1.6x0.8x0.2mm (0603) SMD CHIP LED LAMP

Part Number: KPG1-1608SEC-E-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.

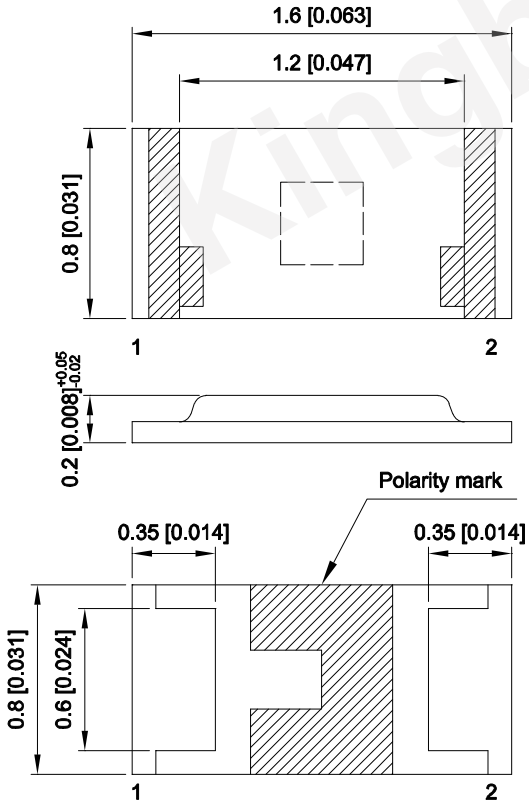
Description

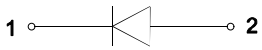
The Hyper-Red source color devices are made with Al-GaInP on GaAs substrate Light Emitting Diode.

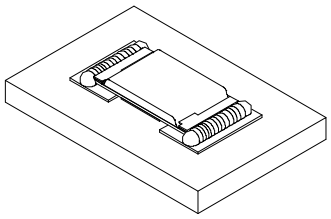
Applications

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 ±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
KPG1-1608SEC-E-TT	Hyper-Red (AlGaInP)	Water Clear	60	225	120°
			*20	*75	

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

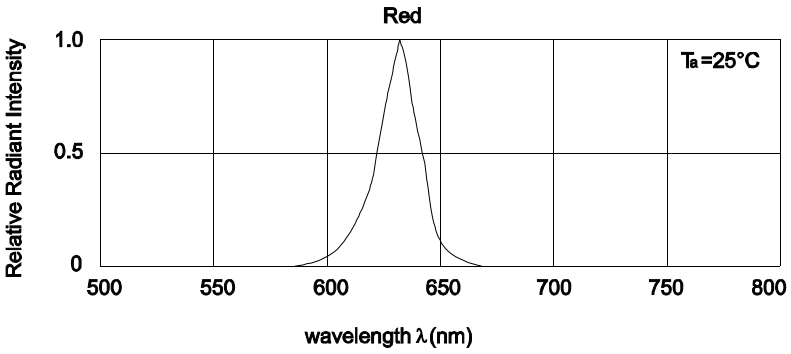
Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Hyper-Red	632		nm	I_F=20mA
λD [1]	Dominant Wavelength	Hyper-Red	624		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	Hyper-Red	20		nm	I_F=20mA
C	Capacitance	Hyper-Red	25		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	Hyper-Red	2	2.4	V	I_F=20mA
I_R	Reverse Current	Hyper-Red		10	uA	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

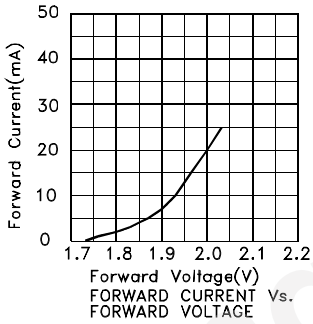
Parameter	Values	Units
Power dissipation	60	mW
DC Forward Current	25	mA
Peak Forward Current [1]	120	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

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.

