

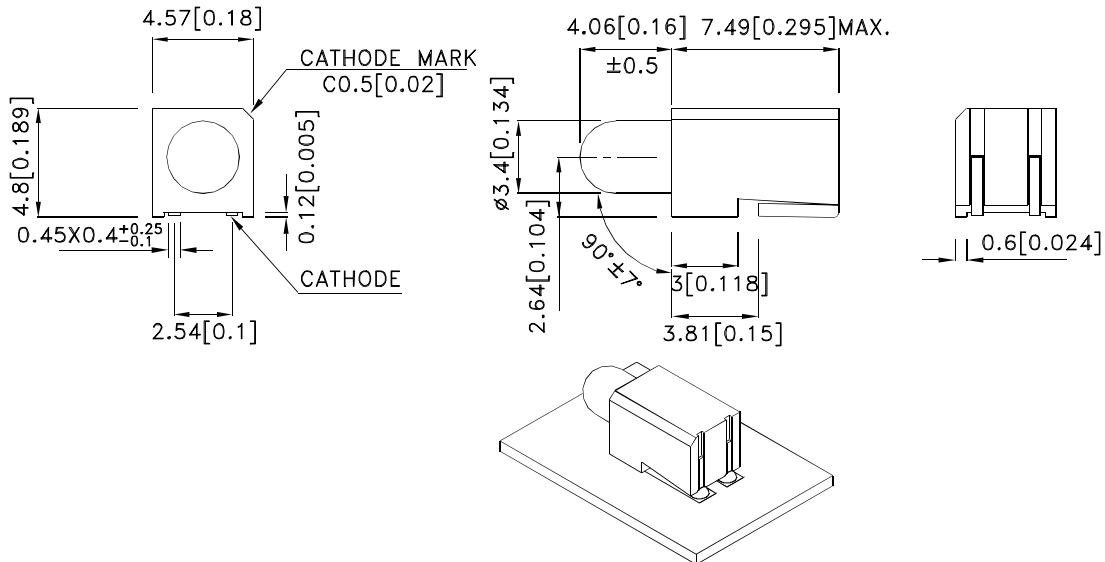
### Features

- 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.

### Description

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

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±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.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP138A8QMP/SURDK/TG	Hyper Red (AlGaInP)	Red Diffused	500	1000	60°
			*150	*300	

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 <sub>peak</sub>	Peak Wavelength	Hyper Red	645		nm	I <sub>F</sub> =20mA
λ <sub>D</sub> [1]	Dominant Wavelength	Hyper Red	630		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Hyper Red	28		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	1.95	2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Hyper Red		10	uA	V <sub>R</sub> = 5V

Notes:

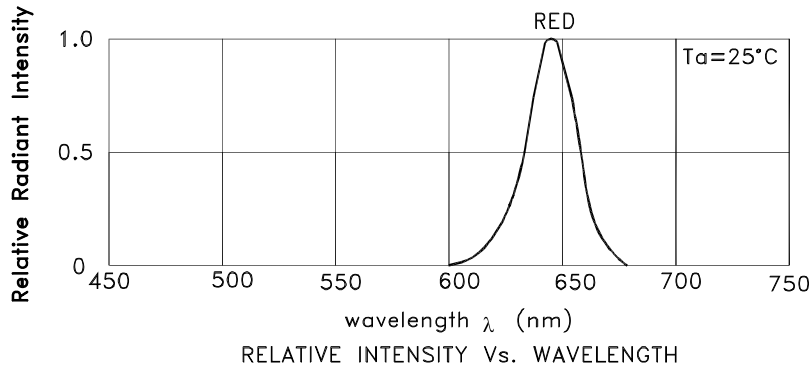
- 1.Wavelength: +/-1nm.
- 2.Forward Voltage: +/-0.1V.
- 3.Wavelength value is traceable to the CIE127-2007 compliant national standards.
- 4.Excess driving current and/or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

## Absolute Maximum Ratings at TA=25°C

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

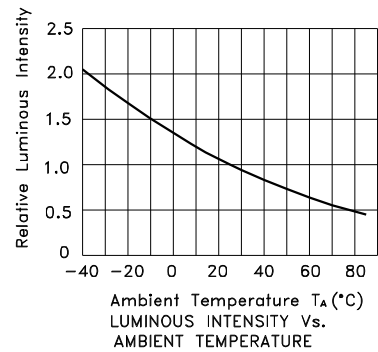
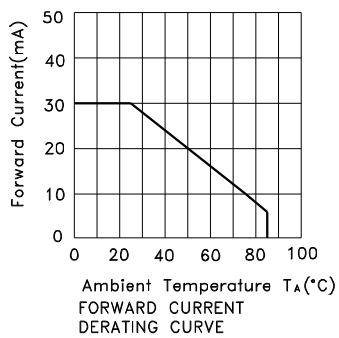
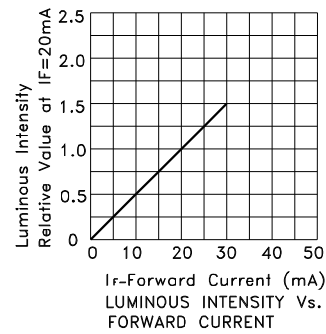
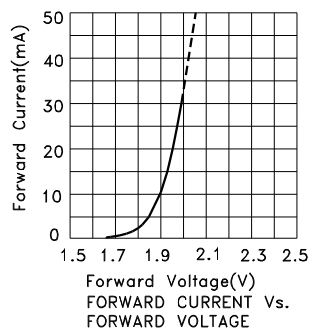
Notes:

