Kingbright

T-1 3/4 (5mm) FULL COLOR RGB LAMP

PRELIMINARY SPEC

ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

Part Number: LF5WAEMBGMBW

HIGH EFFICIENCY RED
BLUE
GREEN

Features

- TWO BLUE, ONE GREEN AND ONE RED 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.

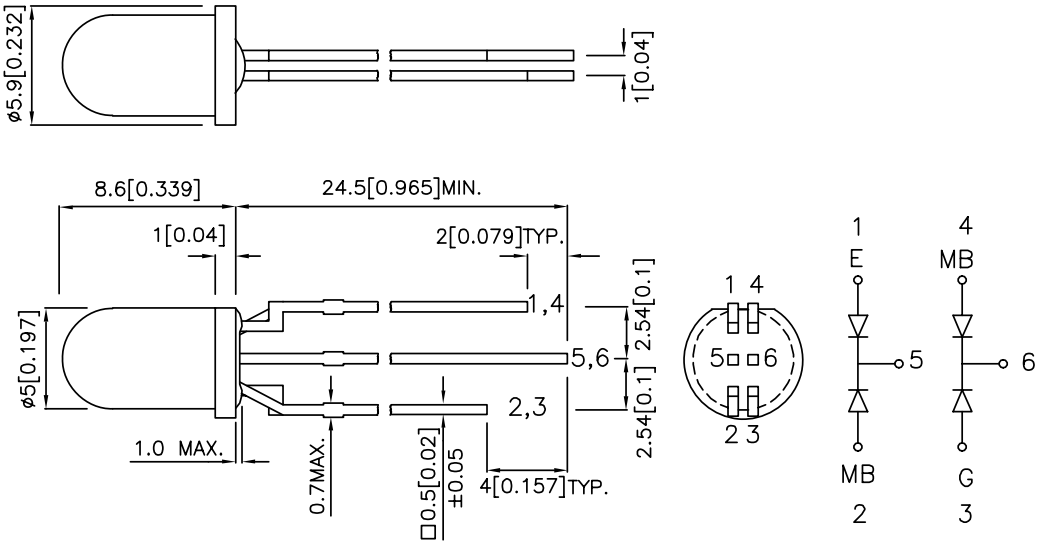
The Blue source color devices are made with GaN on SiC Light Emitting Diode.

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.

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

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the lead emerge from the package.
4. Specifications are subject to change without notice.

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Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) [2] @ 20mA		Viewing Angle [1]
			Min.	Typ.	2θ1/2
LF5WAEMBGMBW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	10	25	60°
	BLUE (GaN)		10	30	
	GREEN (GaP)		10	20	
	BLUE (GaN)		10	30	

Notes:
1.θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2.Luminous Intensity / Luminous Flux: +/-15%.

Electrical / Optical Characteristics at T_A=25°C

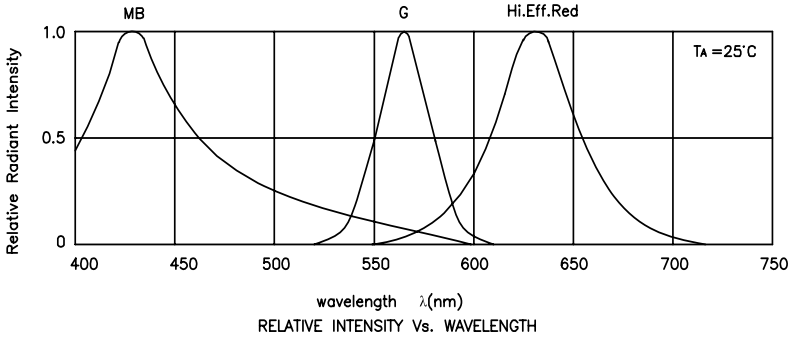
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Blue Green	627 430 565		nm	I_F=20mA
λD [1]	Dominant Wavelength	High Efficiency Red Blue Green	625 466 568		nm	I_F=20mA
Δλ1/2	Spectral Line Half-width	High Efficiency Red Blue Green	45 60 30		nm	I_F=20mA
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	2.0 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 T_A=25°C

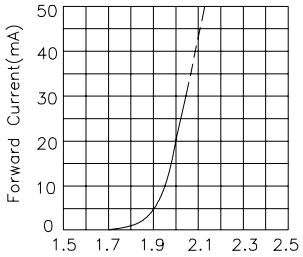
Parameter	High Efficiency Red	Blue	Green	Units
Power dissipation	75	135	62.5	mW
DC Forward Current	30	30	25	mA
Peak Forward Current [1]	160	150	140	mA
Reverse Voltage	5	5	5	V
Operating / Storage Temperature	-40°C TO +85°C			
Lead Solder Temperature [2]	260°C For 3 Seconds			
Lead Solder Temperature [3]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

