Kingbright

3.4mm RIGHT ANGLE LED INDICATOR

Part Number: WP138A8QMP/ID/TG

High Efficiency Red

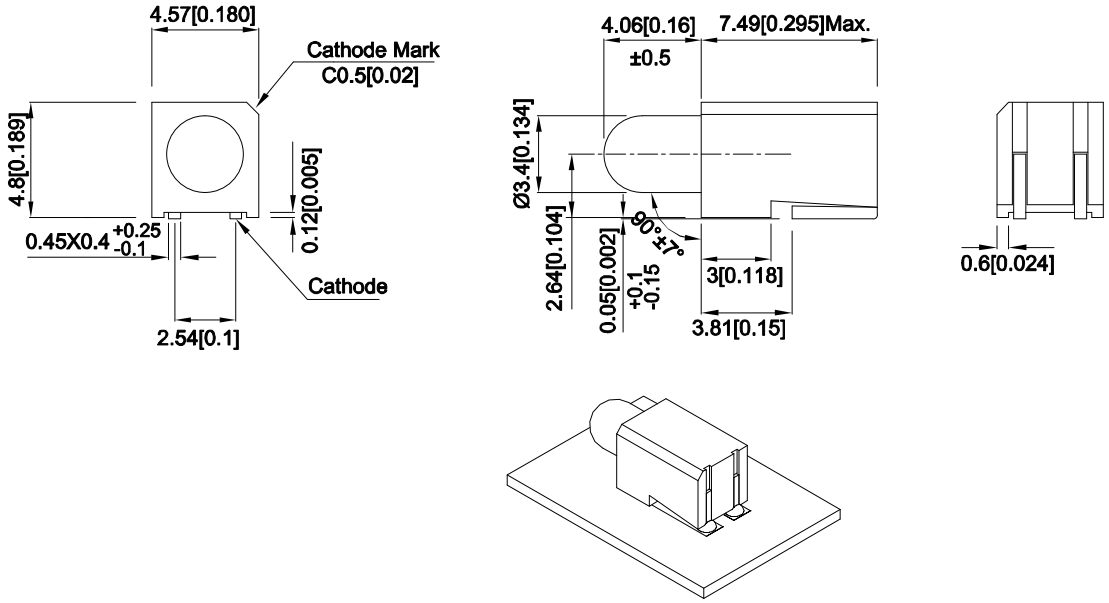
Features

- 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 High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange 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.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 10mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP138A8QMP/ID/TG	High Efficiency Red (GaAsP/GaP)	Red Diffused	10	20	40°
			*4	*10	

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

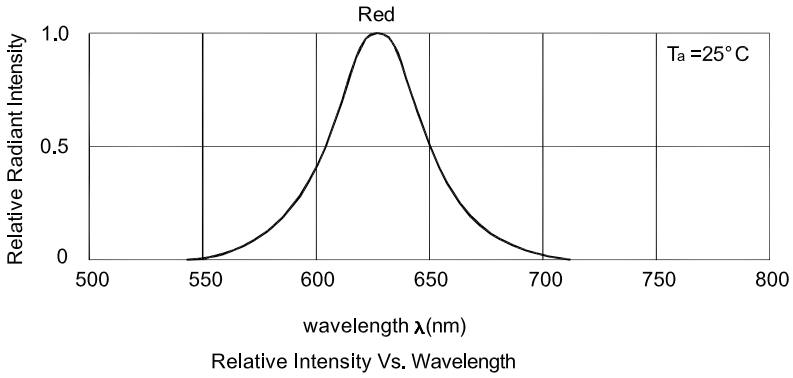
Symbol	Parameter	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red	627		nm	I_F=10mA
λD [1]	Dominant Wavelength	High Efficiency Red	617		nm	I_F=10mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red	45		nm	I_F=10mA
C	Capacitance	High Efficiency Red	15		pF	V_F=0V;f=1MHz
V_F [2]	Forward Voltage	High Efficiency Red	1.9	2.5	V	I_F=10mA
I_R	Reverse Current	High Efficiency 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

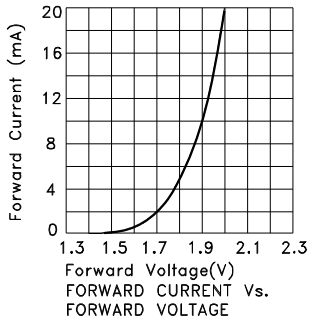
Parameter	Values	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

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.

