

Part Number: KPTB-1615ESGC

High Efficiency Red  
Super Bright Green

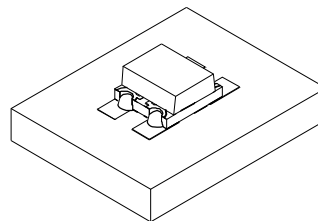
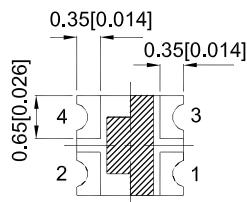
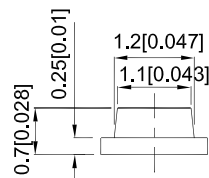
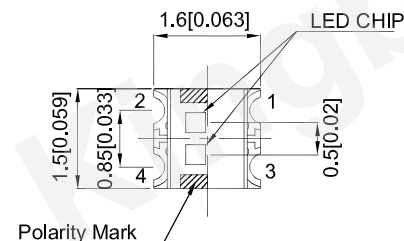
### Features

- 1.6mmx1.5mm SMD LED, 0.7mm 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 High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
- The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

### 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
KPTB-1615ESGC	High Efficiency Red (GaAsP/GaP)	Water Clear	8	15	150°
			*3	*7	
	Super Bright Green (GaP)		5	12	
			*5	*12	

**Notes:**

- θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
- 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 <sub>peak</sub>	Peak Wavelength	High Efficiency Red Super Bright Green	627 565		nm	I <sub>F</sub> =20mA
λ <sub>D</sub> [1]	Dominant Wavelength	High Efficiency Red Super Bright Green	617 568		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	High Efficiency Red Super Bright Green	45 30		nm	I <sub>F</sub> =20mA
C	Capacitance	High Efficiency Red Super Bright Green	15 15		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	High Efficiency Red Super Bright Green	2 2.2	2.5 2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	High Efficiency Red Super Bright Green		10 10	μA	V <sub>R</sub> = 5V

**Notes:**

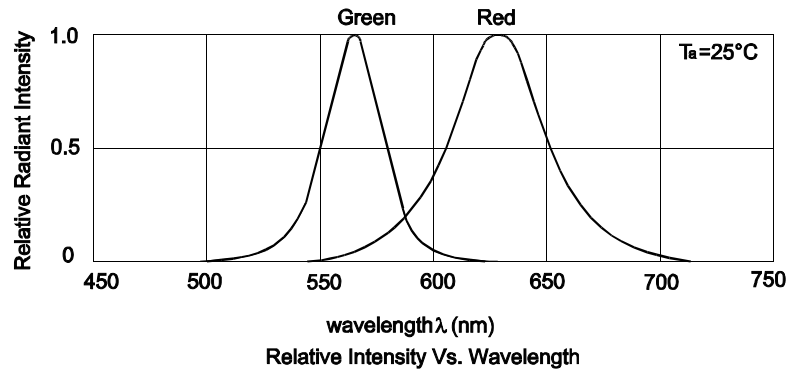
- Wavelength: +/-1nm.
- Forward Voltage: +/-0.1V.
- Wavelength value is traceable to CIE127-2007 standards.
- Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

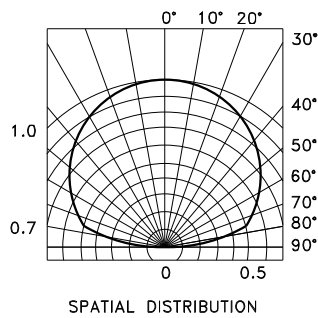
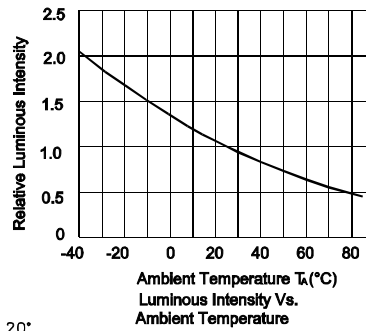
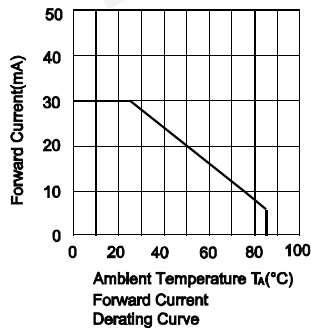
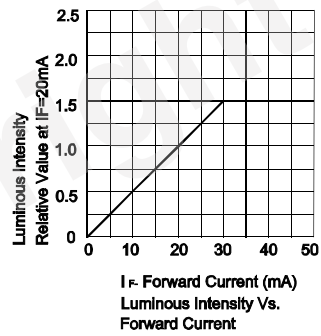
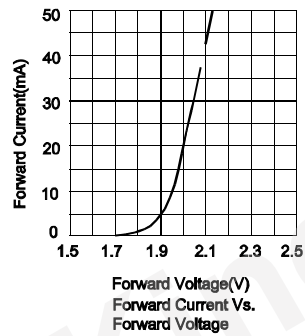
Parameter	High Efficiency Red	Super Bright Green	Units
Power dissipation	75	62.5	mW
DC Forward Current	30	25	mA
Peak Forward Current [1]	160	140	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

