

Part Number: KPHB-1608SGEC-GX

Super Bright Green  
High Efficiency Red

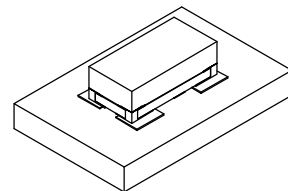
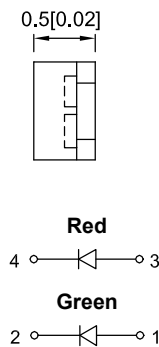
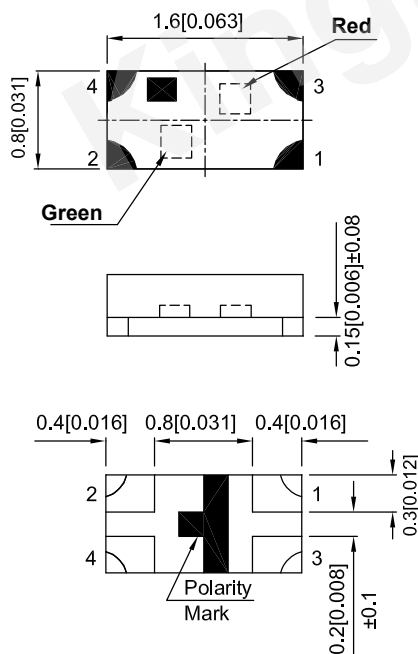
### Features

- 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 Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
- The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

### 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-1608SGEC-GX	Super Bright Green (GaP)	Water Clear	5	15	130°
			*5	*15	
	High Efficiency Red (GaAsP/GaP)		7	15	
			*5	*12	

### 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%.
- \* 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
λpeak	Peak Wavelength	Super Bright Green High Efficiency Red	565 627		nm	IF=20mA
λD [1]	Dominant Wavelength	Super Bright Green High Efficiency Red	568 617		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Super Bright Green High Efficiency Red	30 45		nm	IF=20mA
C	Capacitance	Super Bright Green High Efficiency Red	15 15		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Super Bright Green High Efficiency Red	2.2 2	2.5 2.5	V	IF=20mA
IR	Reverse Current	Super Bright Green High Efficiency Red		10 10	uA	VR = 5V

### Notes:

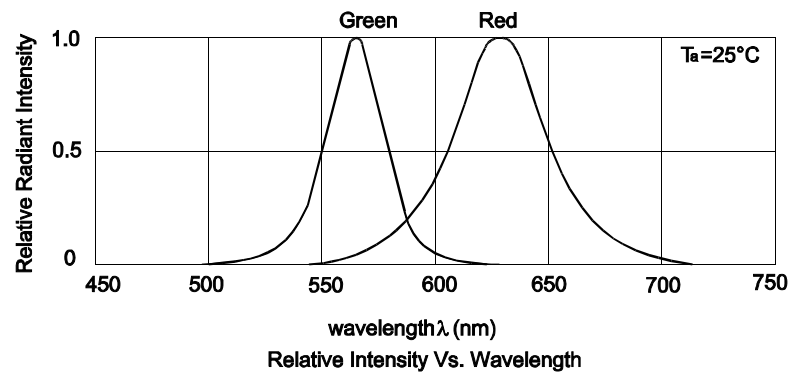
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

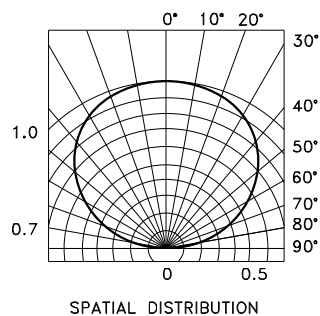
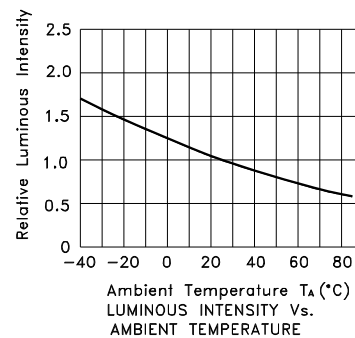
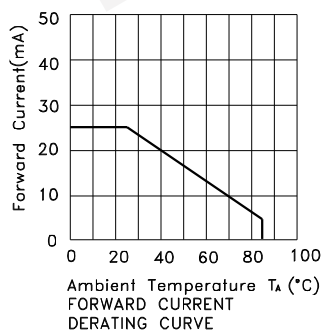
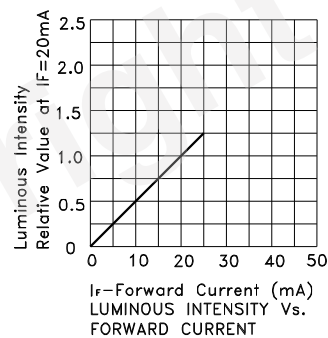
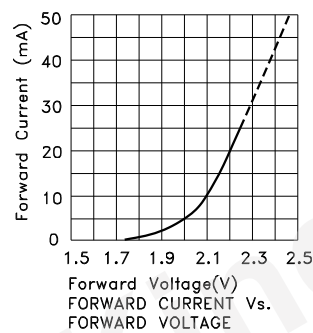
Parameter	Super Bright Green	High Efficiency Red	Units
Power dissipation	62.5	75	mW
DC Forward Current	25	30	mA
Peak Forward Current [1]	140	160	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

