



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KPHB-1608ZGSURKC-GX

Green
Hyper Red

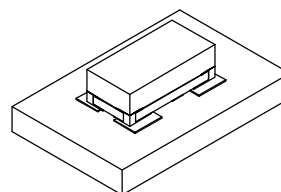
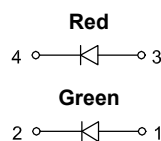
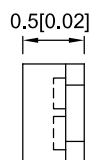
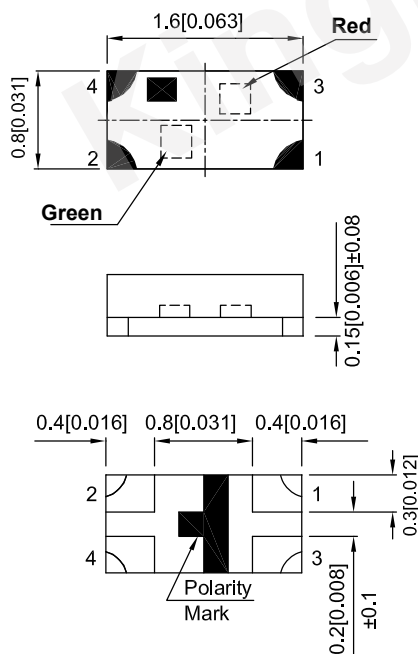
Features

- 1.6mmX0.8mm SMD LED, 0.5mm thickness.
- Compatible with reflow soldering.
- Available in various color combination.
- Package: 2000pcs / reel .
- Moisture sensitivity level : level 3.
- Tinned pads for improved solderability.
- RoHS compliant.

Descriptions

- The Green source color devices are made with InGaN on Sapphire Light Emitting Diode.
- The Hyper Red source color devices are made with AlGaInP on GaAs substrate 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 $\pm 0.15(0.006)$ 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.	
KPHB-1608ZGSURKC-GX	Green (InGaN)	Water Clear	200	350	130°
			*200	*350	
	Hyper Red (AlGaInP)		120	250	
			*40	*90	

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%.
- * 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	Green Hyper Red	515 645		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	Green Hyper Red	525 630		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Green Hyper Red	30 28		nm	I _F =20mA
C	Capacitance	Green Hyper Red	45 35		pF	V _F =0V; f=1MHz
V _F [2]	Forward Voltage	Green Hyper Red	3.3 1.95	4.1 2.5	V	I _F =20mA
I _R	Reverse Current	Green Hyper Red		50 10	uA	V _R = 5V

Notes:

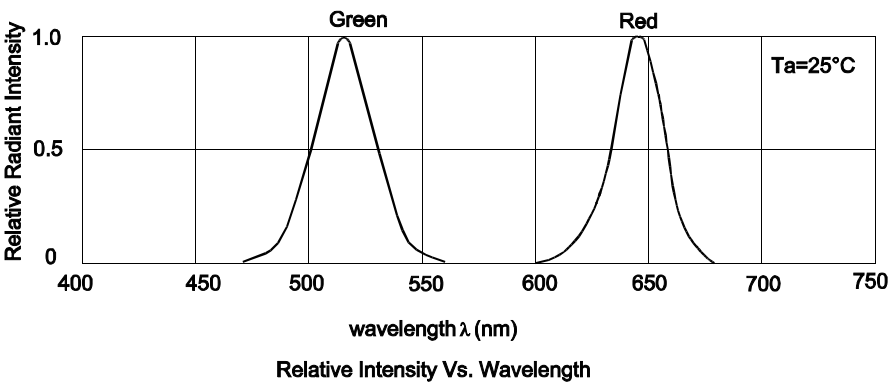
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

