



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KPFA-3010RGB-11

Hyper Red
Green
Blue

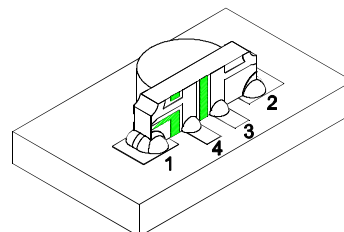
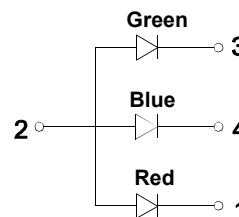
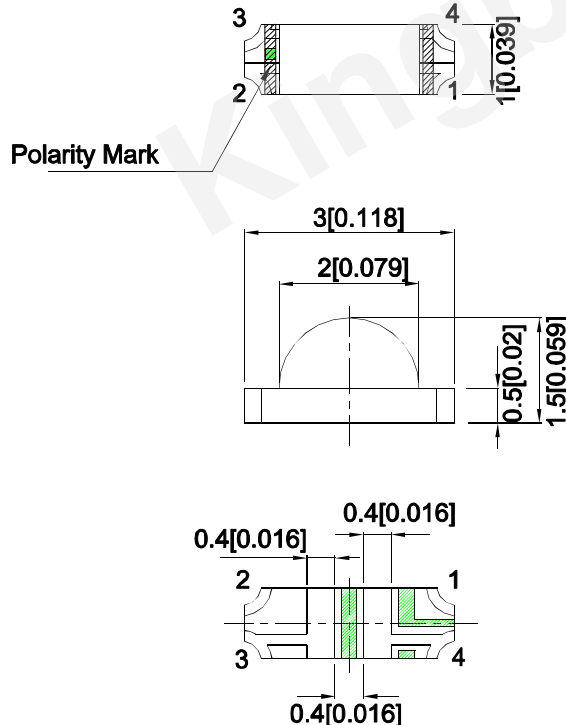
Features

- 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	150°
	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 CIE127-2007 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:

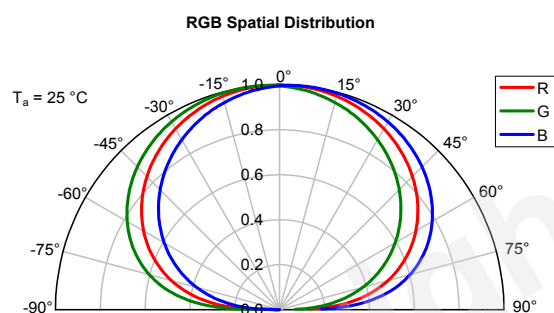
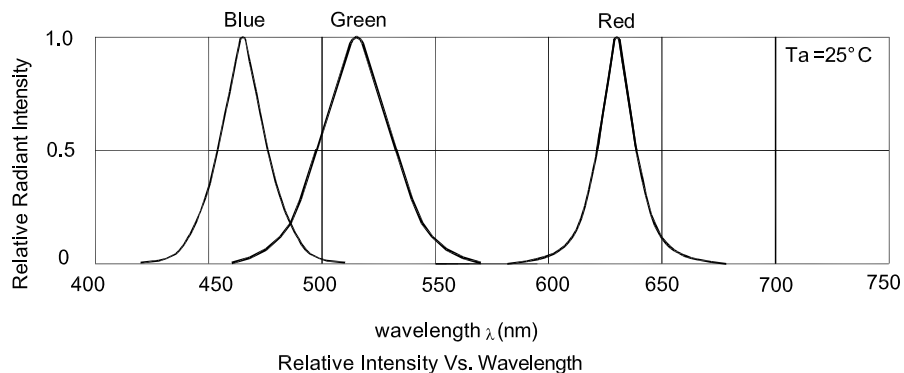
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

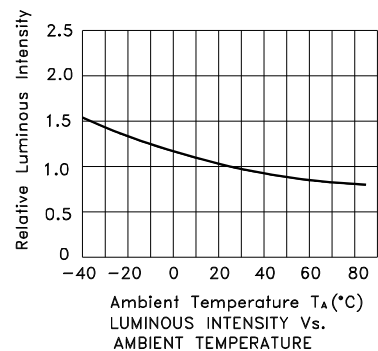
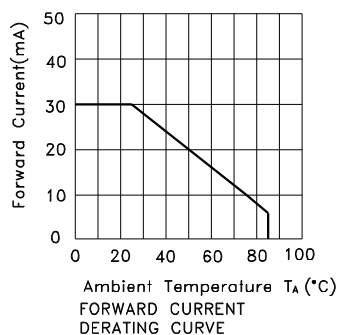
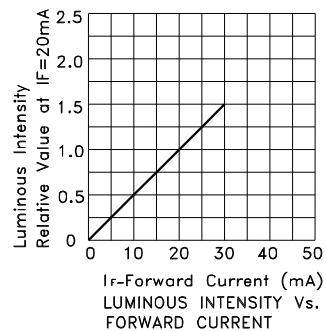
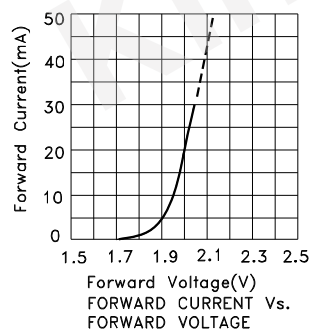
Parameter	Hyper Red	Green	Blue	Units
Power dissipation	75	102.5	120	mW
DC Forward Current	30	25	30	mA
Peak Forward Current [1]	195	150	150	mA
Electrostatic Discharge Threshold (HBM)	3000	450	250	V
Reverse Voltage	5			V
Operating Temperature	-40°C To +85°C			
Storage Temperature	-40°C To +85°C			

