

Part Number: WP7104GE/SRCGKW

Super Bright Red
Green

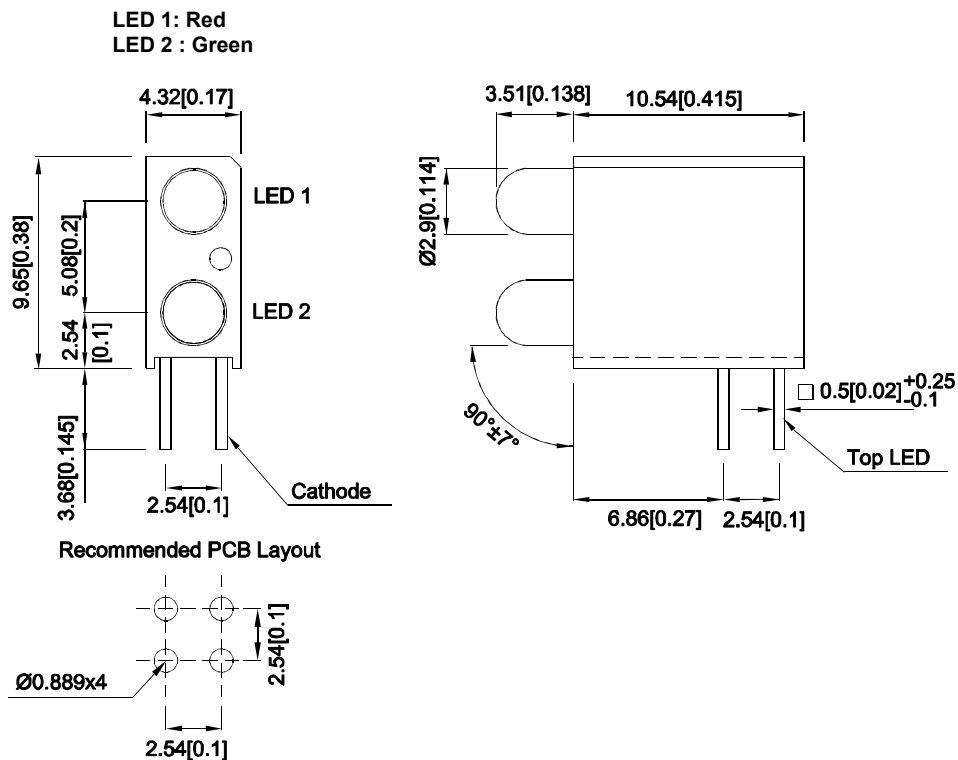
Features

- 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.

Descriptions

- The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.
- The Green source color devices are made with AlGaInP on GaAs substrate 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.	Emitting Color (Material)	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
WP7104GE/SRCGKW	Super Bright Red (GaAlAs)	White Diffused	150	400	40°
			*50	*100	
	Green (AlGaInP)	White Diffused	80	250	40°
			*80	*250	

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	Emitting Color	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Super Bright Red Green	655 574		nm	IF=20mA
λD [1]	Dominant Wavelength	Super Bright Red Green	640 570		nm	IF=20mA
Δλ1/2	Spectral Line Half-width	Super Bright Red Green	20 20		nm	IF=20mA
C	Capacitance	Super Bright Red Green	45 15		pF	Vf=0V;f=1MHz
Vf [2]	Forward Voltage	Super Bright Red Green	1.85 2.1	2.5 2.5	V	IF=20mA
IR	Reverse Current	Super Bright Red Green		10 10	uA	VR = 5V

Notes:

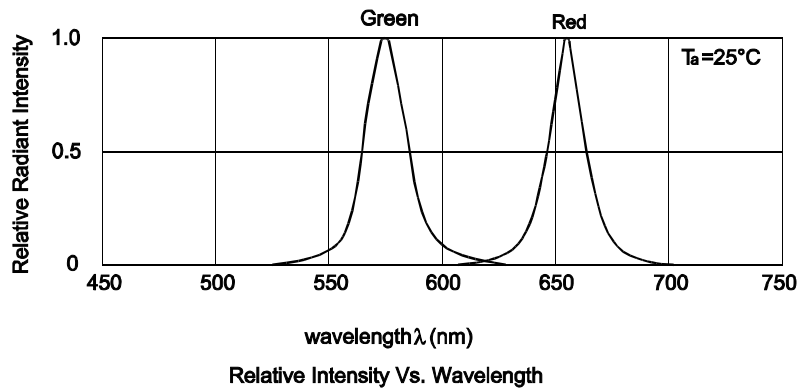
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.
3. Wavelength value is traceable to the CIE127-2007 compliant national standards.
4. Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

