

Part Number: KPTBD-3216SURKCGKC

Hyper Red  
Green

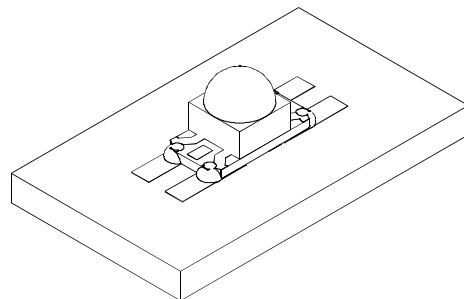
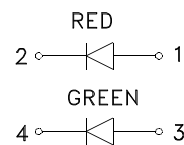
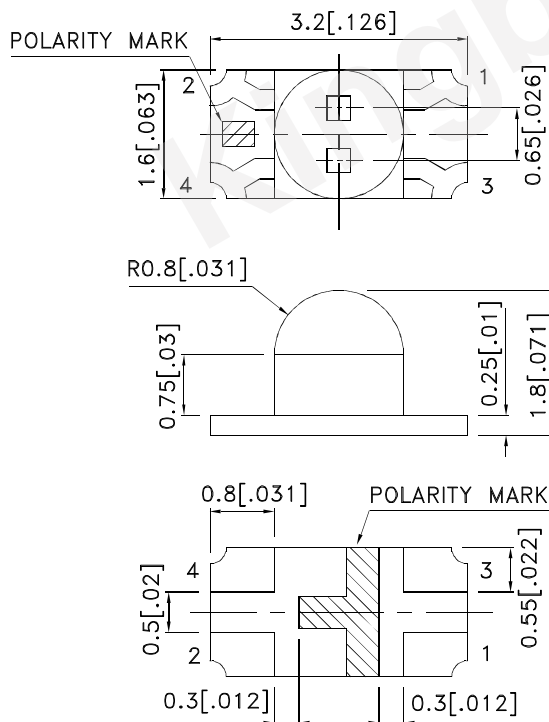
### Features

- 3.2mmx1.6mm SMD LED, 1.8mm thickness.
- Low power consumption.
- Ideal for backlight and indicator.
- Package : 2000pcs / reel.
- Moisture sensitivity level : level 3.
- 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 AlGaInP on GaAs substrate 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
KPTBD-3216SURKCGKC	Hyper Red (AlGaInP)	Water Clear	700	1500	30°
			*300	*600	
	Green (AlGaInP)		120	250	
			*120	*250	

**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
λ <sub>peak</sub>	Peak Wavelength	Hyper Red Green	645 574		nm	I <sub>F</sub> =20mA
λ <sub>D</sub> [1]	Dominant Wavelength	Hyper Red Green	630 570		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Hyper Red Green	28 20		nm	I <sub>F</sub> =20mA
C	Capacitance	Hyper Red Green	35 15		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Hyper Red Green	1.95 2.1	2.5 2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Hyper Red Green		10 10	μA	V <sub>R</sub> = 5V

**Notes:**

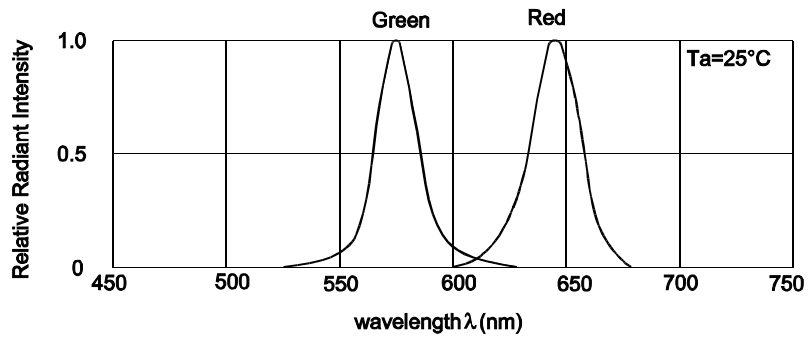
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	Green	Units
Power dissipation	75	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	185	150	mA
Reverse Voltage	5		V
Operating Temperature	-40°C To +85°C		
Storage Temperature	-40°C To +85°C		

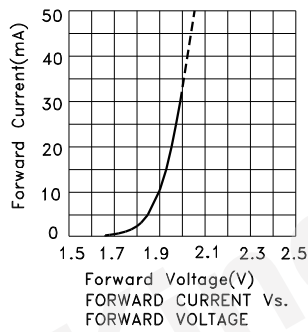
**Notes:**

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.