Notes:

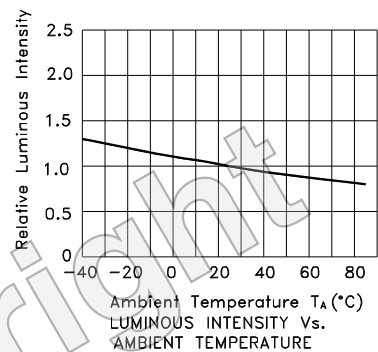
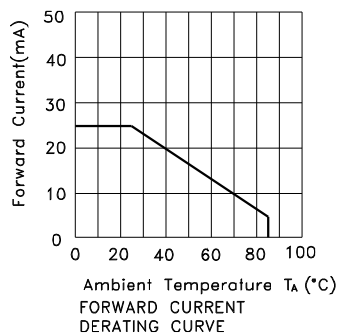
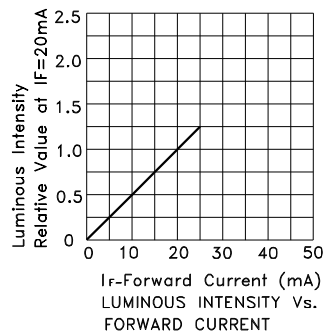
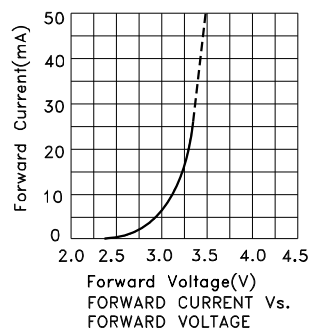
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



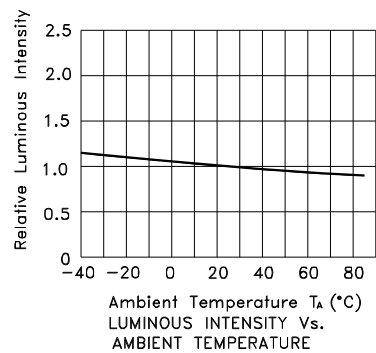
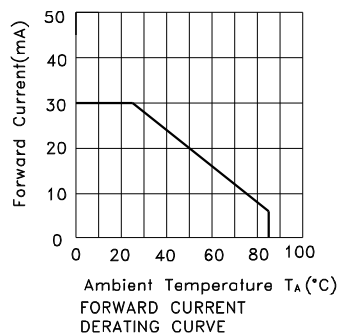
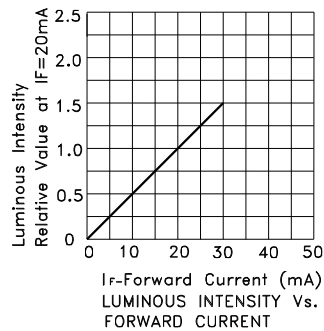
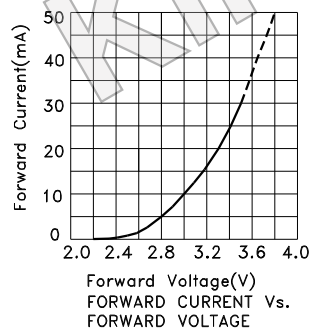
KPFA-3010RGB-C-11 Hyper Red



Green



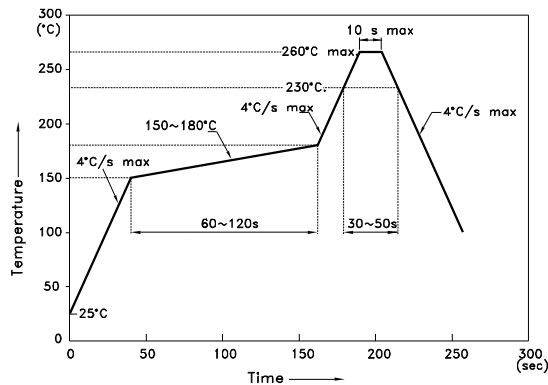
Blue



KPFA-3010RGBC-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.**

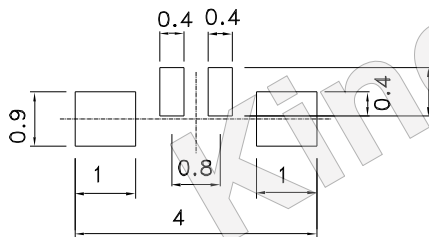
Reflow Soldering Profile For Lead-free SMT Process.



