



ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: WPF5WAEMBGMBW

High Efficiency Red
Blue
Green

Features

- One red, one green, two blue chips in one package.
- Can produce any color in visible spectrum, including white light.
- RoHS compliant.

Description

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Blue source color devices are made with GaN on SiC Light Emitting Diode.

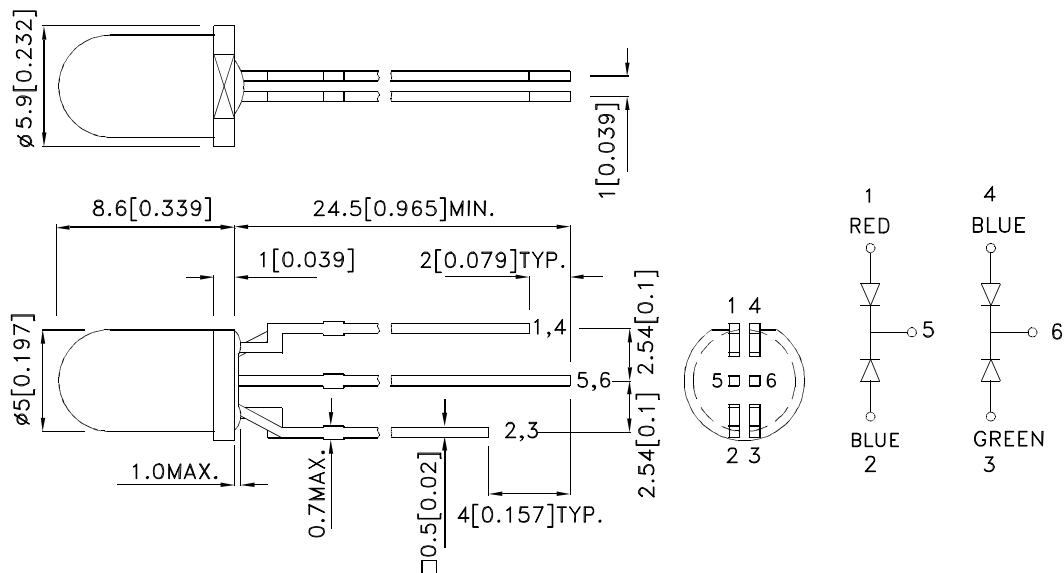
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Static electricity and surge damage the LEDs.

It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs.

All devices, equipment and machinery must be electrically grounded.

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] @ 20mA		Viewing Angle [1]
			Min.	Typ.	θ1/2
WPF5WAEMBGMBW	High Efficiency Red (GaAsP/GaP)	WHITE DIFFUSED	10	30	60°
	Blue (GaN)		7	25	
	Green (GaP)		7	20	
	Blue (GaN)		7	25	

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_{peak}	Peak Wavelength	High Efficiency Red Blue Green	627 430 565		nm	I _F =20mA
λ_D [1]	Dominant Wavelength	High Efficiency Red Blue Green	625 466 568		nm	I _F =20mA
$\Delta\lambda_{1/2}$	Spectral Line Half-width	High Efficiency Red Blue Green	45 60 30		nm	I _F =20mA
C	Capacitance	High Efficiency Red Blue Green	15 100 15		pF	V _F =0V;f=1MHz
V _F [2]	Forward Voltage	High Efficiency Red Blue Green	2 3.8 2.2	2.5 4.5 2.5	V	I _F =20mA
I _R	Reverse Current	High Efficiency Red Blue Green		10 10 10	uA	V _R =5V

Notes:

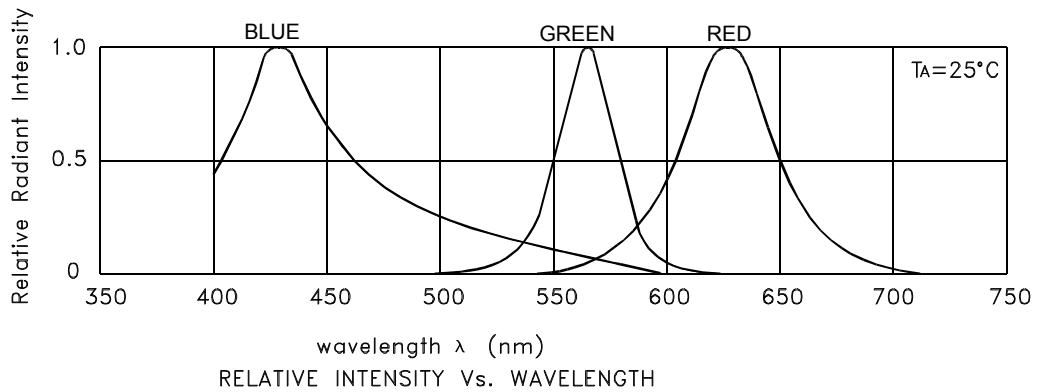
1. Wavelength: +/-1nm.
2. Forward Voltage: +/-0.1V.

