



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: KPHB-1608QBDCGKC-GX

Blue
Green

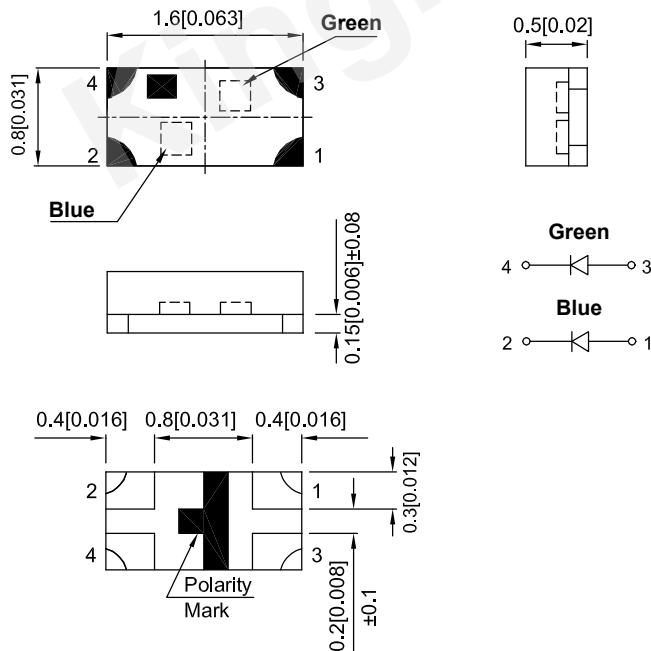
Features

- 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 Blue source color devices are made with InGaN Light Emitting Diode.
- The Green 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, equipment and machinery 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.	2θ1/2
KPHB-1608QBDCGKC-GX	Blue (InGaN)	Water Clear	40	70	130°
	Green (AlGaInP)		20	50	

Notes:

1. θ1/2 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	Blue Green	460 574		nm	I _F =20mA
λ _D [1]	Dominant Wavelength	Blue Green	465 570		nm	I _F =20mA
Δλ _{1/2}	Spectral Line Half-width	Blue Green	25 20		nm	I _F =20mA
C	Capacitance	Blue Green	100 15		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	Blue Green	3.3 2.1	4 2.5	V	I _F =20mA
I _R	Reverse Current	Blue Green		50 10	μA	V _R = 5V

Notes:

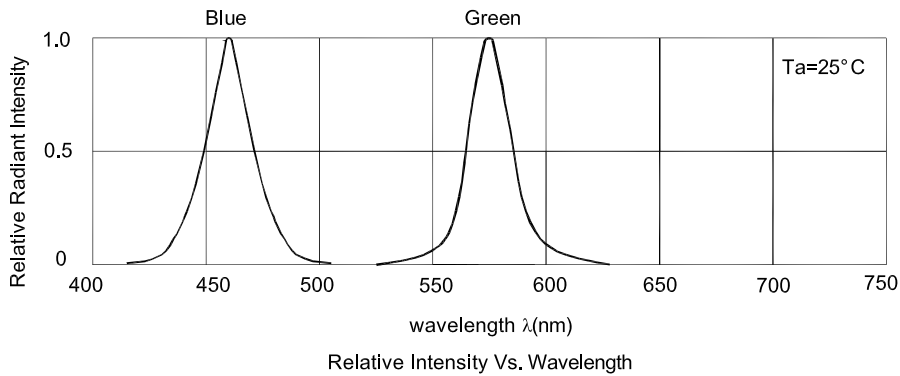
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

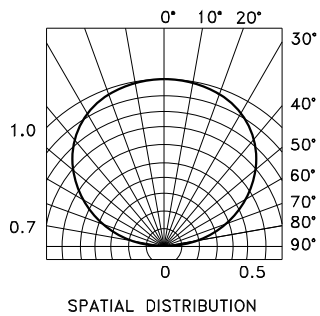
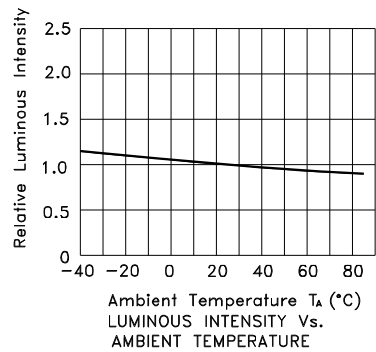
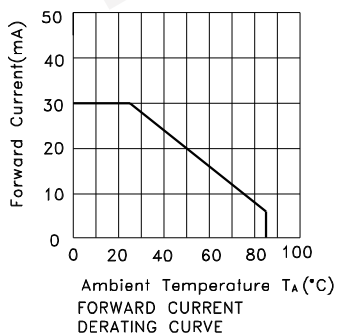
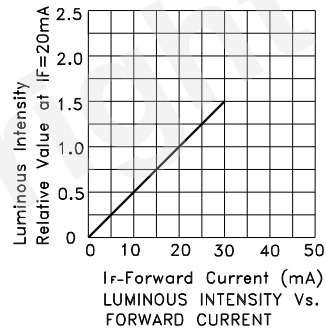
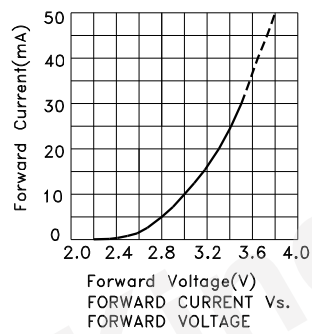
Parameter	Blue	Green	Units
Power dissipation	120	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	150	150	mA
Electrostatic Discharge Threshold (HBM)	250	3000	V
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

