

PRELIMINARY SPEC

Part Number: KPGA-1602SURC-KA

Hyper Red

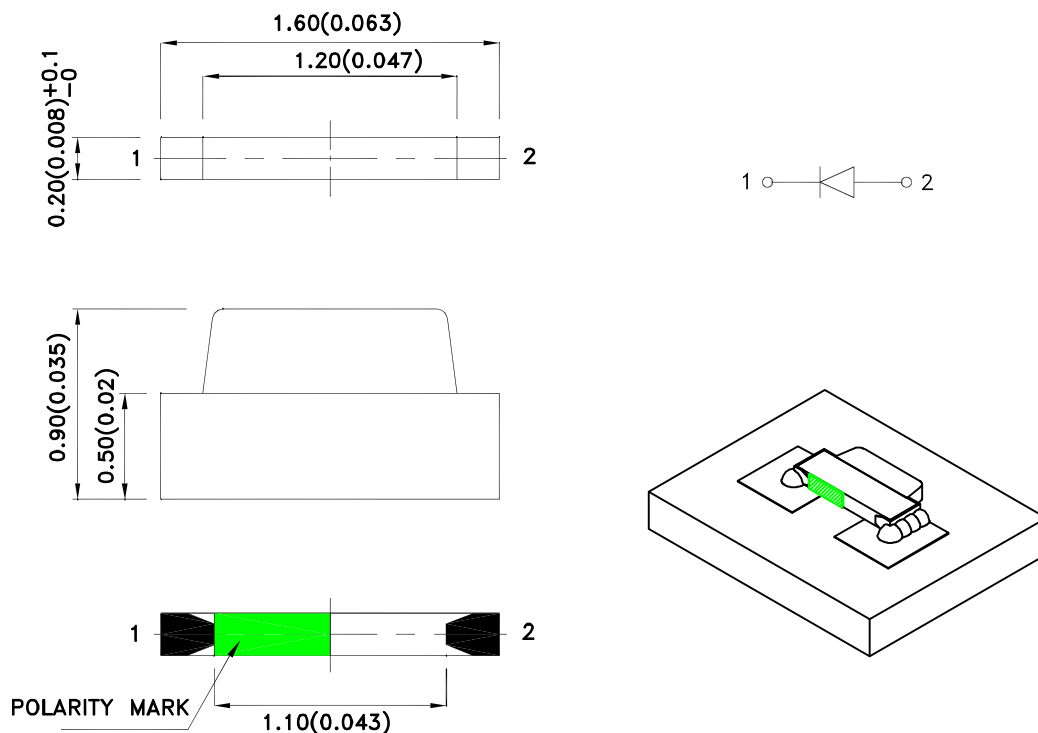
Features

- 1.6mmx0.9mm right angle SMT LED,0.2mm thickness.
- Low power consumption.
- Wide viewing angle.
- Ideal for backlight and indicator.
- Various colors and lens types available.
- Moisture sensitivity level : level 3.
- Package :2000pcs / reel.
- Tinned pads for improved solderability.
- RoHS compliant.

Description

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

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.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
KPGA-1602SURC-KA	Hyper Red (AlGaInP)	Water Clear	80	210	145° (H)
			*20	*70	130° (V)

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 the CIE127-2007 compliant national standards.

Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ _{peak}	Peak Wavelength	Hyper Red	639		nm	I _F =20mA
λ _D [1]	Dominant Wavelength	Hyper Red	631		nm	I _F =20mA
Δλ _{1/2}	Spectral Line Half-width	Hyper Red	20		nm	I _F =20mA
V _F [2]	Forward Voltage	Hyper Red	2.05	2.4	V	I _F =20mA
I _R	Reverse Current	Hyper Red		10	μA	V _R =5V

Notes:

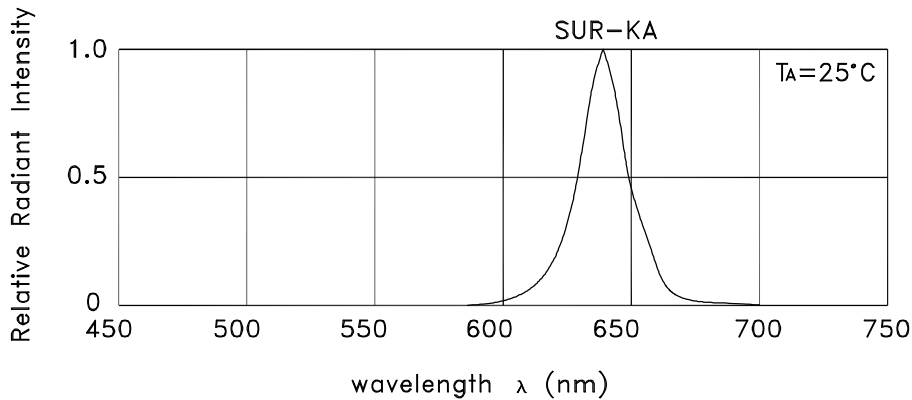
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

