

Part Number: KPG1-1608SURC-TT

Hyper Red

### Features

- 1.6mmX0.8mm SMD LED, 0.2mm thickness.
- Low power consumption.
- Wide viewing angle.
- Compatible with automatic placement equipment.
- Ideal for backlight and indicator.
- Package: 4000pcs / reel.
- Moisture sensitivity level : level 3.
- RoHS compliant.

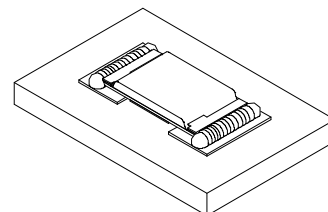
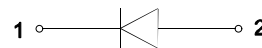
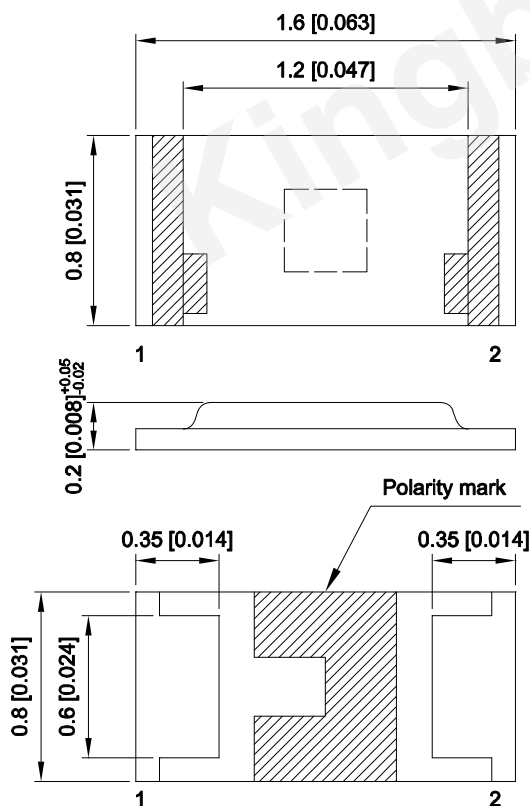
### Description

The Hyper Red source color devices are made with Al-GaN/P on GaAs substrate Light Emitting Diode.

### Applications

- 1.Mobile phone Keypad indicator and backlight.
- 2.Flat backlight for LCD, switch and symbol.
- 3.Toys.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.1$  (0.004") 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
KPG1-1608SURC-TT	Hyper Red (AlGaInP)	Water Clear	60	195	120°
			*20	*65	

### 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
$\lambda_{peak}$	Peak Wavelength	Hyper Red	639		nm	I <sub>F</sub> =20mA
$\lambda_D$ [1]	Dominant Wavelength	Hyper Red	631		nm	I <sub>F</sub> =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	Hyper Red	20		nm	I <sub>F</sub> =20mA
C	Capacitance	Hyper Red	35		pF	V <sub>F</sub> =0V; f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Hyper Red	2	2.4	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Hyper Red		10	uA	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.

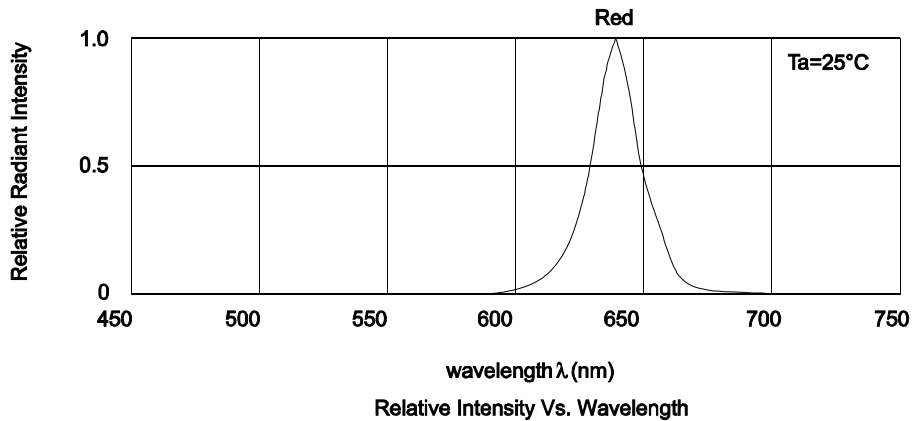
## Absolute Maximum Ratings at TA=25°C

Parameter	Values	Units
Power dissipation	48	mW
DC Forward Current	20	mA
Peak Forward Current [1]	100	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