**Notes:**

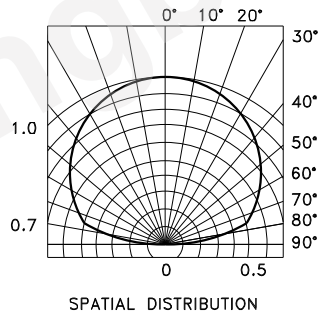
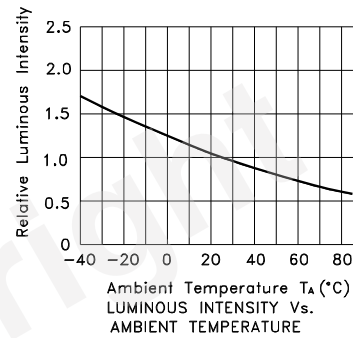
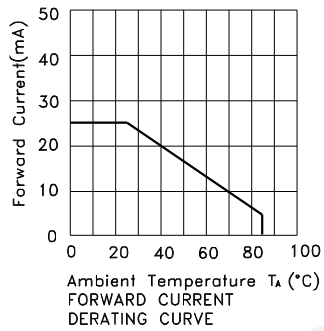
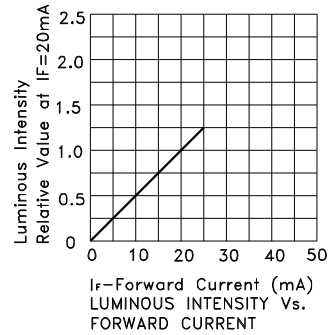
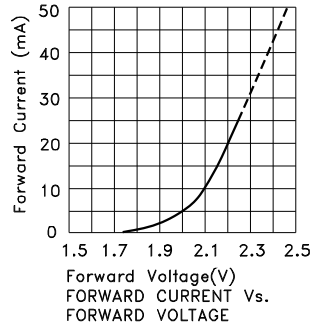
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.



## KPTB-1615ESGC High Efficiency Red



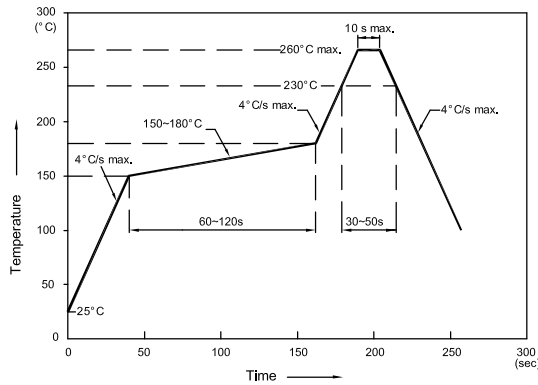
## Super Bright Green



## KPTB-1615ESGC

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.

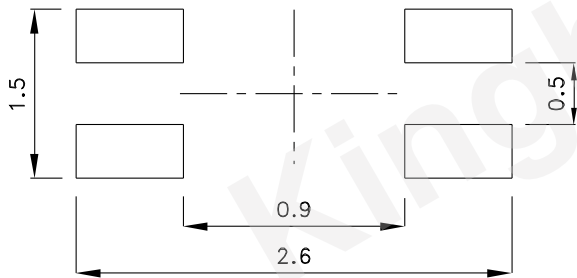
Reflow Soldering Profile For Lead-free SMT Process.