Absolute Maximum Ratings at TA=25°C

Parameter	Hyper Red	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 +100°C	

Note:

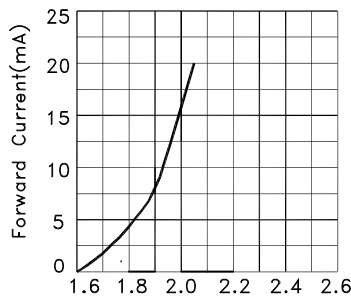
1. 1/10 Duty Cycle, 0.1ms Pulse Width.



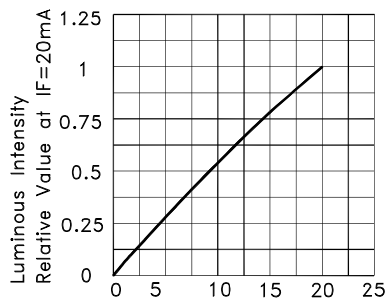
RELATIVE INTENSITY Vs. WAVELENGTH

Hyper Red

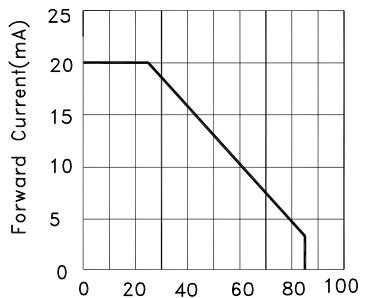
KPGA-1602SURC-KA



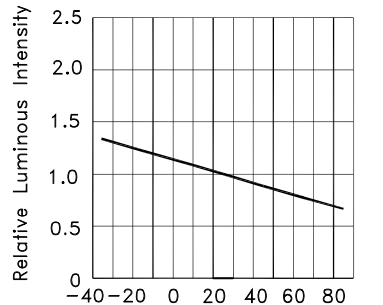
FORWARD CURRENT Vs. FORWARD VOLTAGE



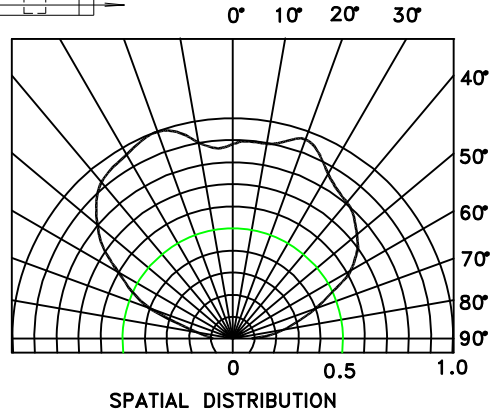
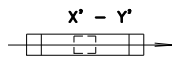
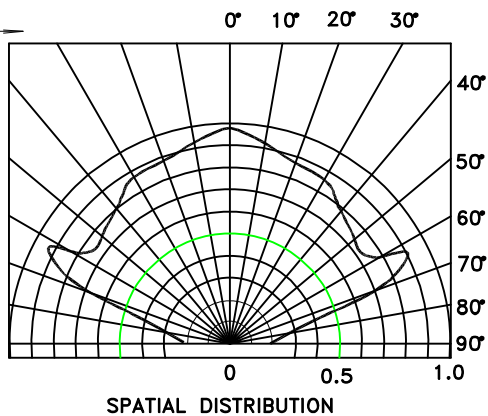
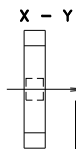
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE



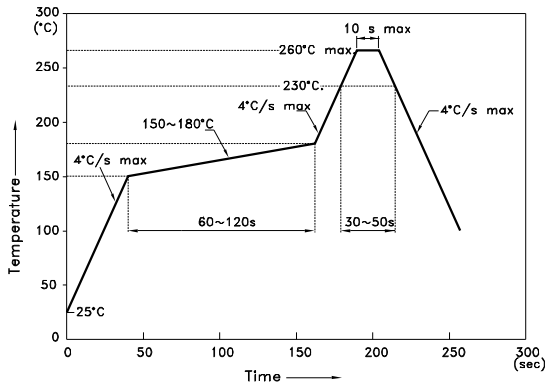
LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



KPGA-1602SURC-KA

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.