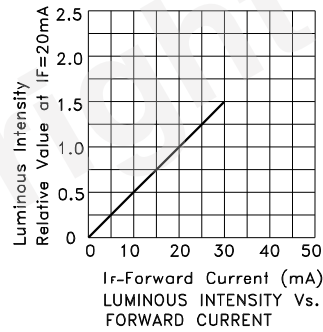


Relative Intensity Vs. Wavelength

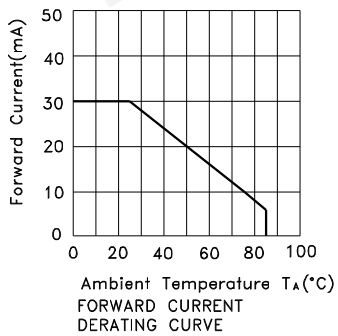
## KPTBD-3216SURKCGKC Hyper Red



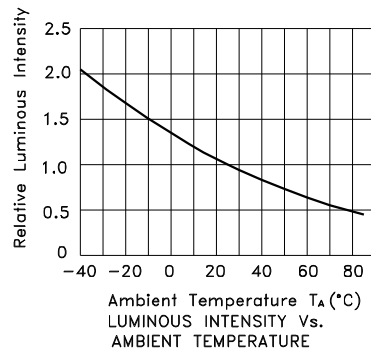
FORWARD CURRENT Vs. FORWARD VOLTAGE



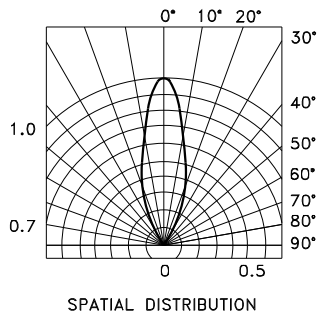
LUMINOUS INTENSITY Vs. FORWARD CURRENT



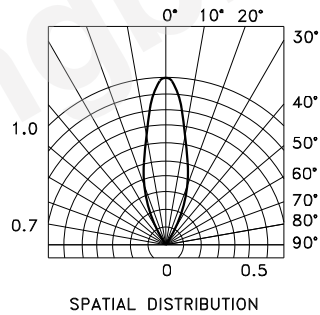
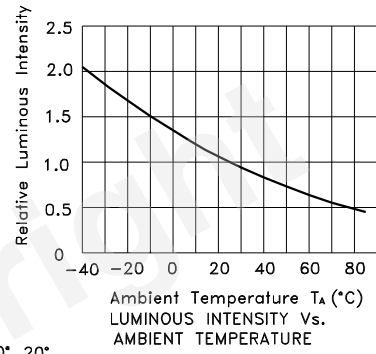
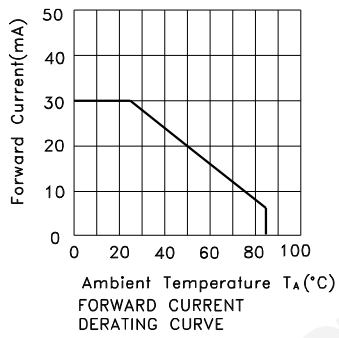
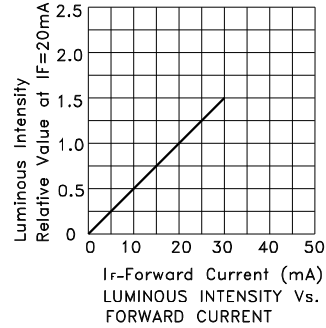
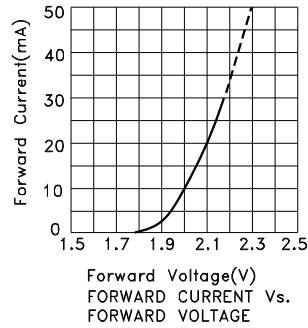
FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



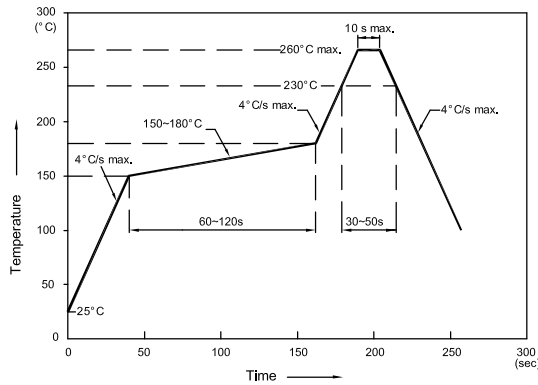
## Green



## KPTBD-3216SURKCGKC

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.

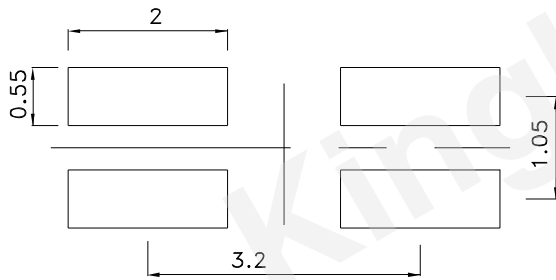
Reflow Soldering Profile For Lead-free SMT Process.



