

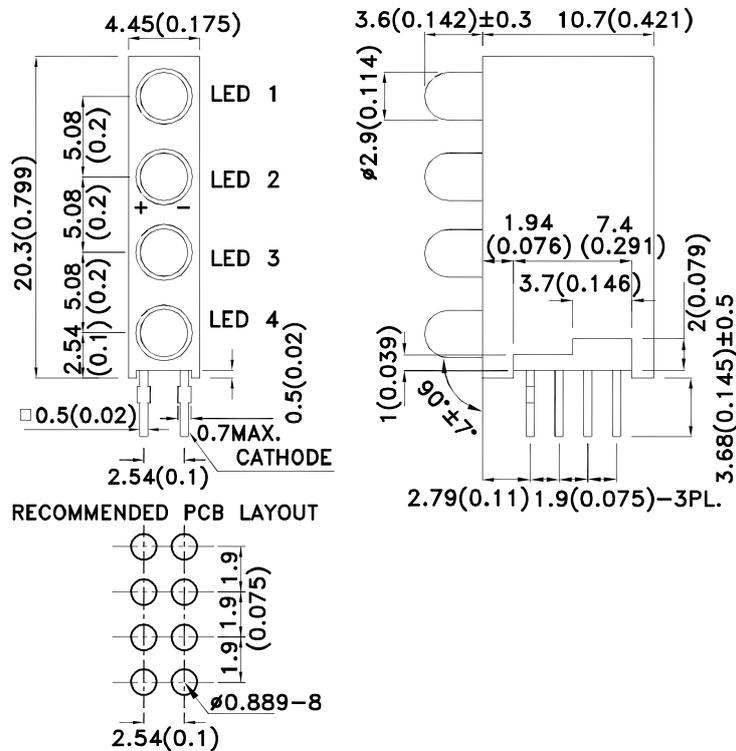
### Features

- Quad-level design, save board space.
- Different color combination available.
- Black case enhances contrast.
- Housing UL rating:94V-0.
- Housing material: type 66 nylon.
- 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  $\pm 0.25(0.01)$ " 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.



## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 10mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP934SB/4ID	High Efficiency Red (GaAsP/GaP)	Red Diffused	15	30	40°

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%.

## Electrical / Optical Characteristics at TA=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	High Efficiency Red	627		nm	I <sub>F</sub> =20mA
λ <sub>D</sub> [1]	Dominant Wavelength	High Efficiency Red	625		nm	I <sub>F</sub> =20mA
Δλ <sub>1/2</sub>	Spectral Line Half-width	High Efficiency Red	45		nm	I <sub>F</sub> =20mA
C	Capacitance	High Efficiency Red	15		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub> [2]	Forward Voltage	High Efficiency Red	2	2.5	V	I <sub>F</sub> =20mA
I <sub>R</sub>	Reverse Current	High Efficiency Red		10	uA	V <sub>R</sub> = 5V

Notes:

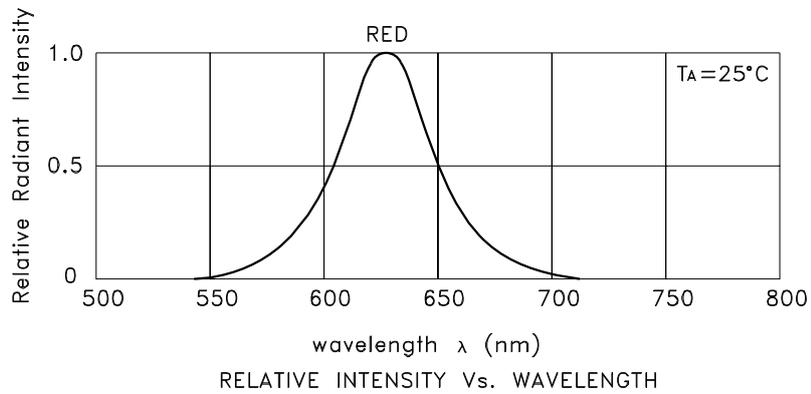
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