Absolute Maximum Ratings at TA=25°C

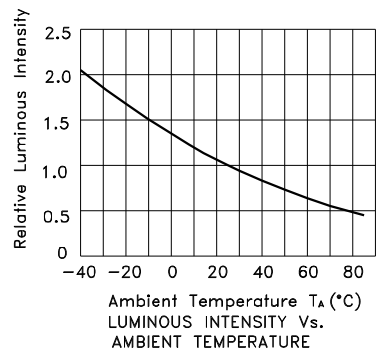
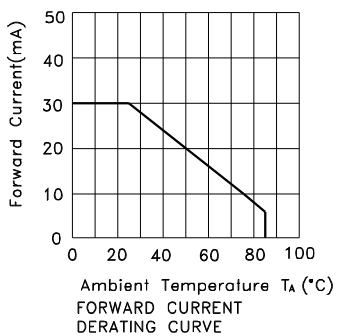
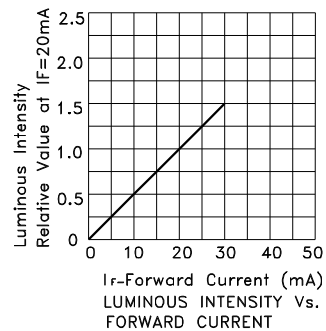
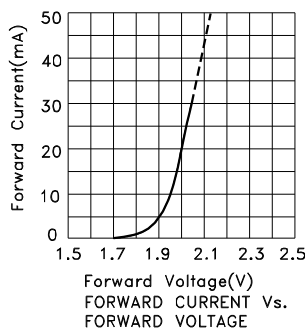
Parameter	High Efficiency Red	Blue	Green	Units
Power dissipation	75	135	62.5	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	160	150	140	mA
Reverse Voltage	5			V
Operating/Storage Temperature	-40°C To +85°C			
Lead Solder Temperature [2]	260°C For 3 Seconds			
Lead Solder Temperature [3]	260°C For 5 Seconds			

Notes:

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

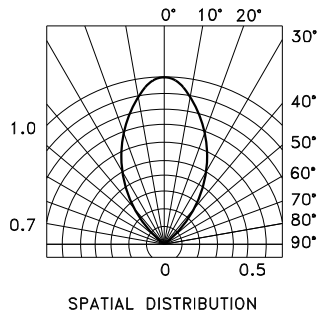
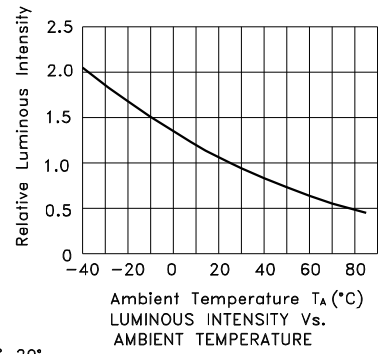
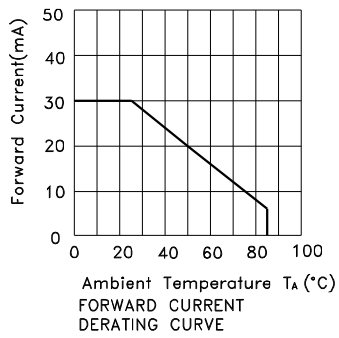
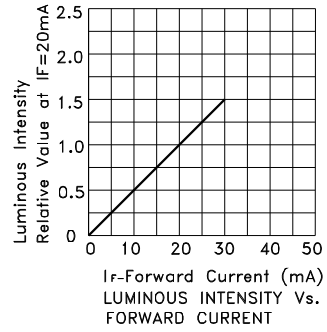
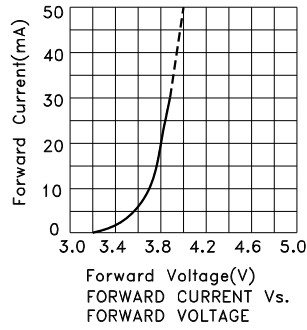