Absolute Maximum Ratings at TA=25°C

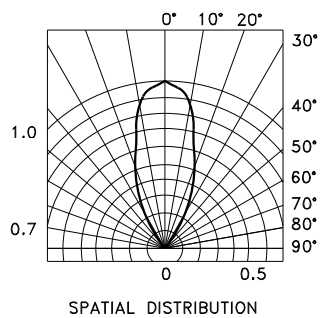
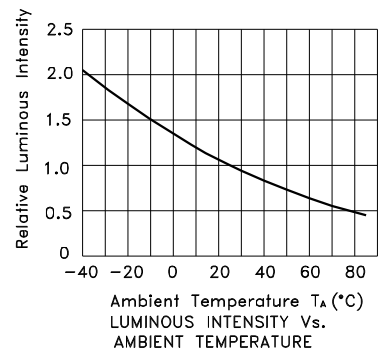
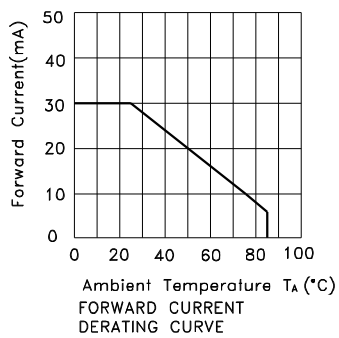
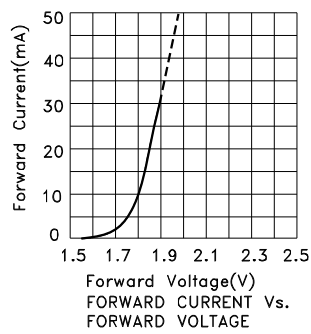
Parameter	Super Bright Red	Green	Units
Power dissipation	75	75	mW
DC Forward Current	30	30	mA
Peak Forward Current [1]	155	150	mA
Reverse Voltage	5		V
Operating / Storage Temperature	-40°C To +85°C		
Lead Solder Temperature [2]	260°C For 3 Seconds		
Lead Solder Temperature [3]	260°C For 5 Seconds		

Notes:

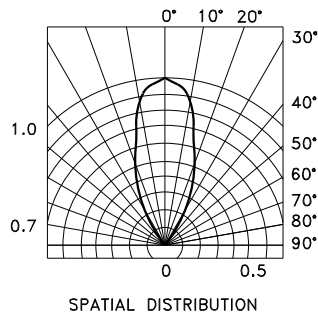
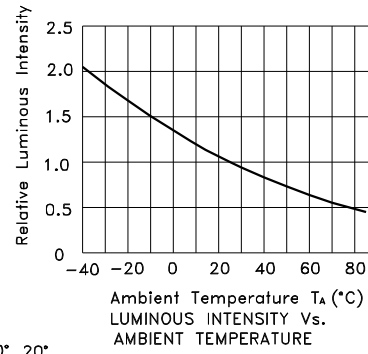
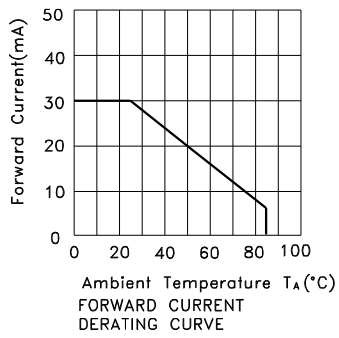
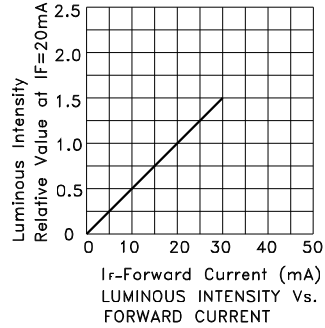
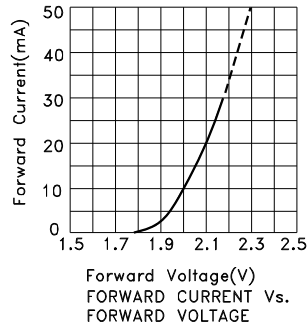
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 2mm below package base.
3. 5mm below package base.