### Notes:

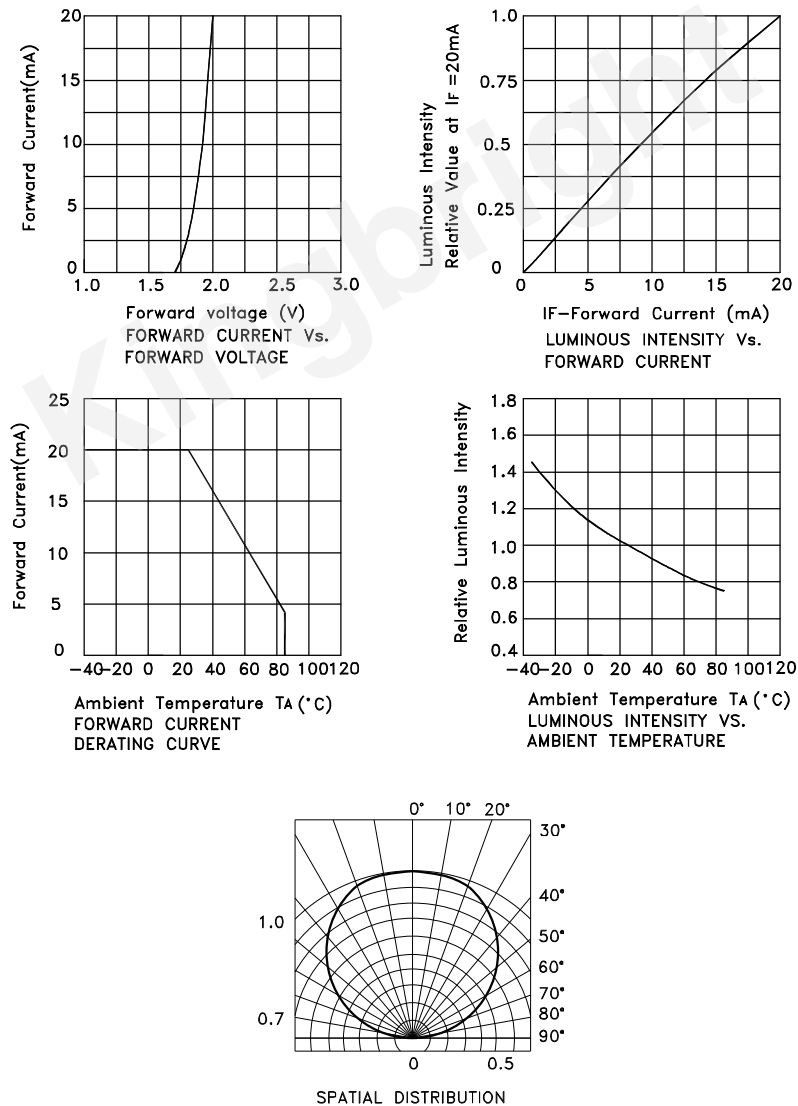
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

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.



## Hyper Red

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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.

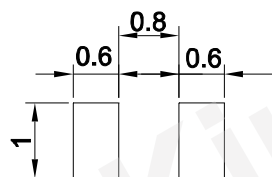
Reflow Soldering Profile For Lead-free SMT Process.