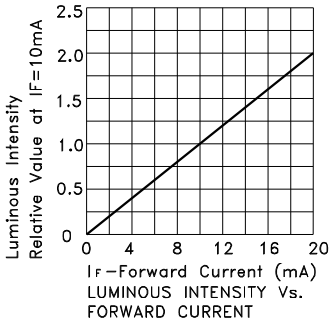


Relative Intensity Vs. Wavelength

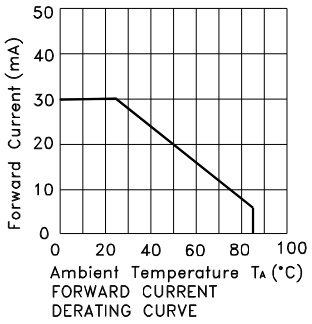
High Efficiency Red **WP138A8QMP/ID/TG**



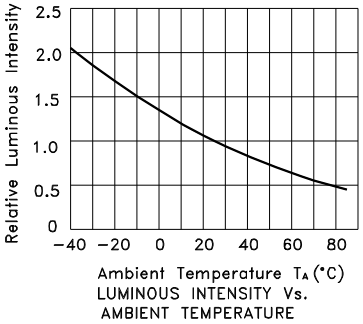
FORWARD CURRENT Vs. FORWARD VOLTAGE



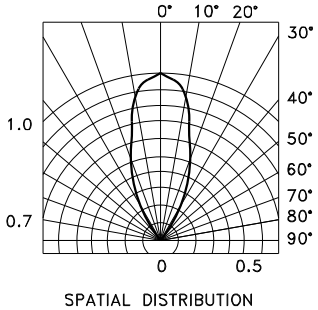
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION

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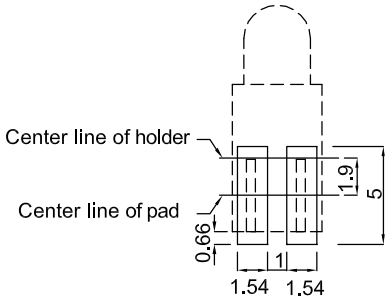
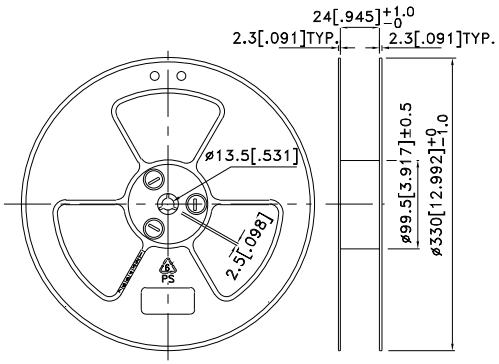
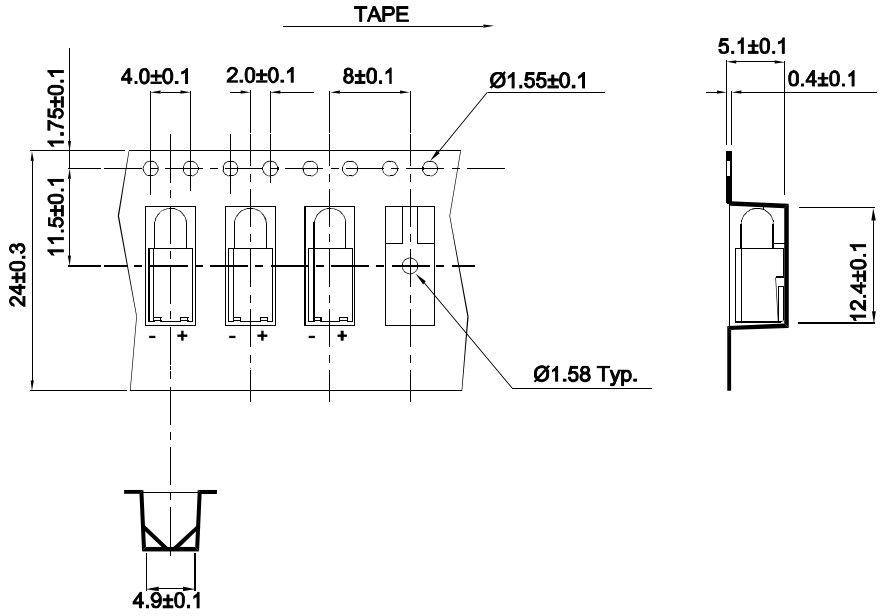
Recommended Soldering Pattern
(Units : mm; Tolerance: ± 0.1)