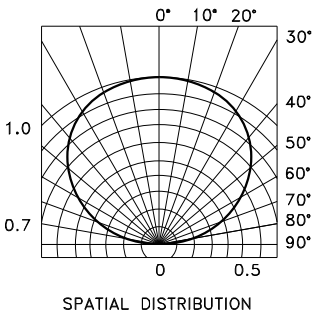
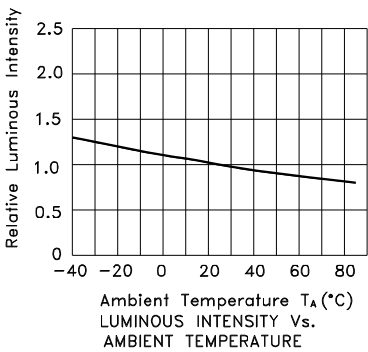
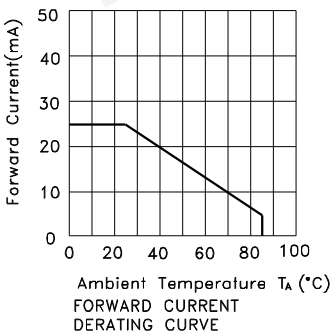
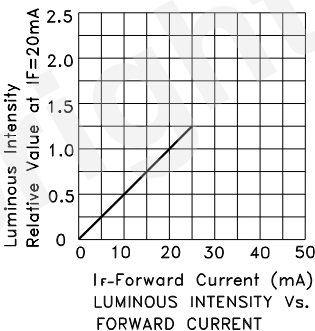
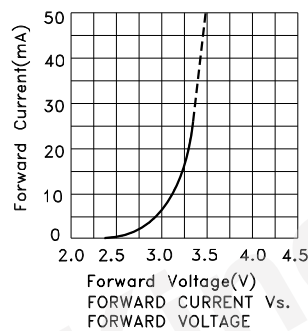
Parameter	Green	Hyper Red	Units
Power dissipation	102.5	75	mW
DC Forward Current	25	30	mA
Peak Forward Current [1]	150	185	mA
Electrostatic Discharge Threshold (HBM)	450	3000	V
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

Notes:

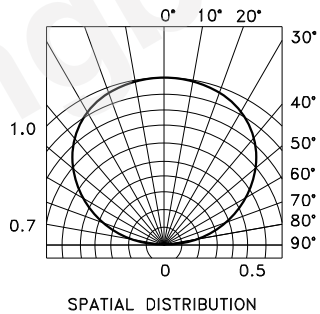
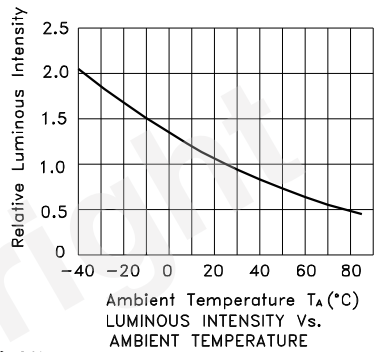
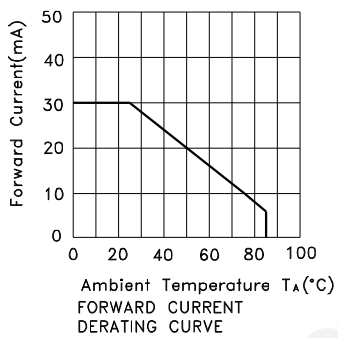
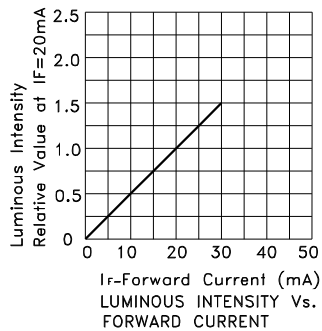
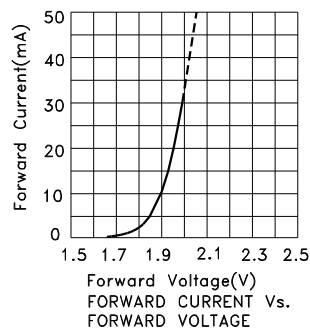
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



KPHB-1608ZGSURKC-GX
Green



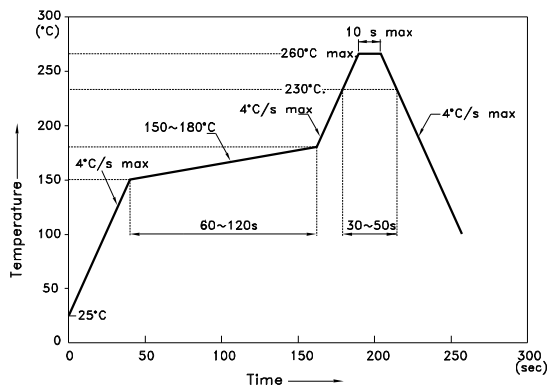
Hyper Red



KPHB-1608ZGSURKC-GX

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.

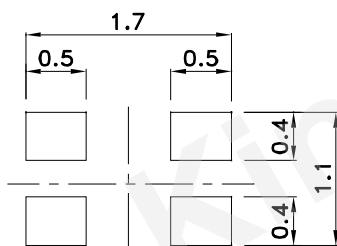
Reflow Soldering Profile For Lead-free SMT Process.