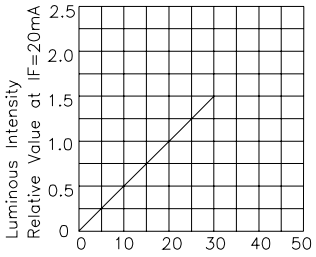


RELATIVE INTENSITY Vs. WAVELENGTH

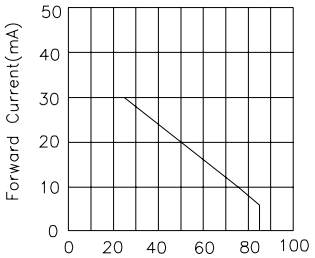
LF5WAEMBGMBW
High Efficiency Red



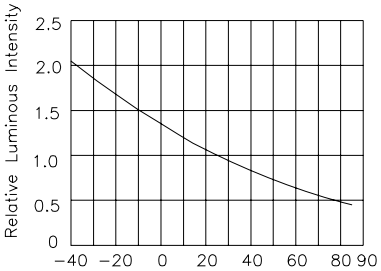
FORWARD CURRENT Vs.
FORWARD VOLTAGE



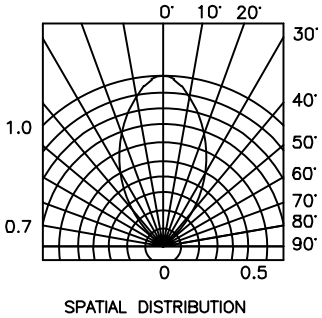
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

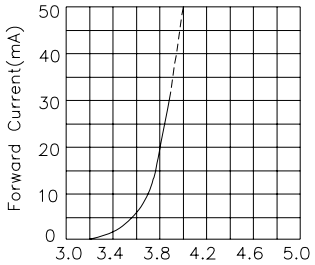


LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

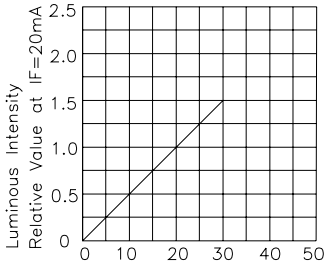


SPATIAL DISTRIBUTION

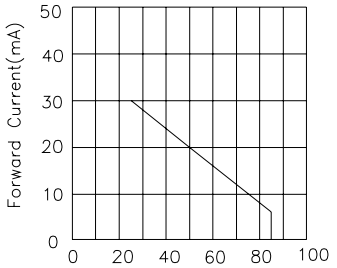
Blue



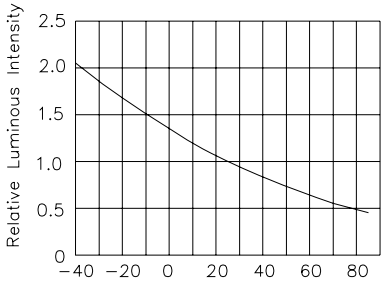
FORWARD CURRENT Vs.
FORWARD VOLTAGE



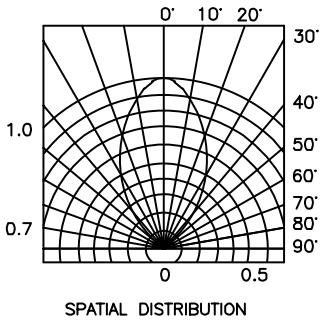
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE

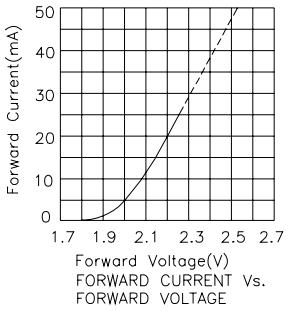


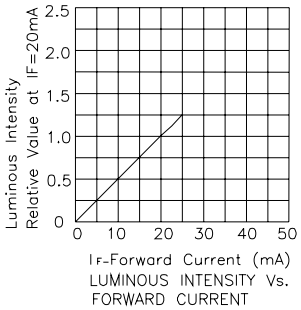
LUMINOUS INTENSITY Vs.
AMBIENT TEMPERATURE

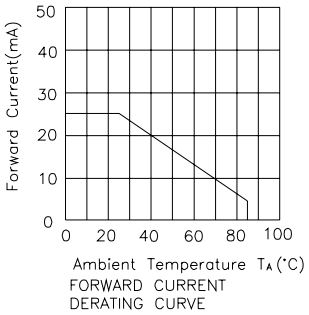


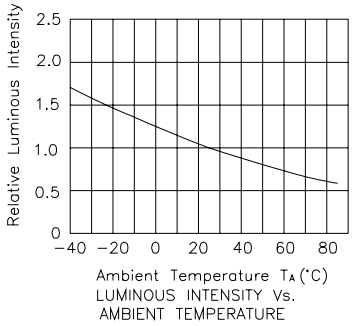
SPATIAL DISTRIBUTION

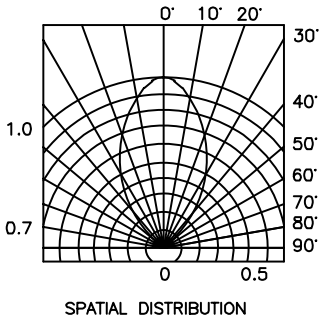
Green











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