Notes:

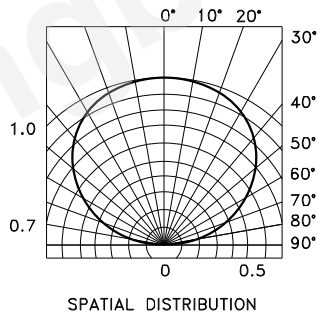
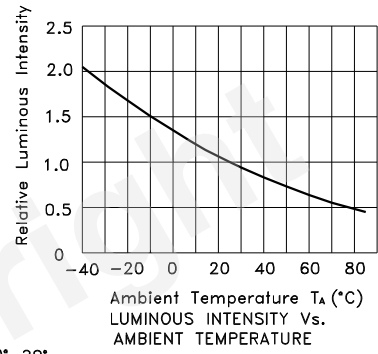
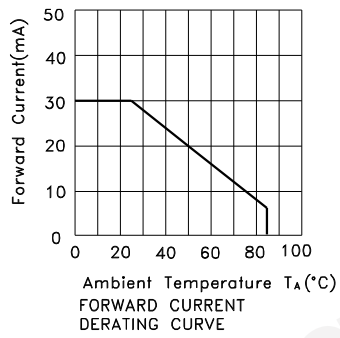
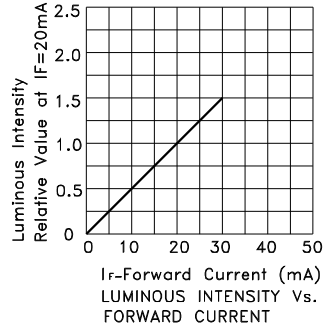
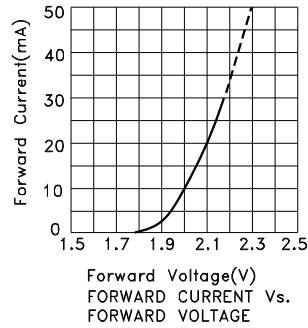
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



KPHB-1608QBDCGKC-GX Blue



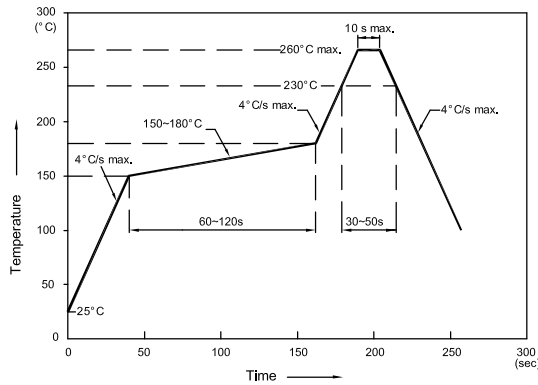
Green



KPHB-1608QBDCGKC-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.

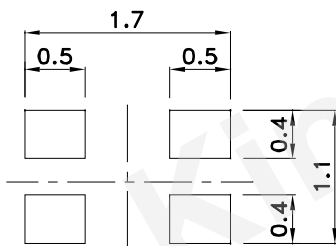
Reflow Soldering Profile For Lead-free SMT Process.



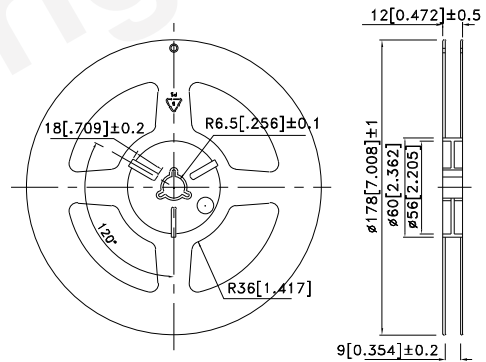
NOTES:

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)