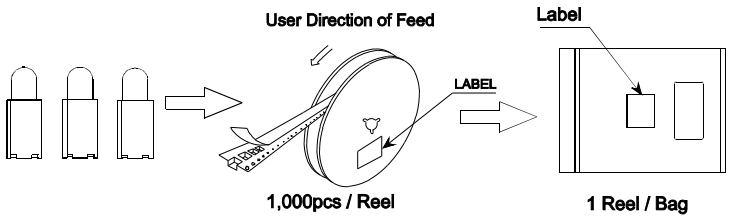
Reel Dimension

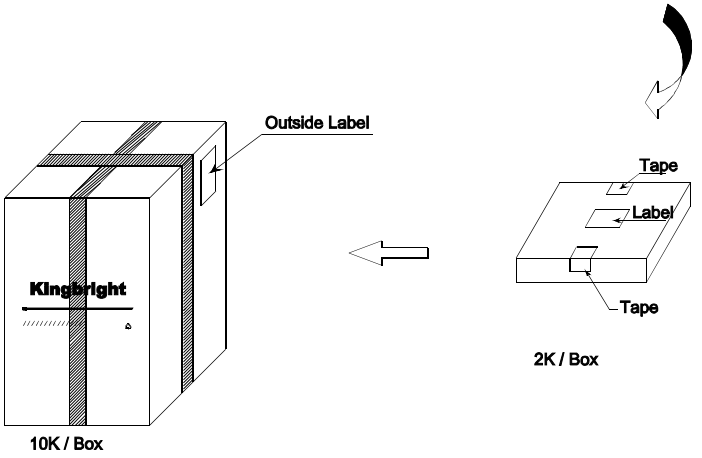


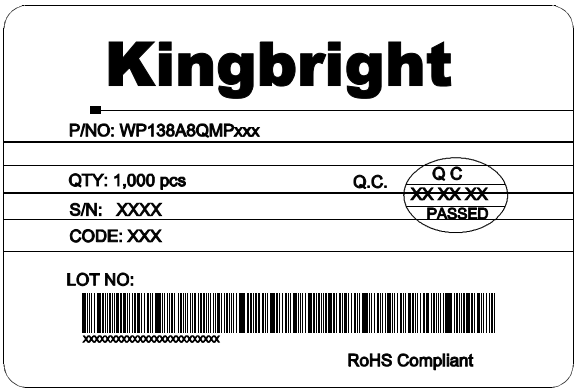
Tape Dimensions
(Units : mm)



PACKING & LABEL SPECIFICATIONS **WP138A8QMP/ID/TG**







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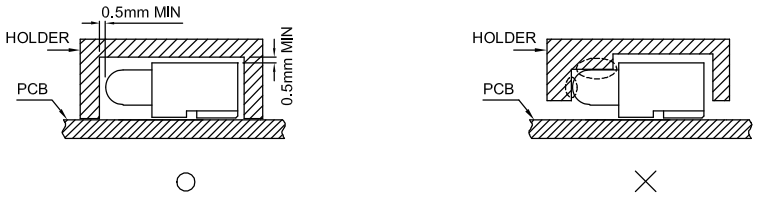
PRECAUTIONS

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.
Storge 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.



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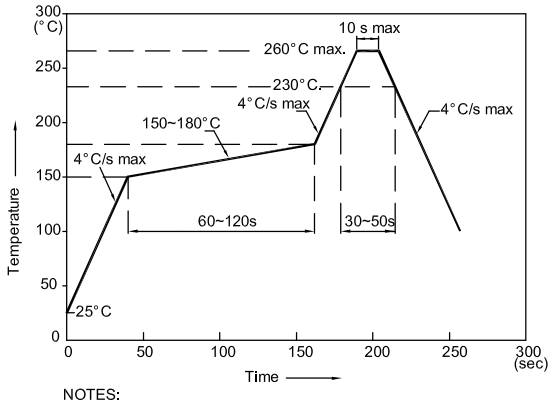
5.The tip of the soldering iron should never touch the lens epoxy.

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.

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