### NOTES:

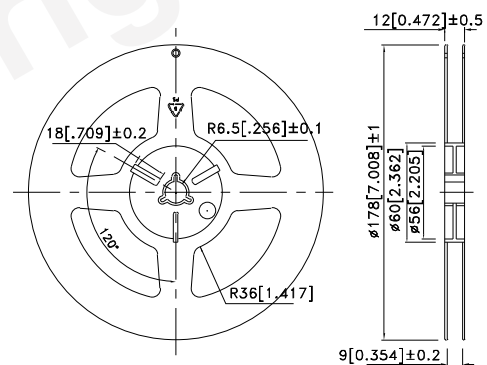
1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

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

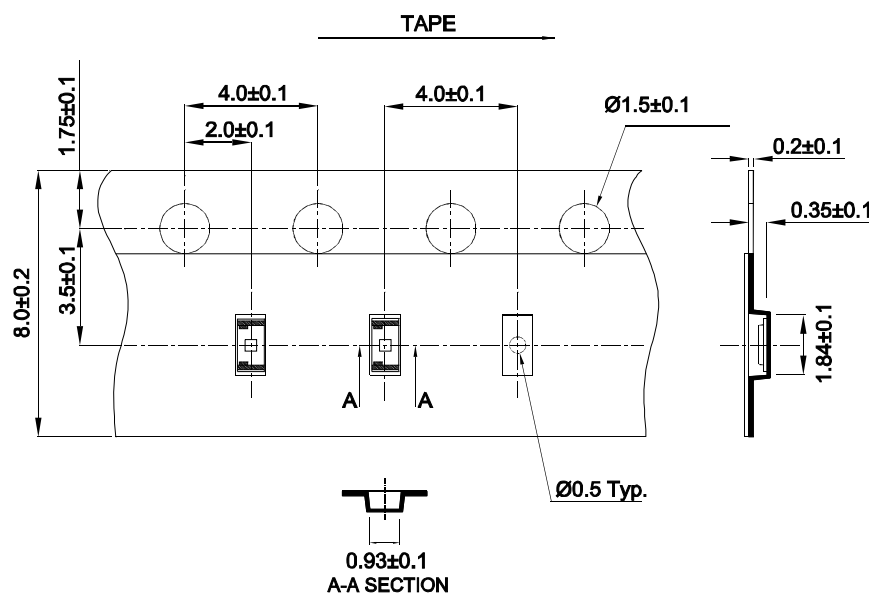


Mask open area ratio: 80%;  
Mask thickness: 80~100um;

## Reel Dimension

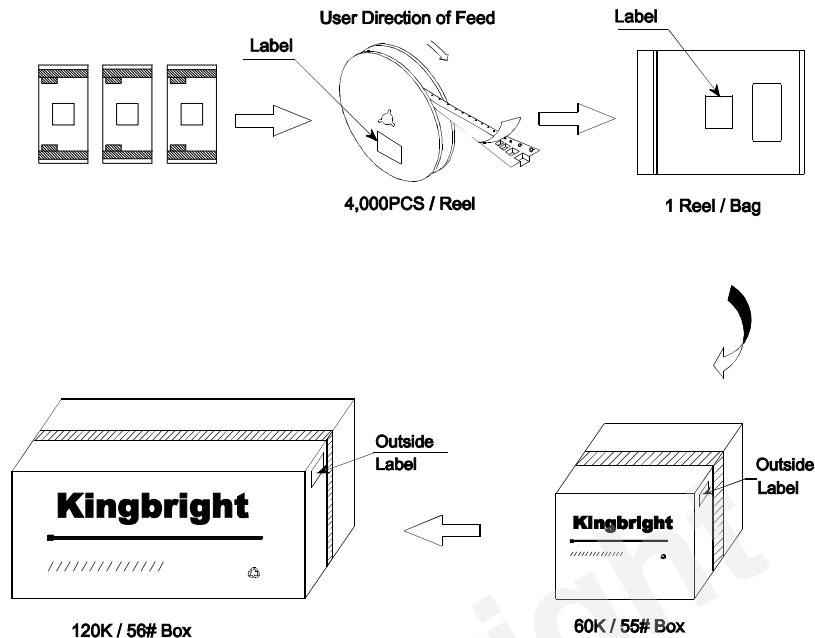



## Tape Dimensions (Units : mm)



## PACKING & LABEL SPECIFICATIONS

## KPG1-1608SURC-TT



<b>Kingbright</b>		
P/NO: KPG1-1608xxx		
QTY: 4,000 PCS	Q.C.	QC
S/N: XXXX		xxxxxxx
CODE: XXX		PASSED
LOT NO:		
		
RoHS Compliant		

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