WPF5WAEMBGBW High Efficiency Red



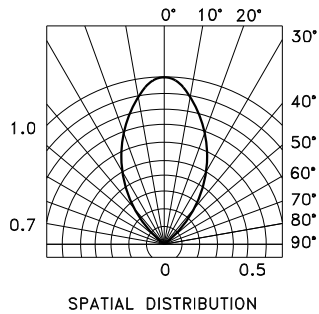
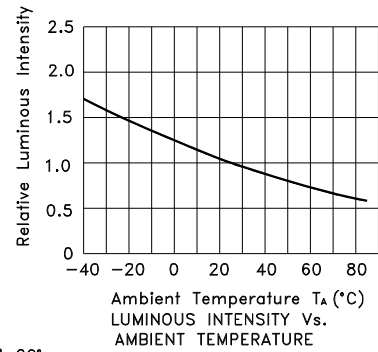
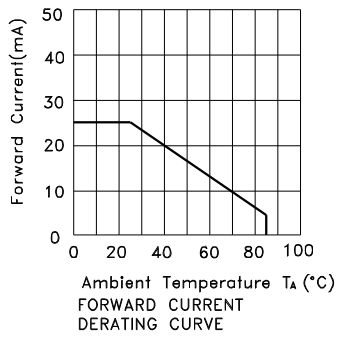
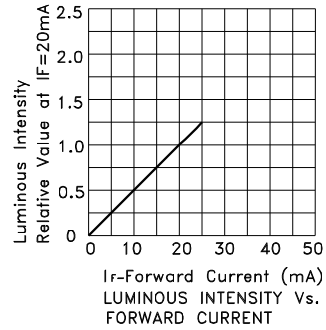
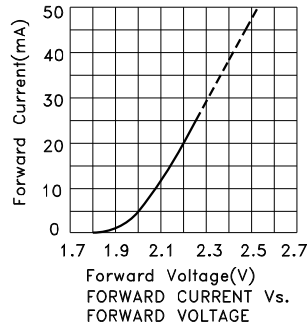
Kingbright

Blue



Kingbright

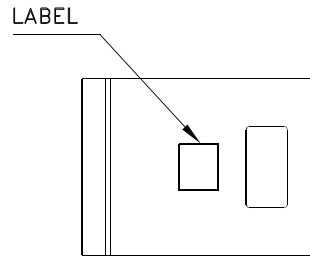
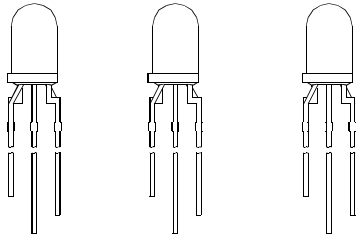
Green



Kingbright

PACKING & LABEL SPECIFICATIONS

WPF5WAEMBGMBW

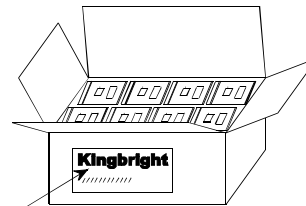


500PCS / BAG




20K / 9# BOX

OUTSIDE LABEL



OUTSIDE LABEL

10K / 5# BOX

<h1>Kingbright</h1>	
P/NO: WPF5WAxxx	
QTY: 500 pcs	Q.C. Q C xx-xx-xxxx PASSED
S/N: XXXX	
CODE: XXX	
LOT NO:	
 xxxxxxxxxxxxxxxxxxxxxxxx	
RoHS Compliant	

LED MOUNTING METHOD

1. 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.

(Fig. 1)

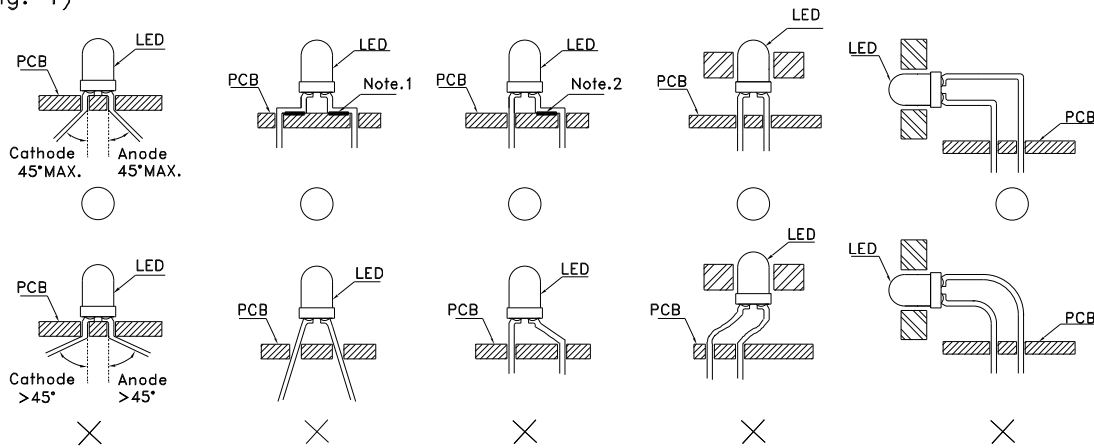


Fig.1

”O” Correct mounting method ”X” Incorrect mounting method

Note 1-2 : Do not route PCB trace in the contact area between the leadframe and the PCB to prevent short-circuits.

2. When soldering wire to the LED, use individual heat-shrink tubing to insulate the exposed leads to prevent accidental contact short-circuit.

