | Q.C. | <div style="border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;"> Q C xx-xx-xxxx PASSED </div> |
| S/N: XXXX | | |
| CODE: XXX | | |
| LOT NO: | | |
| | | |
| RoHS Compliant | | |

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