### Notes:

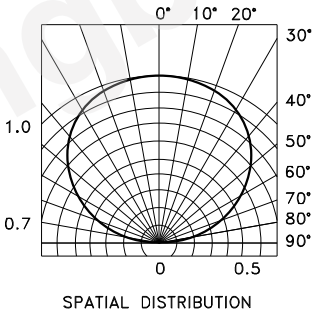
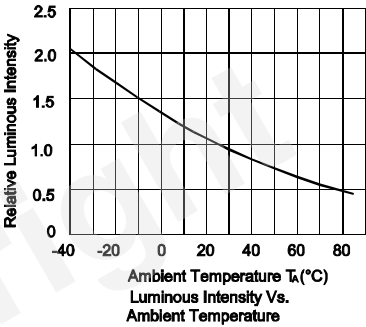
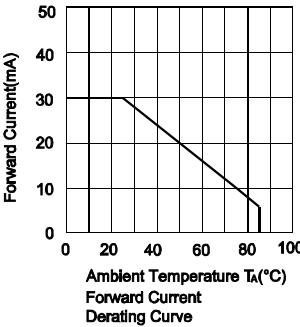
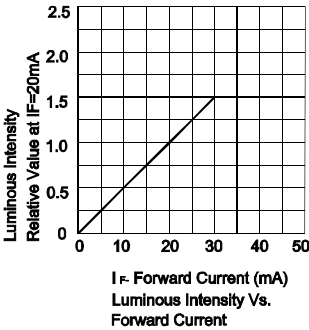
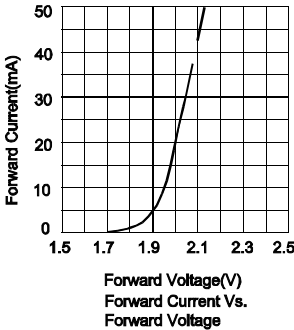
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



## KPHB-1608SGEC-GX Super Bright Green



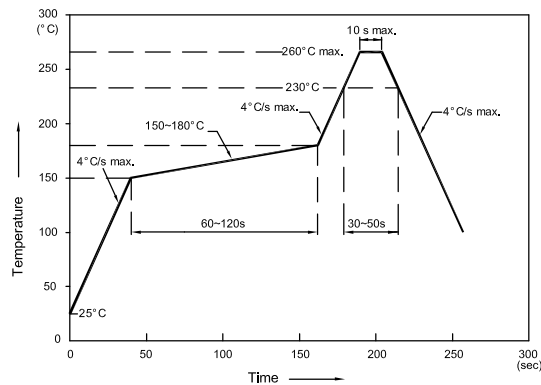
## High Efficiency Red



## KPHB-1608SGEC-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.

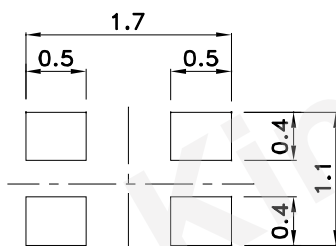
Reflow Soldering Profile For Lead-free SMT Process.



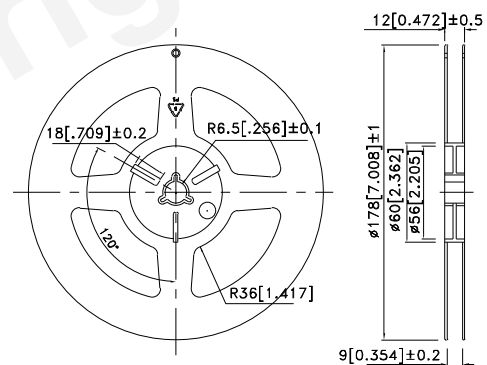
### NOTES:

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.