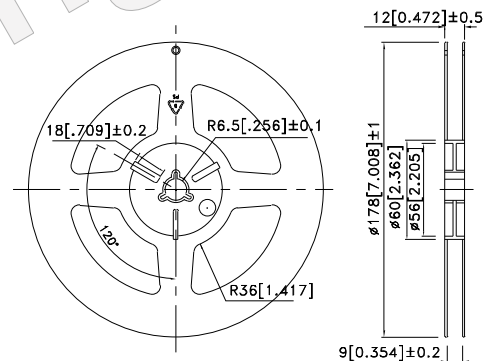
NOTES:

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.

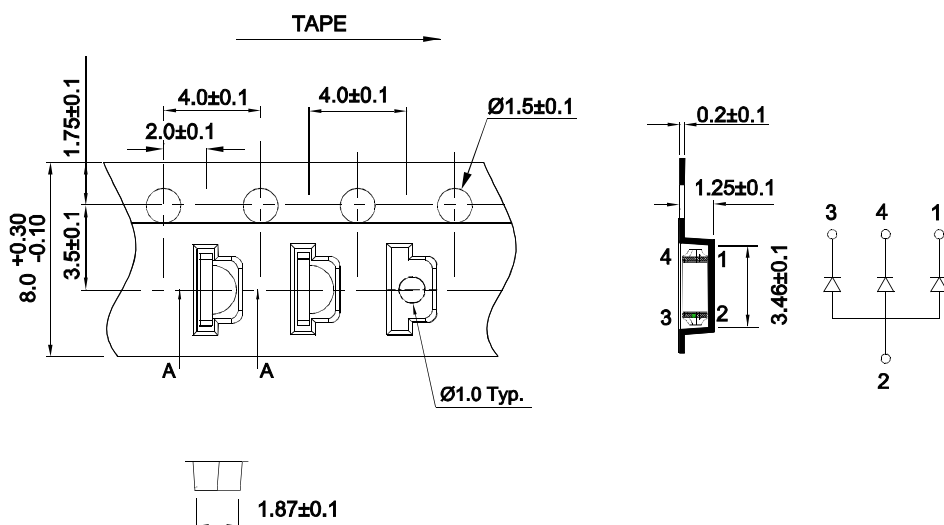
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)



Reel Dimension



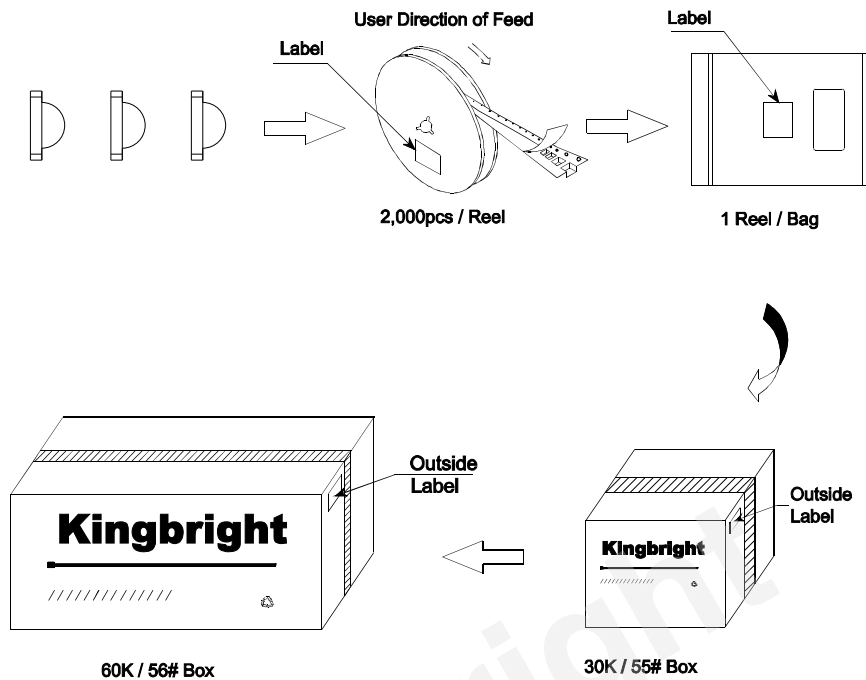
Tape Dimensions (Units : mm)



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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