(Fig. 2)

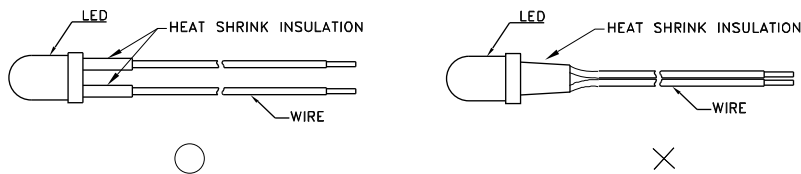


Fig. 2

3. Use stand-offs (Fig. 3) or spacers (Fig. 4) to securely position the LED above the PCB.

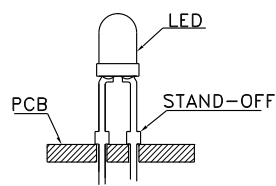


Fig. 3

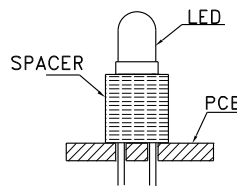


Fig. 4

LEAD FORMING PROCEDURES

1. Maintain a minimum of 2mm clearance between the base of the LED lens and the first lead bend. (Fig. 5 and 6)

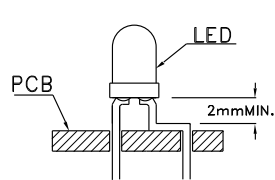


Fig. 5

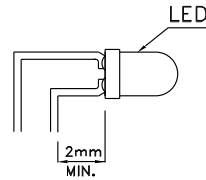


Fig. 6

2. Lead forming or bending must be performed before soldering, never during or after Soldering.
3. Do not stress the LED lens during lead-forming in order to fractures in the lens epoxy and damage the internal structures.
4. During lead forming, use tools or jigs to hold the leads securely so that the bending force will not be transmitted to the LED lens and its internal structures. Do not perform lead forming once the component has been mounted onto the PCB. (Fig. 7)
5. Do not bend the leads more than twice. (Fig. 8)

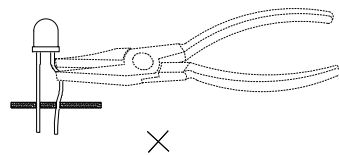


Fig. 7

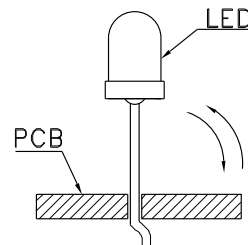


Fig. 8

6. After soldering or other high-temperature assembly, allow the LED to cool down to 50°C before applying outside force (Fig. 9). In general, avoid placing excess force on the LED to avoid damage. For any questions please consult with Kingbright representative for proper handling procedures.

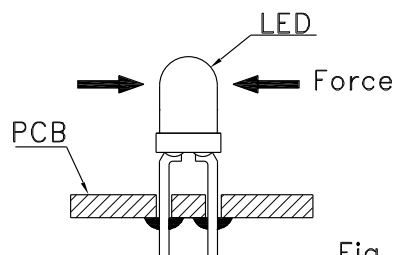


Fig. 9

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Standard LEDs - Through Hole category](#):

Click to view products by [Kingbright manufacturer](#):

Other Similar products are found below :

[LTL-10254W](#) [LTL-1214A](#) [LTL-2231AT](#) [LTL-3251A](#) [LTL-4262N](#) [LTL-433P](#) [LTL-5234](#) [LTL87HTBK](#) [LTL-87HD4B](#) [HLMP-EL30-PS0DD](#) [1L0532V23G0TD001](#) [NSPW500CS](#) [NTE30036](#) [NTE30044](#) [NTE30059](#) [NTE3020](#) [LD CQDP-1U3U-W5-1-K](#) [LP379PPG1C0G0300001](#) [SLR-342MC3F](#) [SLX-LX3044GD](#) [SLX-LX3044ID](#) [SLX-LX3044YD](#) [1.90690.3330000](#) [SSS-LX4673ID-410B](#) [1L0532Y24I0TD001](#) [264-7SYGD/S530-E2](#) [HLMP-1301-G00FG](#) [HLMP1385](#) [LTL-10224W](#) [LTL-1224A](#) [LTL-1234A](#) [LTL-2251AT](#) [LTL-403HR](#) [LTL-4222](#) [LU7-E-B](#) [4380H1](#) [HLMP-3962-F0002](#) [HLMP-GG15-R0000](#) [323-2SURD/S530-A3](#) [L53SRC/E-Z](#) [L-7679C1ZGC](#) [4302T1-5V](#) [4306D23](#) [4363D1/5](#) [WP1503SRC/J4](#) [WP153GDT](#) [WP153YDT](#) [WP1543SGC](#) [WP1543SURC](#) [WP53MGD](#)