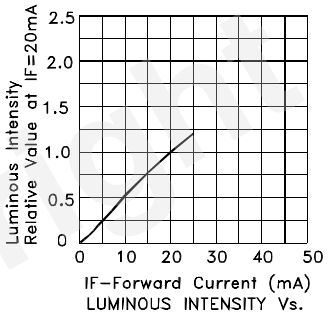


Relative Intensity Vs. Wavelength

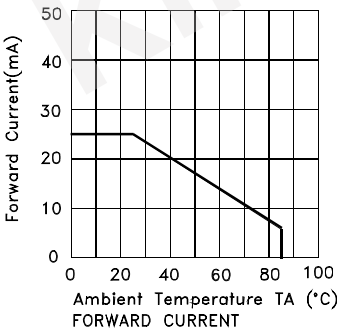
Hyper-Red **KPG1-1608SEC-E-TT**



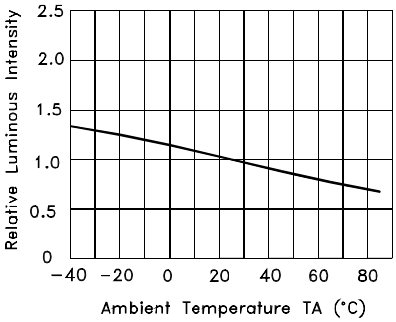
FORWARD CURRENT Vs. FORWARD VOLTAGE



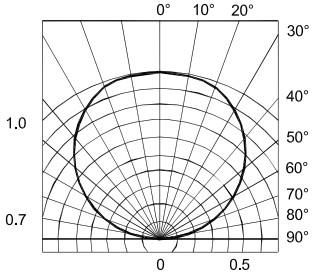
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE

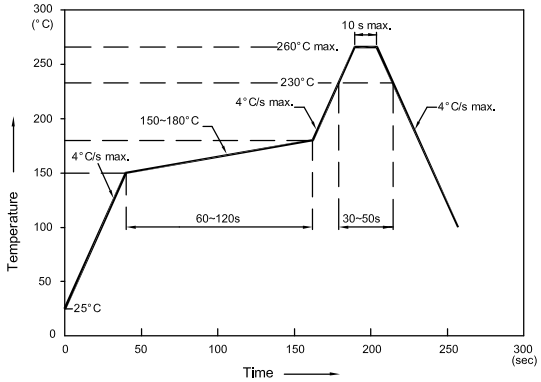


SPATIAL DISTRIBUTION

KPG1-1608SEC-E-TT

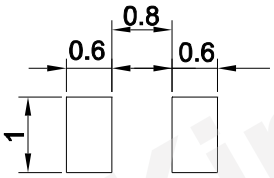
Reflow soldering is recommended and the soldering profile is shown below.
Other soldering methods are not recommended as they might cause damage to the product.

Reflow Soldering Profile For Lead-free SMT Process.



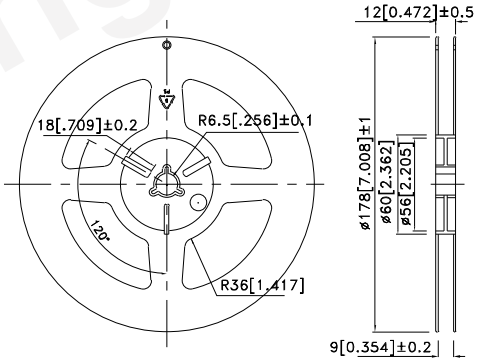
NOTES:
1. We recommend the reflow temperature 245°C(+/-5°C).The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