WP7104GE/SRCGKW Super Bright Red

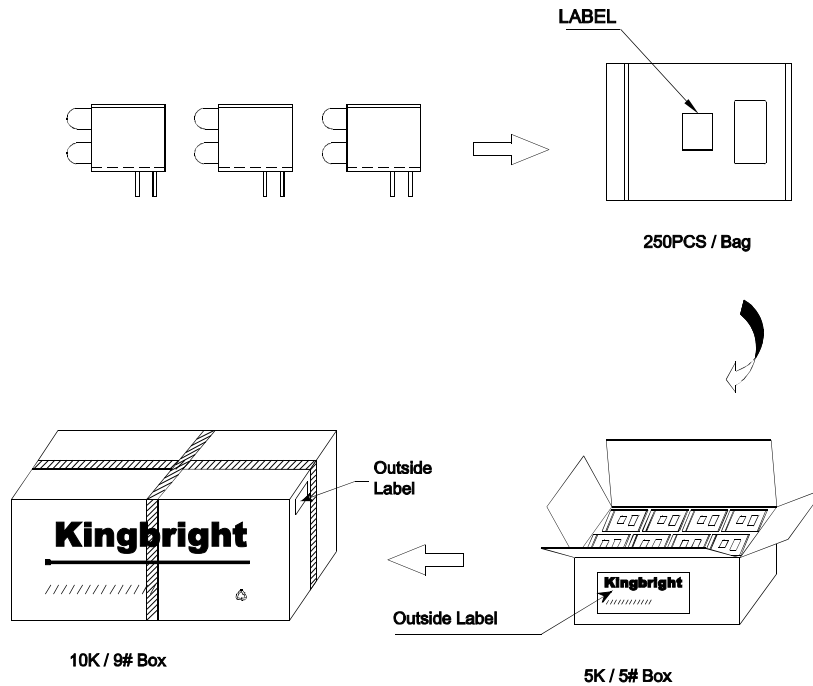



Green



PACKING & LABEL SPECIFICATIONS

WP7104GE/SRCGKW



Kingbright	
P/NO: WP7104GExxx	
QTY: 250 pcs	Q.C. Q C XX-XX-XX PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
	
RoHS Compliant	

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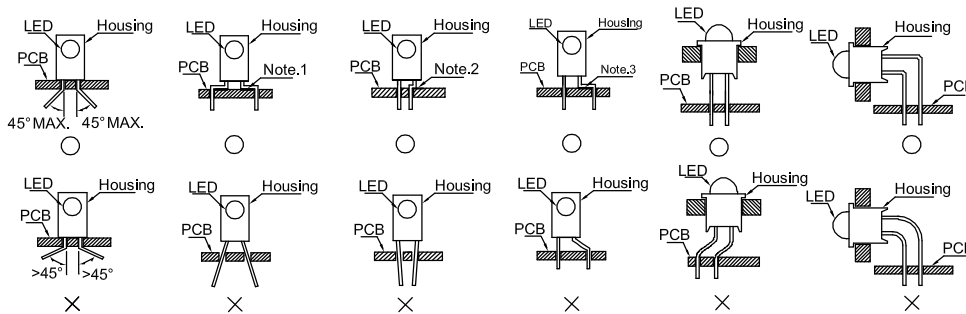
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PRECAUTIONS

1. Storage conditions:

- a. Avoid continued exposure to the condensing moisture environment and keep the product away from rapid transitions in ambient temperature.
- b. LEDs should be stored with temperature $\leq 30^{\circ}\text{C}$ and relative humidity $< 60\%$.
- c. Product in the original sealed package is recommended to be assembled within 72 hours of opening. Product in opened package for more than a week should be baked for 30 (+10/-0) hours at $85 \sim 100^{\circ}\text{C}$.

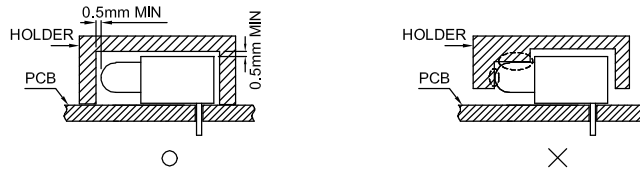
2. The lead pitch of the LED must match the pitch of the mounting holes on the PCB during component placement. Lead-forming may be required to insure the lead pitch matches the hole pitch. Refer to the figure below for proper lead forming procedures.



" O " Correct mounting method " X " Incorrect mounting method

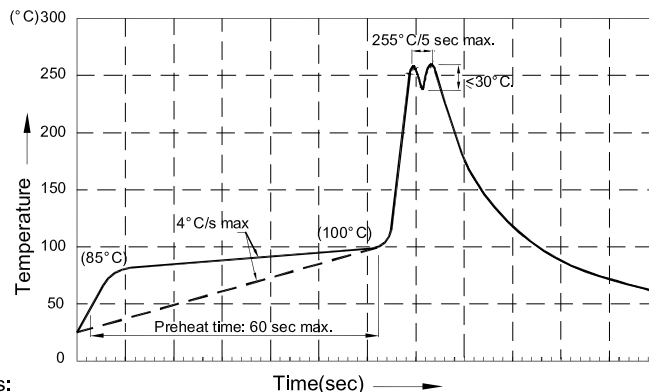
Note 1-3: Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

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



- 4. The tip of the soldering iron should never touch the lens epoxy.
- 5. Through-hole LEDs are incompatible with reflow soldering.
- 6. 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.

7. Recommended Wave Soldering Profiles:



Notes:

- 1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- 2. Peak wave soldering temperature between $245^{\circ}\text{C} \sim 255^{\circ}\text{C}$ for 3 sec (5 sec max).
- 3. Do not apply stress to the epoxy resin while the temperature is above 85°C .
- 4. Fixtures should not incur stress on the component when mounting and during soldering process.
- 5. SAC 305 solder alloy is recommended.
- 6. No more than one wave soldering pass.