

Part Number: L-1387QMP/1SURKCGKW

Hyper Red  
Green

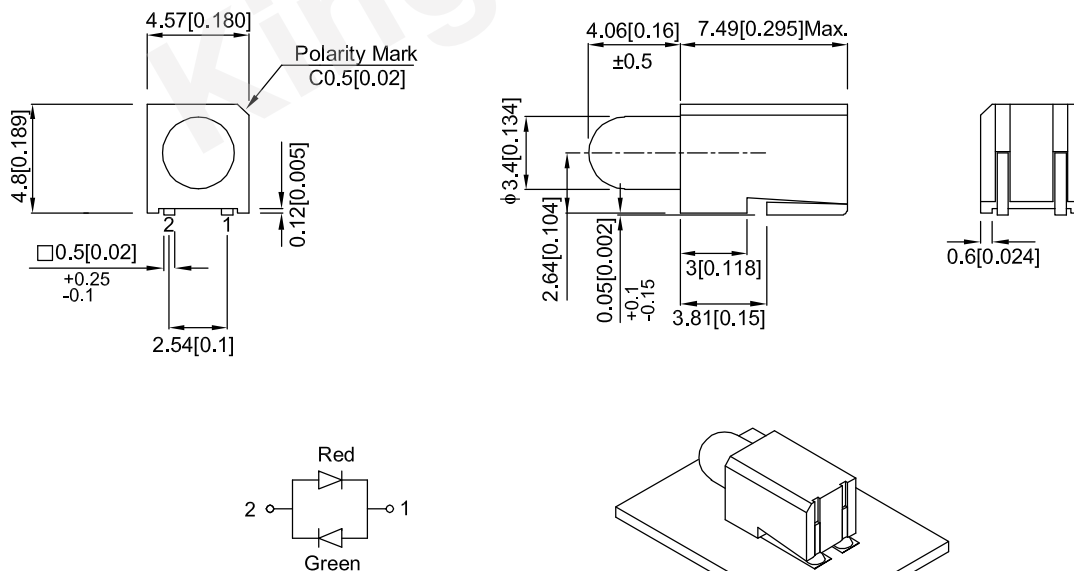
### Features

- Surface mount type.
- Black case enhances contrast ratio.
- Wide viewing angle.
- High reliability life measured in years.
- Package: 1000pcs / reel.
- Moisture sensitivity level : level 3.
- Housing UL rating: 94V-0.
- Housing material: PPA.
- High temperature resistant housing.
- High glass transition temperature epoxy.
- RoHS compliant.

### Descriptions

- The Hyper Red source color devices are made with Al GaInP 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  $\pm 0.25$  (0.01") unless otherwise noted.
3. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.



## Selection Guide

Part No.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	
L-1387QMP/1SURKCGKW	Hyper Red (AlGaInP)	White Diffused	180	400	70°
			60*	160*	
	Green (AlGaInP)		50	120	
			50*	120*	

### 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 Green	645 574		nm	I <sub>F</sub> =20mA
$\lambda_D$ [1]	Dominant Wavelength	Hyper Red Green	630 570		nm	I <sub>F</sub> =20mA
$\Delta\lambda_{1/2}$	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

### 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.

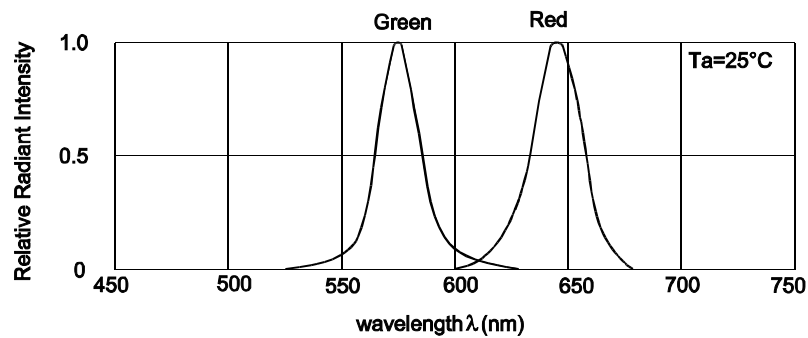
## Absolute Maximum Ratings at TA=25°C

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

### Notes:

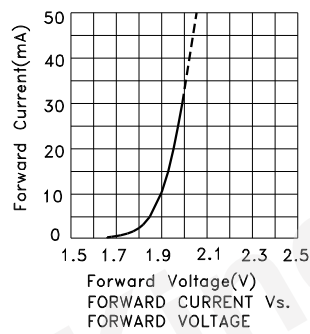
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

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.