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

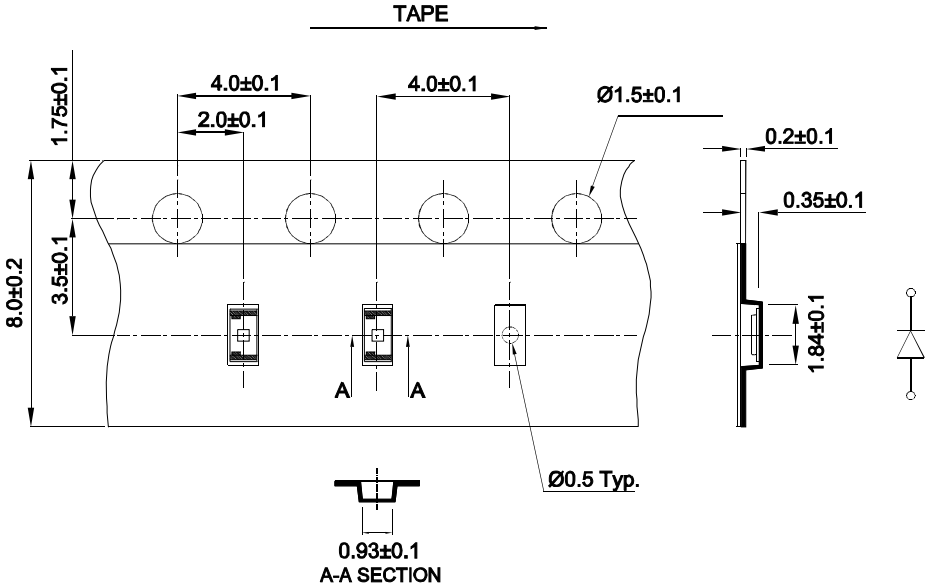


Mask open area ratio:80%;
Mask thickness:80~100um;

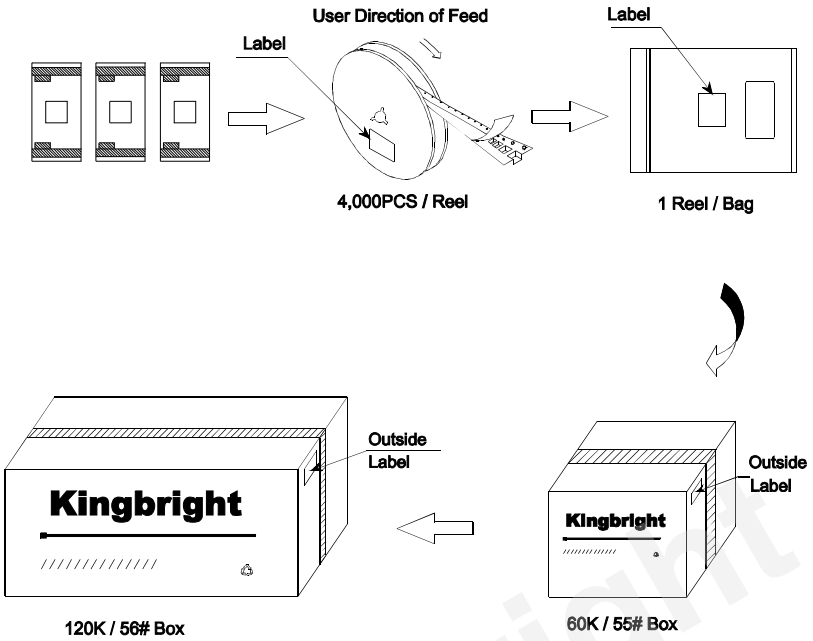
Reel Dimension

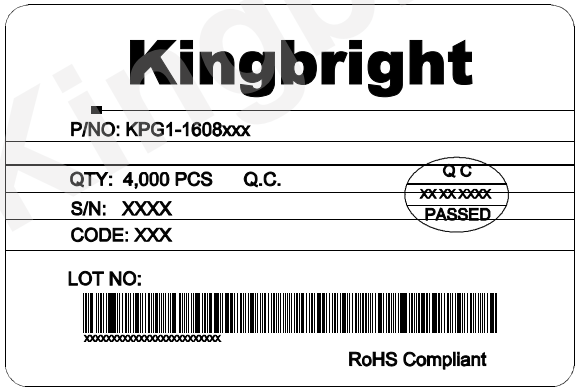


Tape Dimensions
(Units : mm)



PACKING & LABEL SPECIFICATIONS KPG1-1608SEC-E-TT





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