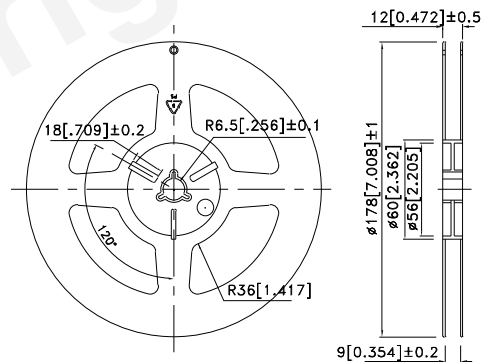
NOTES:

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.

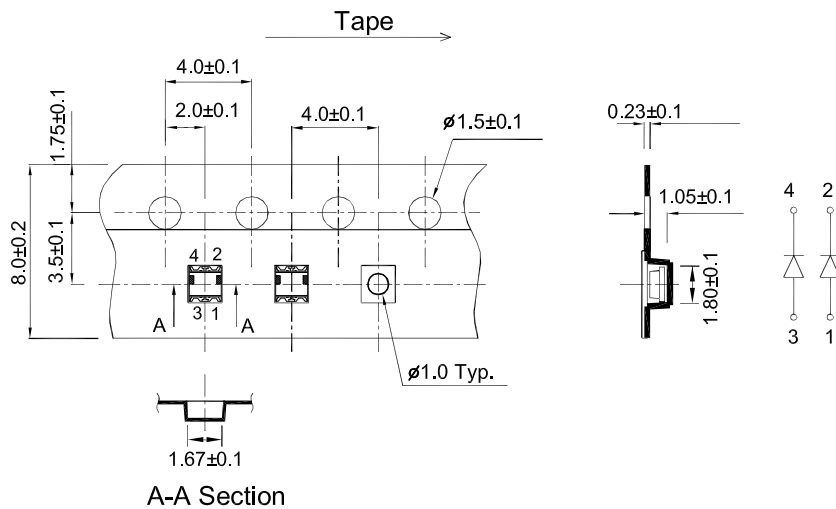
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

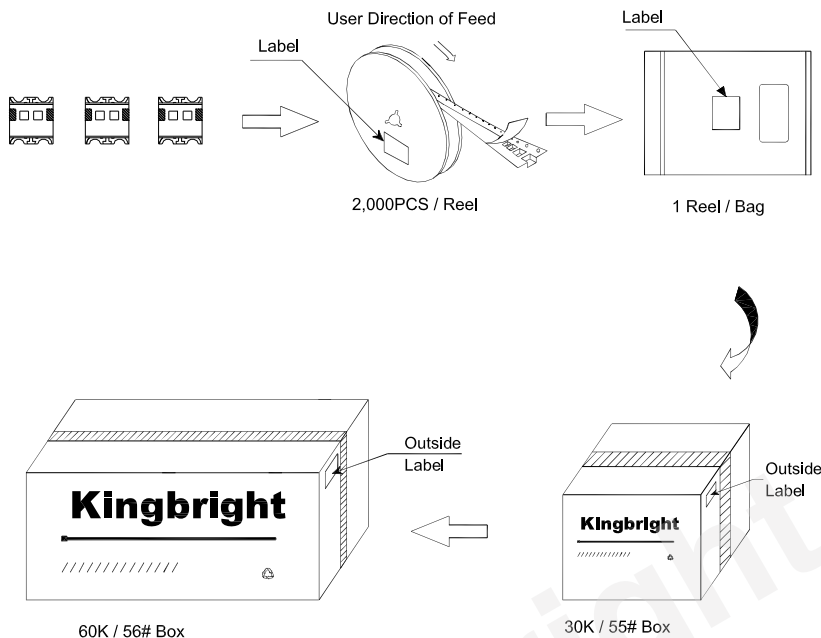


### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KPTB-1615ESGC



<b>Kingbright</b>				
P/NO: KPTB-1615xxx				
QTY: 2,000 pcs	Q.C.			
S/N: XXXX	<table border="1"> <tr> <td>Q C</td> </tr> <tr> <td>XX XX XXXX</td> </tr> <tr> <td>PASSED</td> </tr> </table>	Q C	XX XX XXXX	PASSED
Q C				
XX XX XXXX				
PASSED				
CODE: XXX				
LOT NO:				
RoHS Compliant				

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