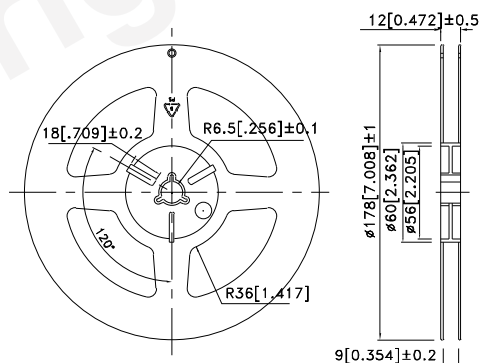
NOTES:

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.

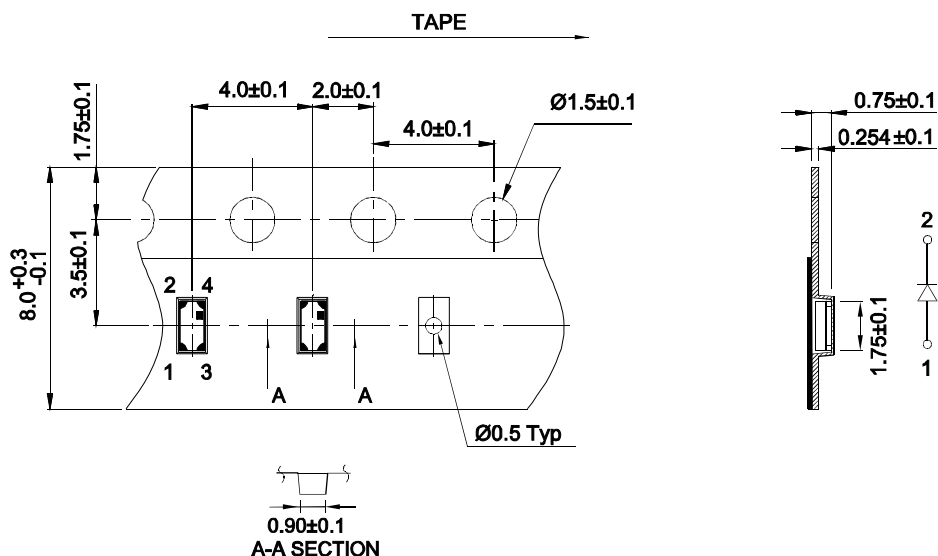
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

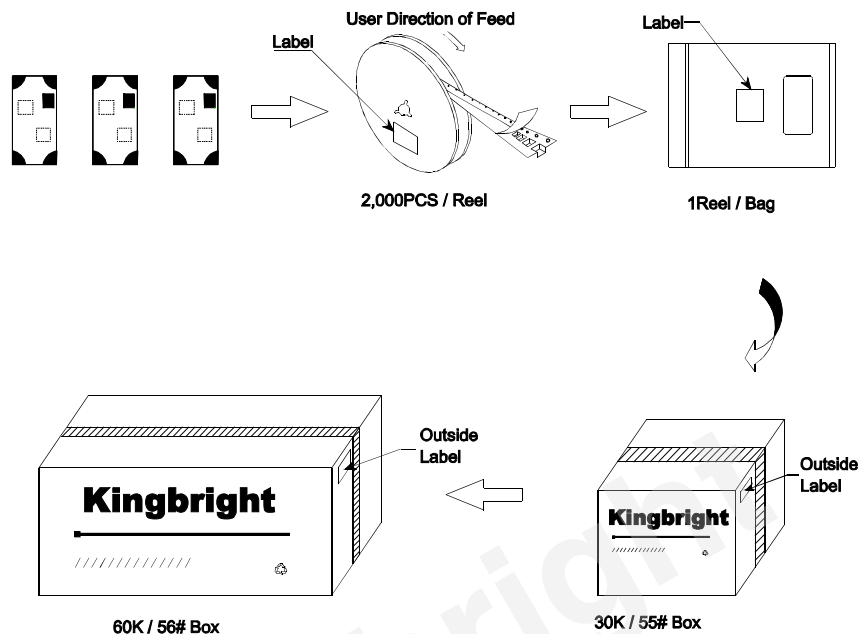


Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPHB-1608ZGSURKC-GX



Kingbright		XXXXXXXXXX-XXXX
P/NO: XXXXXXXX		
QTY: XXXXpcs		
S/N: XXXX		
CODE: XXX		
COUNTRY: CN	QC DATE: XXX XX XXXX PASSED	
LOT NO:		
XXXXXXXXXX-XXXX		
1		RoHS Compliant

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