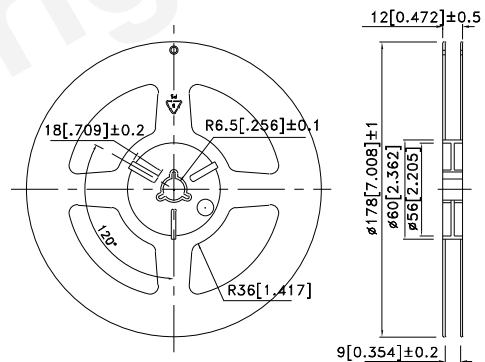
NOTES:

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.

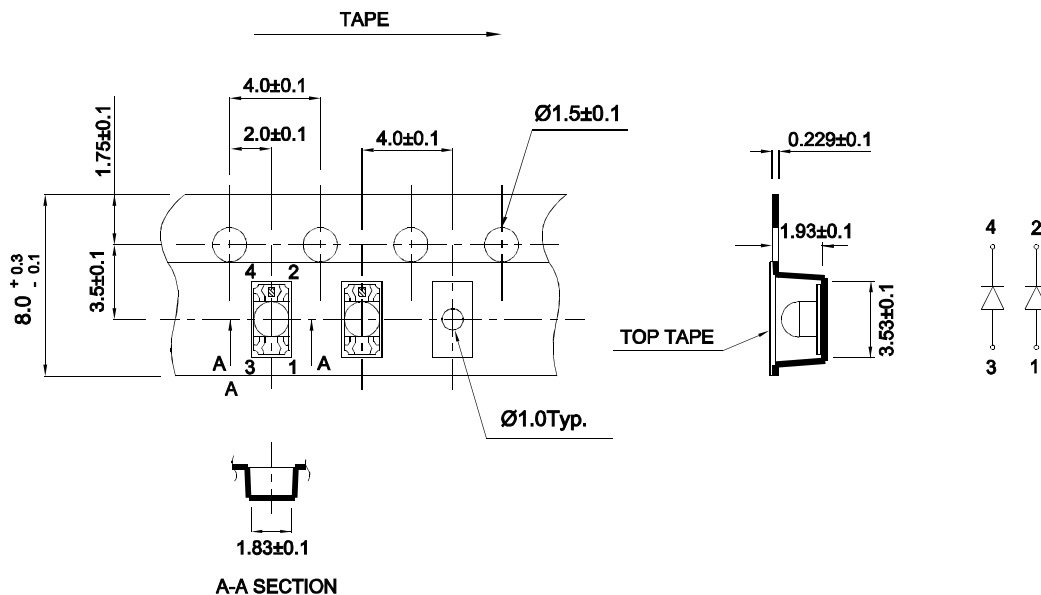
### Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



### Reel Dimension

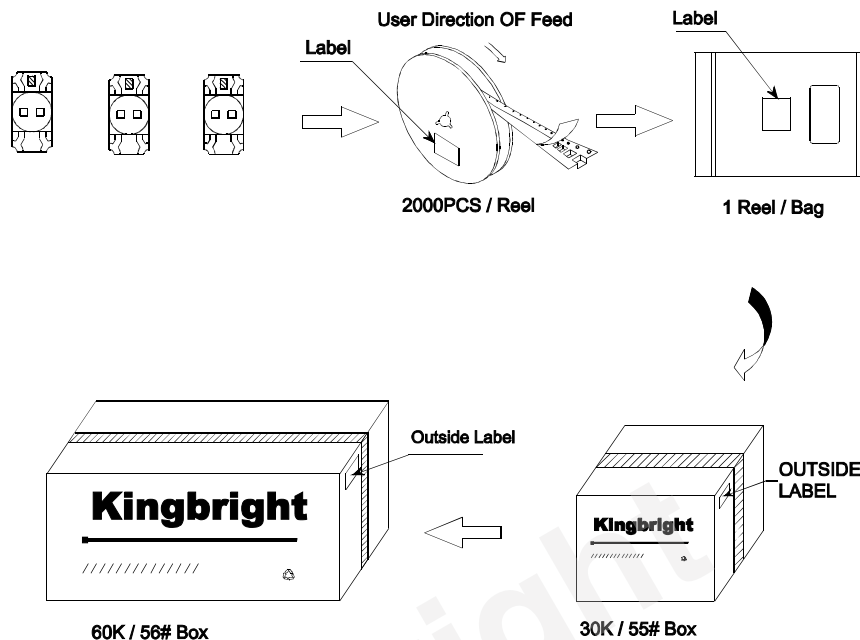


### Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KPTBD-3216SURKCGKC



<b>Kingbright</b>					
P/NO: KPTBD-3216xxx					
QTY: 2000 pcs	Q.C.	<table border="1"> <tr> <td>QC</td> </tr> <tr> <td>xxxxxxx</td> </tr> <tr> <td>PASSED</td> </tr> </table>	QC	xxxxxxx	PASSED
QC					
xxxxxxx					
PASSED					
S/N: XXXX					
CODE: XXX					
LOT NO:					
RoHS Compliant					

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