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

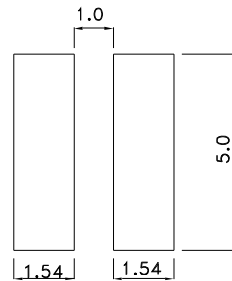


## Hyper Red

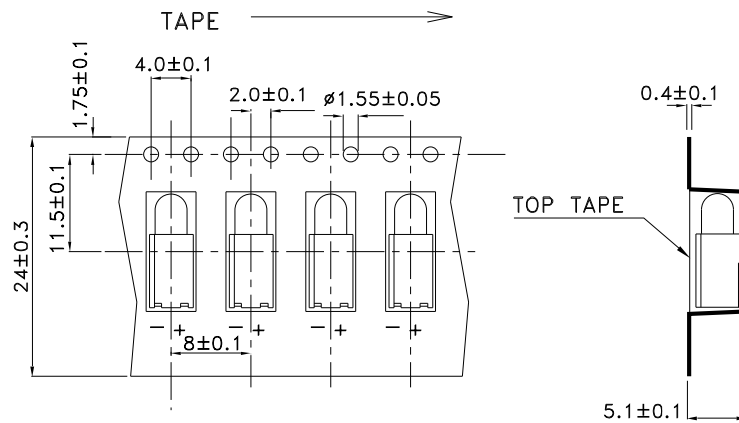
### WP138A8QMP/SURDK/TG



**WP138A8QMP/SURDK/TG**  
**Recommended Soldering Pattern**  
 (Units : mm; Tolerance:  $\pm 0.1$ )

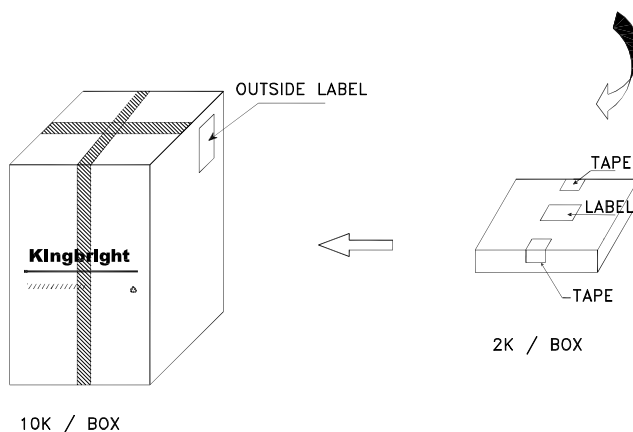
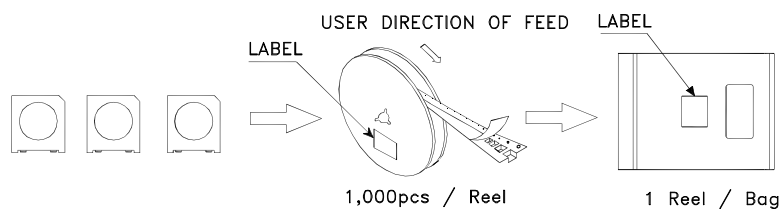



**Tape Dimensions**  
 (Units : mm)



## PACKING & LABEL SPECIFICATIONS

WP138A8QMP/SURDK/TG



<b>Kingbright</b>	
P/NO: WP138A8QMPxxx	
QTY: 1,000 pcs	Q.C. <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Q C XX XX XX PASSED</span>
S/N: XXXX	
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

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

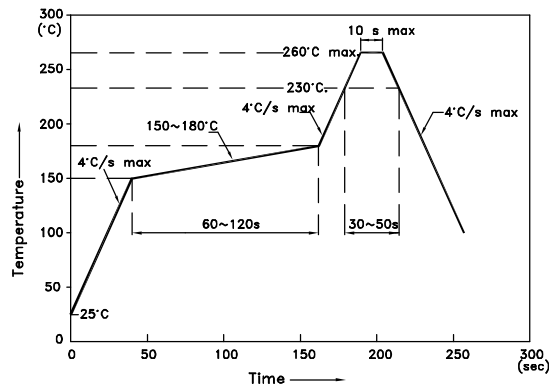
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## PRECAUTIONS

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. Storage 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.