

Part Number: L-138A8QMP/1SRD/TG

Super Bright Red

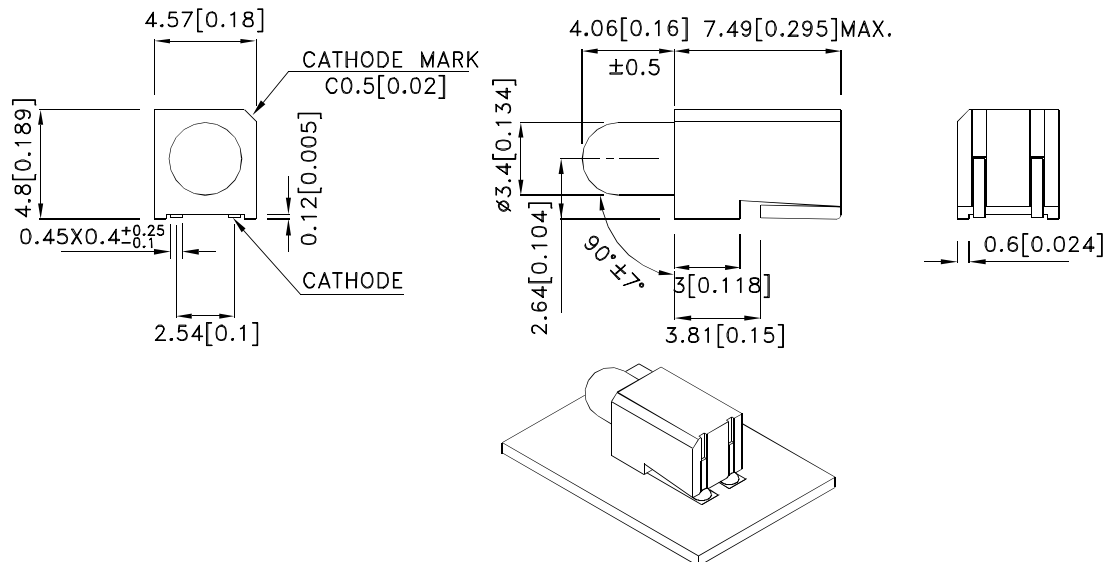
### Features

- 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 material: PPA.
- Housing UL rating : 94V-0.
- High temperature resistant housing.
- High glass transition temperature epoxy.
- RoHS compliant.

### Description

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red 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.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
L-138A8QMP/1SRD/TG	Super Bright Red (GaAlAs)	Red Diffused	150	300	60°
			*40	*90	

**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	Super Bright Red	655		nm	I <sub>F</sub> =20mA
λ <sub>D</sub> [1]	Dominant Wavelength	Super Bright Red	640		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	Super Bright Red	20		nm	I <sub>F</sub> =20mA
C	Capacitance	Super Bright Red	45		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	Super Bright Red	1.85	2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	Super Bright Red		10	uA	V <sub>R</sub> = 5V

**Notes:**

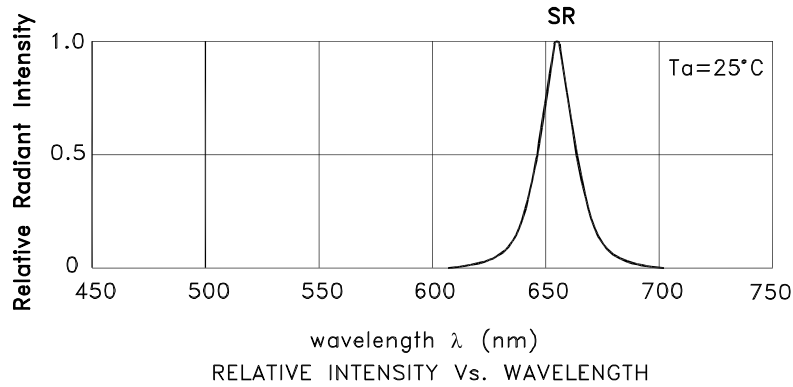
- 1.Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.

## Absolute Maximum Ratings at TA=25°C

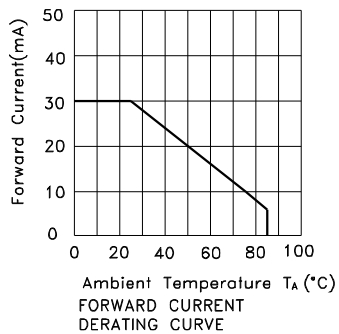
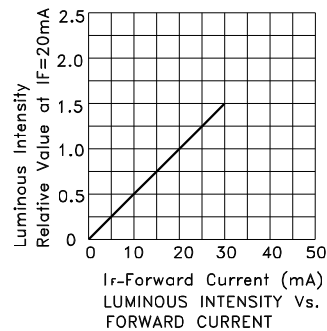
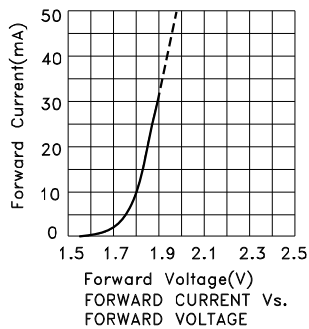
Parameter	Super Bright Red	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	155	mA
Reverse Voltage	5	V
Operating Temperature	-40°C To +85°C	
Storage Temperature	-40°C To +85°C	

**Notes:**

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

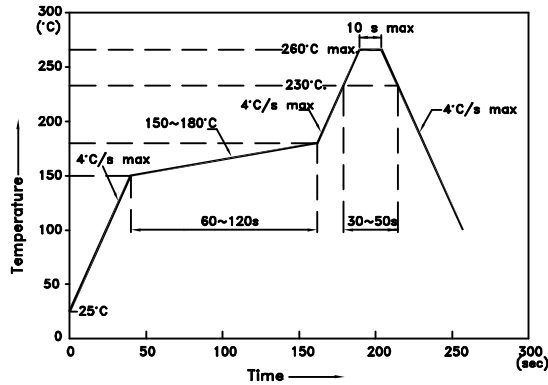


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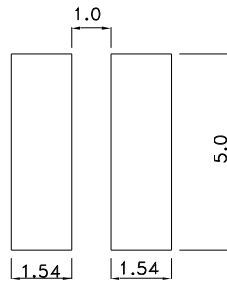
### Reflow Soldering Profile For Lead-free SMT Process.



