

# T-1 (3mm) TRI-LEVEL LED INDICATOR

Part Number: WP934SA/3SRD Super Bright Red

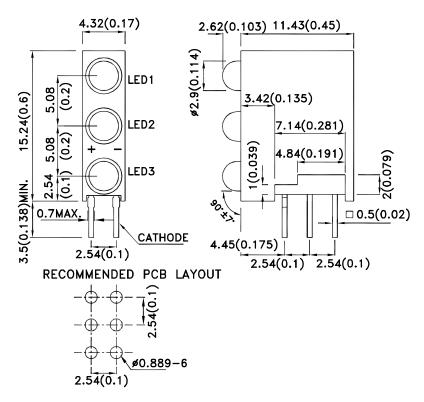
#### **Features**

- Pre-trimmed leads for pc mounting.
- Black case enhances contrast ratio.
- Wide viewing angle.
- High reliability life measured in years.
- Housing UL rating:94V-0.
- Housing material: type 66 nylon.
- RoHS compliant.

### Description

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

## **Package Dimensions**



- 1. All dimensions are in millimeters (inches).
- 2. Tolerance is ±0.25(0.01") unless otherwise noted.
- 3. Lead spacing is measured where the leads emerge from the package.
  4. The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

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### **Selection Guide**

Part No.	lv (mcd) [2] Dice Lens Type @ 20mA		,	Viewing Angle [1]	
		21	Min.	Тур.	201/2
WP934SA/3SRD	Super Bright Red (GaAlAs)	Red Diffused	150	400	40°

#### Notes:

- 1. 01/2 is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
  2. Luminous intensity/ luminous Flux: +/-15%.

# Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Тур.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Super Bright Red	660		nm	IF=20mA
λD [1]	Dominant Wavelength	Super Bright Red	640		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Super Bright Red	20		nm	IF=20mA
С	Capacitance	Super Bright Red	45		pF	VF=0V;f=1MHz
VF [2]	Forward Voltage	Super Bright Red	1.85	2.5	V	IF=20mA
lr	Reverse Current	Super Bright Red		10	uA	VR = 5V

### Notes:

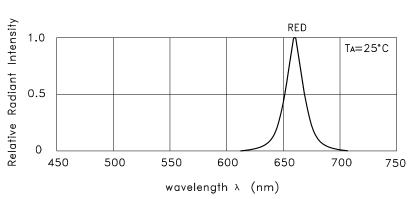
- 1.Wavelength: +/-1nm. 2. Forward Voltage: +/-0.1V.

# 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/Storage Temperature	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3 Seconds		
Lead Solder Temperature [3]	260°C For 5 Seconds		

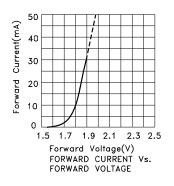
- 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2. 2mm below package base.
   5mm below package base.

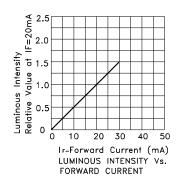
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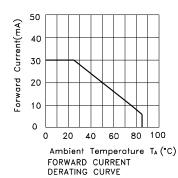


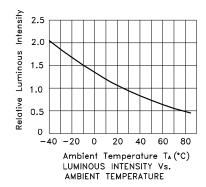
RELATIVE INTENSITY Vs. WAVELENGTH

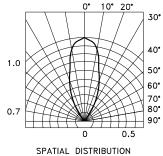
## Super Bright Red WP934SA/3SRD





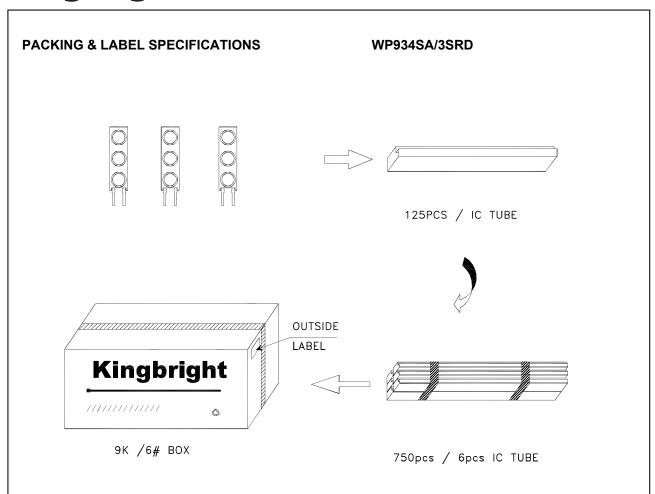


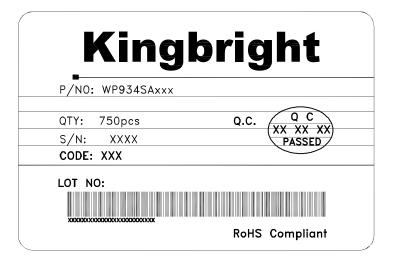




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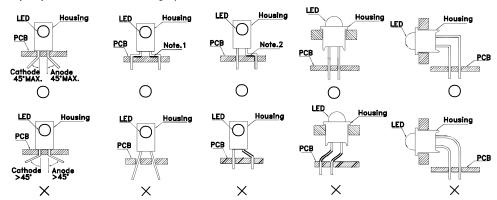




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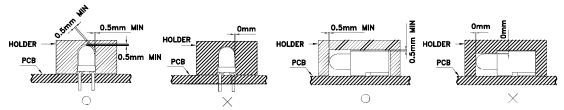
#### **PRECAUTIONS**

 The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead—forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.

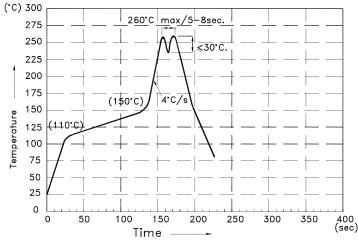


" $\bigcirc$  " Correct mounting method "imes" Incorrect mounting method

2. During soldering, component covers and holders should leave clearance to avoid placing damaging stress on the LED during soldering.



- 3. The tip of the soldering iron should never touch the lens epoxy.
- 4. Through—hole LEDs are incompatible with reflow soldering.
- 5. 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.
- 6. Recommended Wave Soldering Profile for Kingbright Thru-Hole Products



# NOTES:

- 1.Recommend the wave temperature 245°C  $\sim\!260^{\circ}\text{C}.$  The maximum soldering temperature should be less than 260°C.
- 2.Do not apply stress on epoxy resins when temperature is over 85°C.
- 3. The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- 4.During wave soldering, the PCB top-surface temperature should be kept below 105°C.

5.No more than once.

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