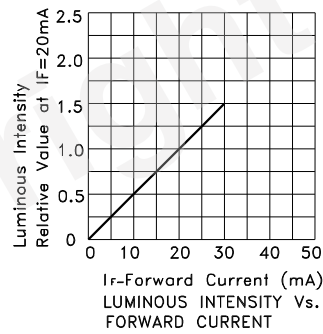


Relative Intensity Vs. Wavelength

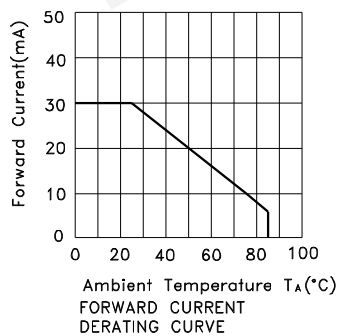
**L-1387QMP/1SURKCGKW**  
**Hyper Red**



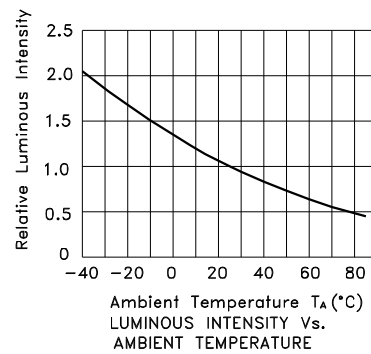
FORWARD CURRENT Vs. FORWARD VOLTAGE



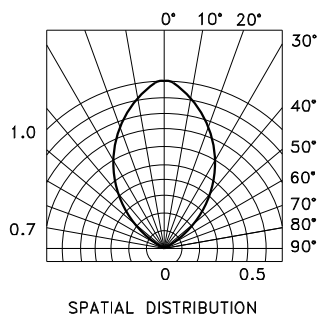
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE

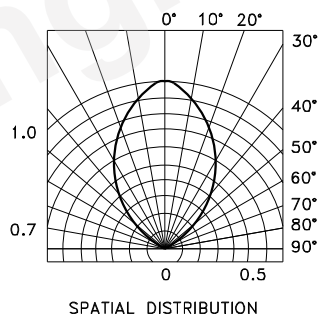
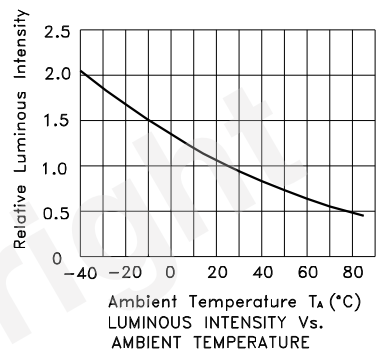
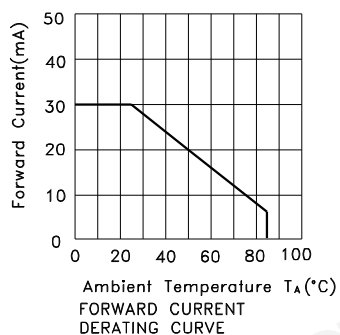
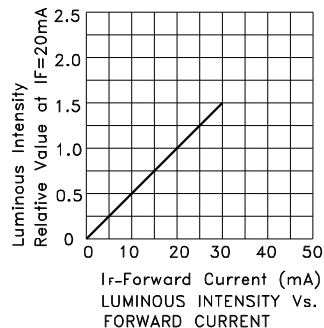
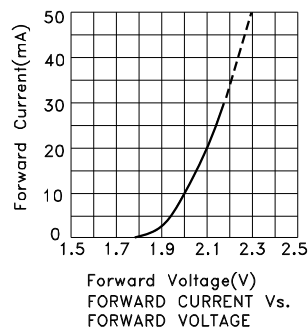


LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



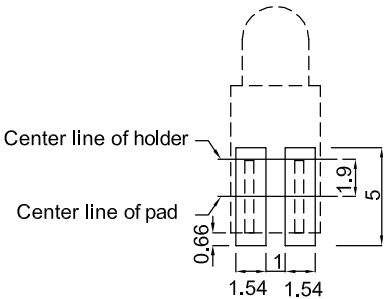
SPATIAL DISTRIBUTION

## Green

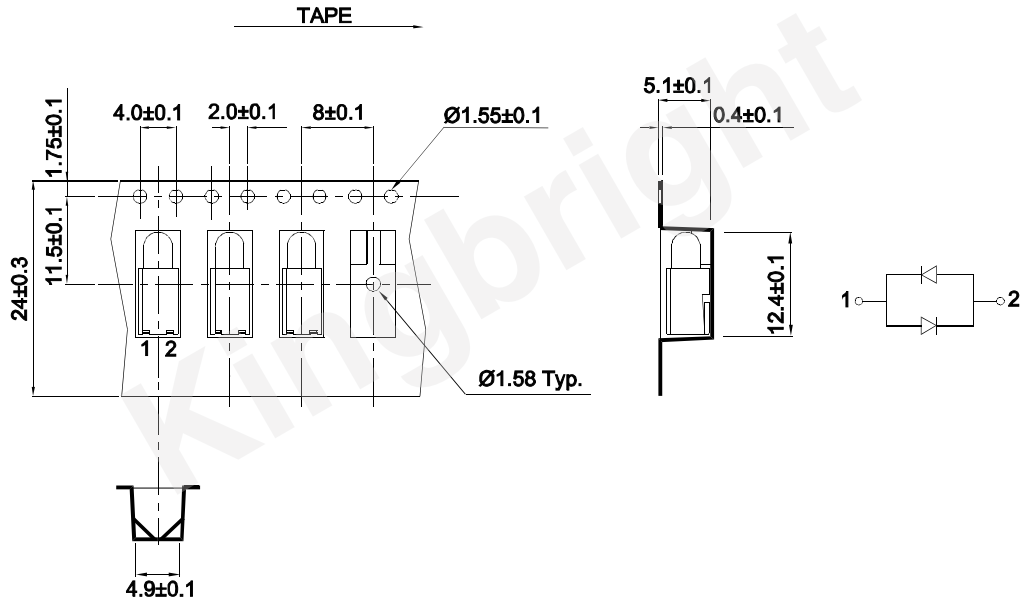


**L-1387QMP/1SURKCGKW**

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

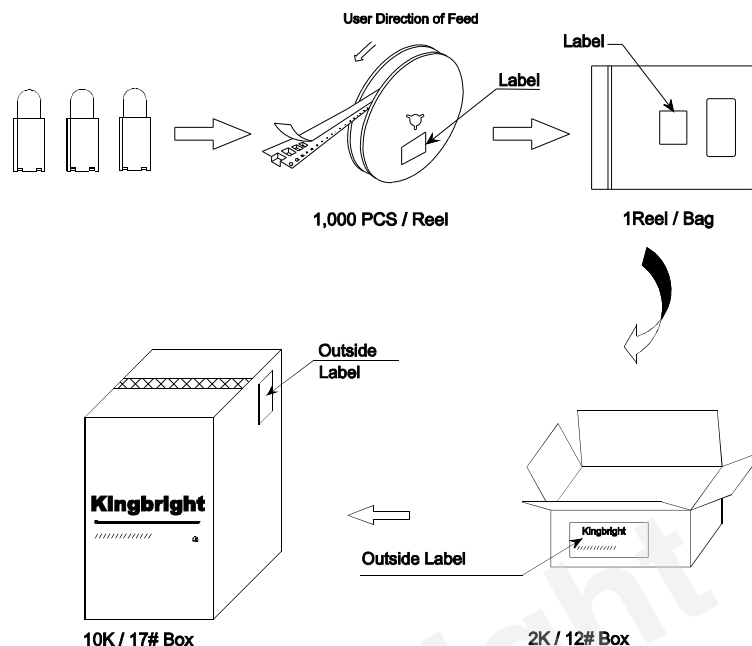



**Tape Dimensions**  
(Units : mm)



## PACKING & LABEL SPECIFICATIONS

L-1387QMP/1SURKCGKW



<b>Kingbright</b>	
P/NO: L-1387QMPxxx	
QTY: 1,000 PCS	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q.C. xxxxxxx PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

### Terms and conditions for the usage of this document

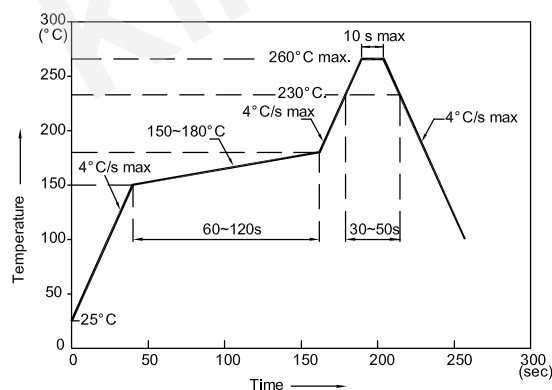
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## PRECAUTIONS

1. A moisture barrier bag (MBB) containing LEDs shall be kept in an environment with temperature below 40°C and humidity below 90% RH.  
A MBB shall be kept sealed until the LEDs contained in that bag are to be used immediately.  
Store in an environment with temperature 5~30°C and humidity below 60% RH.
2. After a MBB has been opened, all LEDs contained in that bag shall complete soldering process within according to the conditions listed on the Kingbright MBB.
3. If the 10% spot of a humidity indicator card (HIC) indicates wet, LEDs shall be baked according to the conditions listed on the Kingbright MBB.
4. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



5. The tip of the soldering iron should never touch the lens epoxy.
6. After soldering, allow at least three minutes for the component to cool down to room temperature before further operations.
7. If the LED will undergo multiple soldering passes or face other processes where the part may be subjected to intense heat, please check with Kingbright for compatibility.
8. Recommended Reflow Soldering Profiles For SMD Housing LEDs



### 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. Recommended Solder: Sn/Cu/Ag.
4. No more than once.