## Absolute Maximum Ratings at TA=25°C

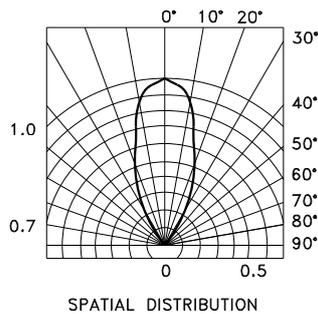
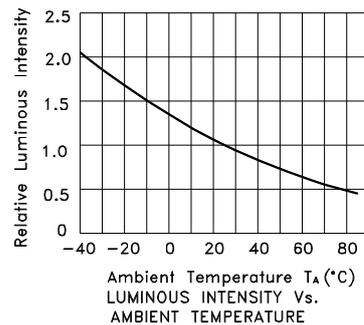
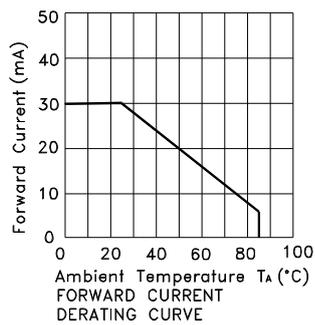
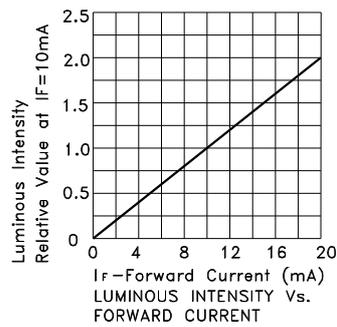
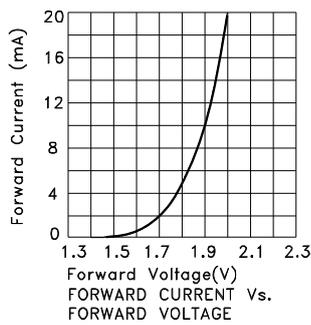
Parameter	High Efficiency Red	Units
Power dissipation	75	mW
DC Forward Current	30	mA
Peak Forward Current [1]	160	mA
Reverse Voltage	5	V
Operating/Storage Temperature	-40°C To +85°C	
Lead Solder Temperature [2]	260°C For 3 Seconds	
Lead Solder Temperature [3]	260°C For 5 Seconds	

Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.



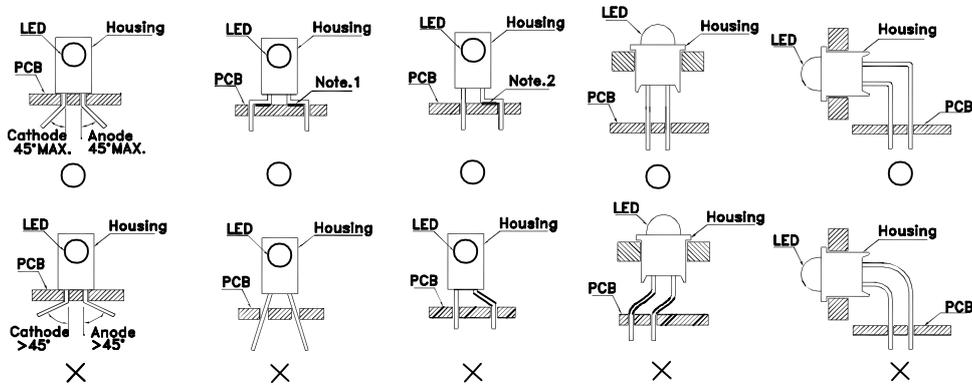
## High Efficiency Red WP934SB/4ID





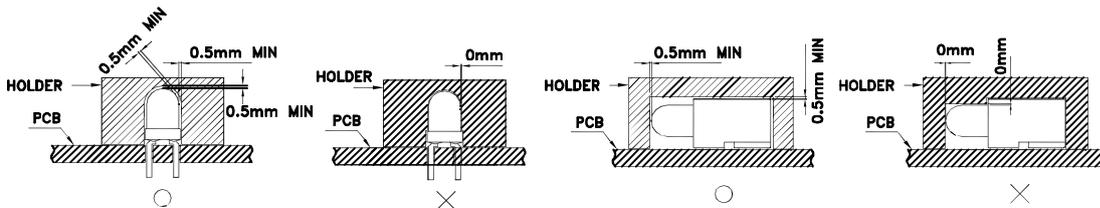
## PRECAUTIONS

- 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.

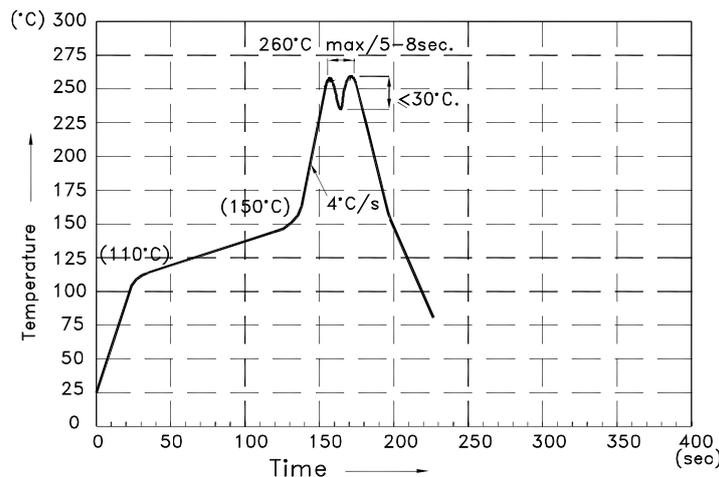


”○” Correct mounting method ”×” Incorrect mounting method

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



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



### NOTES:

- Recommend the wave temperature  $245^{\circ}\text{C} \sim 260^{\circ}\text{C}$ . The maximum soldering temperature should be less than  $260^{\circ}\text{C}$ .
- Do not apply stress on epoxy resins when temperature is over  $85^{\circ}\text{C}$ .
- The soldering profile apply to the lead free soldering (Sn/Cu/Ag alloy).
- During wave soldering, the PCB top-surface temperature should be kept below  $105^{\circ}\text{C}$ .
- No more than once.