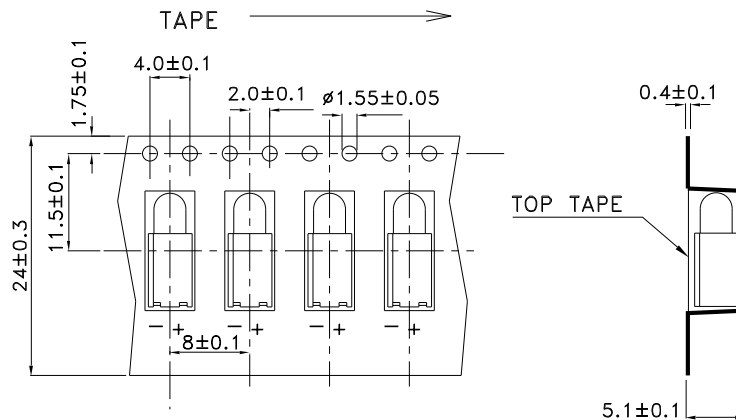
**NOTES:**

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. No more than once.

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

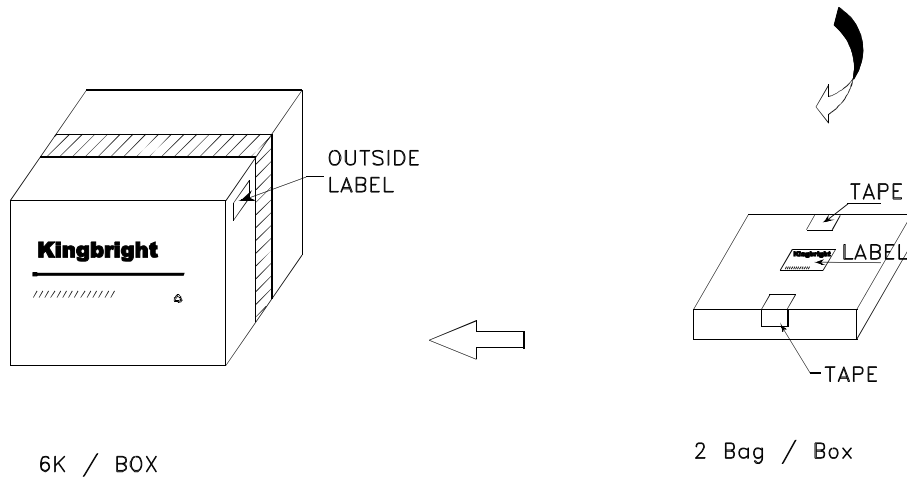
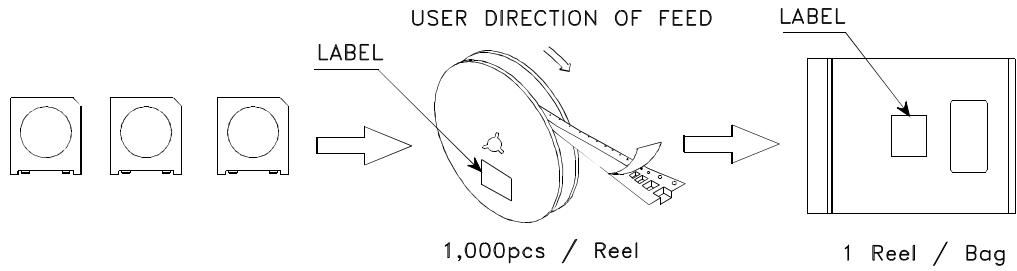



### Tape Dimensions (Units : mm)



**PACKING & LABEL SPECIFICATIONS**

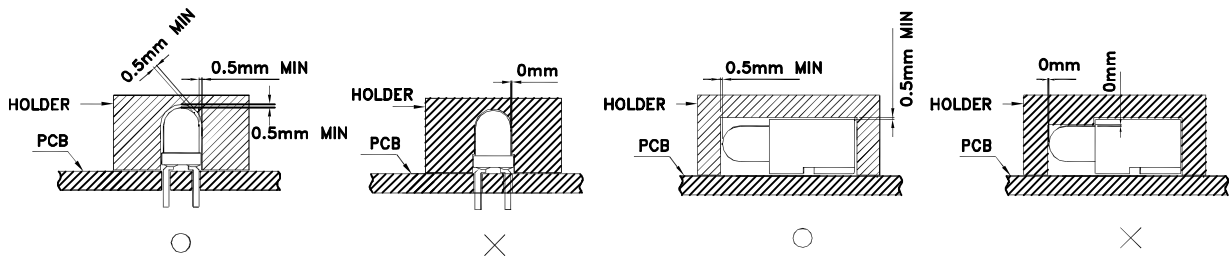
**L-138A8QMP/1SRD/TG**



<h2>Kingbright</h2>	
P/NO: L-138A8QMPxxx	
QTY: 1000 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:	
 xxxxxxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	

## 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 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.

Detailed application notes are listed on our website.  
[http://www.kingbright.com/application\\_notes](http://www.kingbright.com/application_notes)