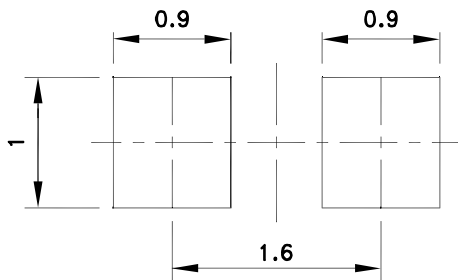
Reflow Soldering Profile For Lead-free SMT Process.



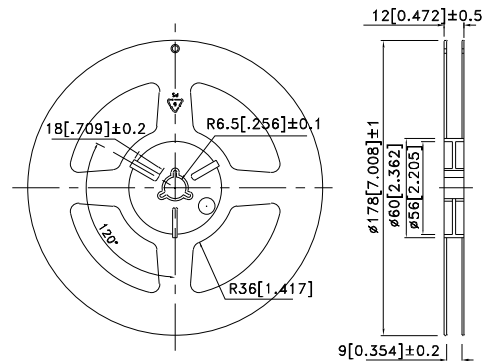
NOTES:

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.

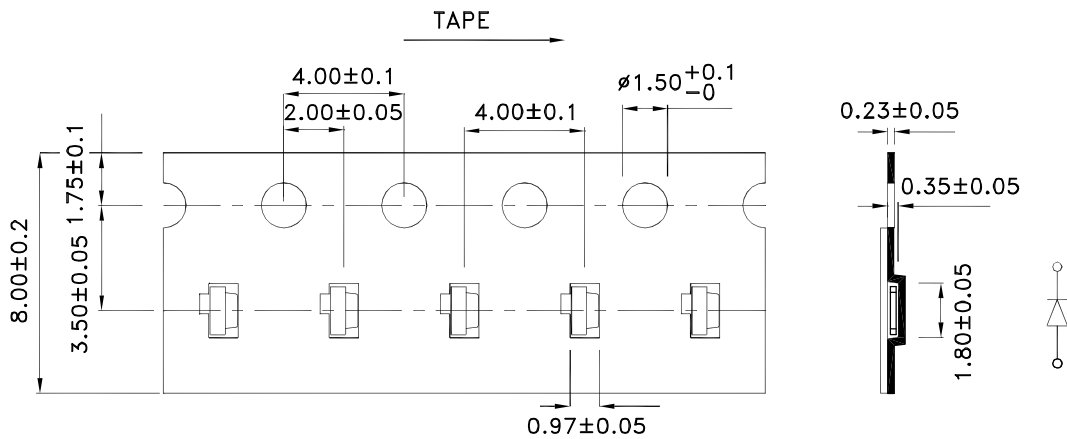
Recommended Soldering Pattern (Units : mm; Tolerance: ± 0.1)



Reel Dimension

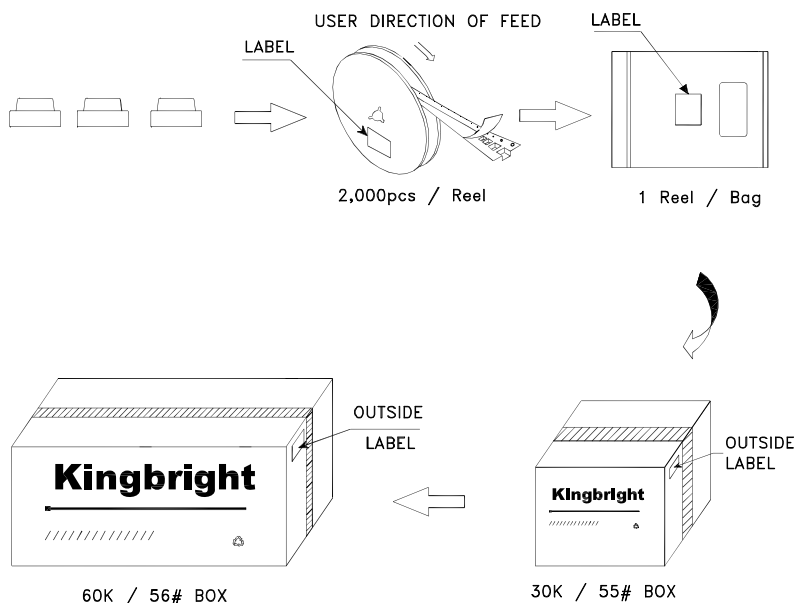



Tape Dimensions (Units : mm)



PACKING & LABEL SPECIFICATIONS

KPGA-1602SURC-KA



Kingbright	
P/NO: KPGA-1602xxx	
QTY: 2,000 pcs	Q.C. Q C xx xx xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 <small>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</small>	
RoHS Compliant	

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