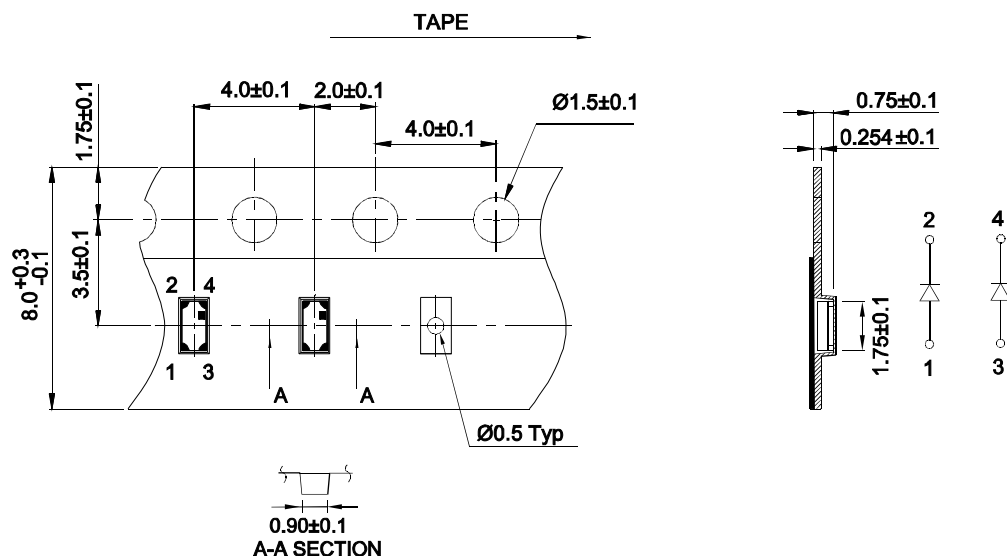
### Recommended Soldering Pattern (Units : mm; Tolerance: $\pm 0.1$ )



### Reel Dimension

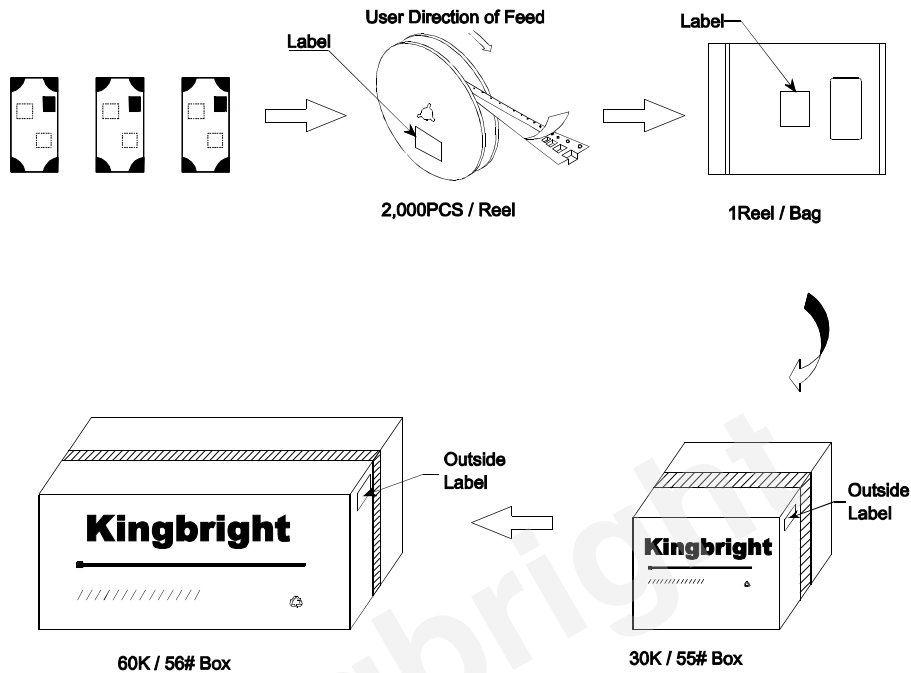




### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

KPHB-1608SGEC-GX



<b>Kingbright</b>		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

### Terms and conditions for the usage of this document

1. The information included in this document reflects representative usage scenarios and is intended for technical reference only.
2. The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.
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