

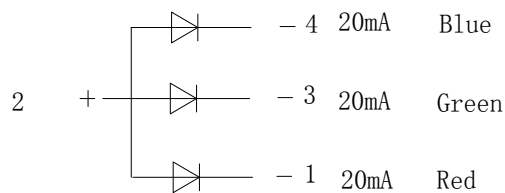
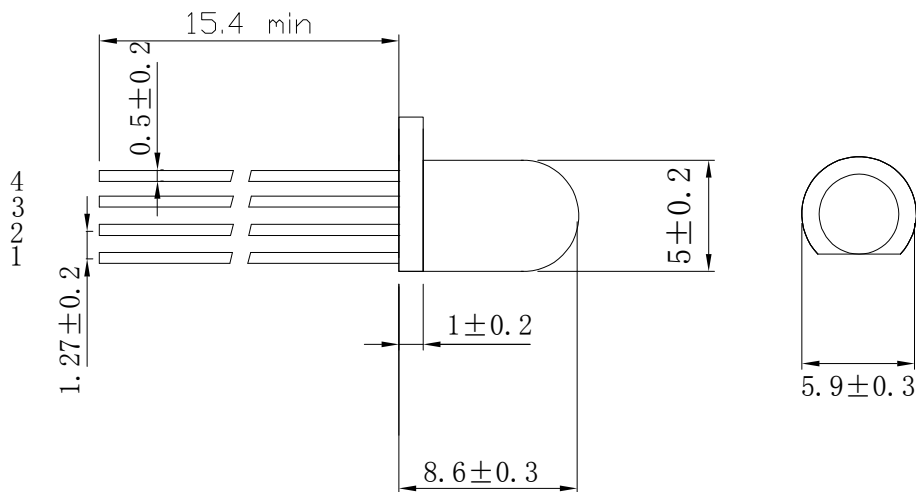
Features

- 5mm DIA LED Lamp
- Low Power Consumption
- Wide Viewing Angle
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow and wave solder process.
- Meet ROHS Green Products

Applications

- Backlight and Indicator

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.2\text{mm}$ (.0079") unless otherwise noted.
3. Specifications are subject to change without notice
4. This drawing is only for indication, not as a basis for the actual structure.

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Selection Guide

Part No	Lens Type	Dice	Emitted Color
FDL-5861HRGB-ZWD1-YHD-CA	White Diffused	InGaN	Blue
		InGaN	Green
		AllInGaP	Red

Electrical / Optical Characteristics At Ta=25°C

Symbol	Parameter		Blue	Green	Red	Unit	Test Condition
Iv	Luminous Intensity	MIN.	720	2500	1000	mcd	IF=20mA
		TYP.	900	3800	1600		
VF	Forward Voltage	TYP.	3.3	3.3	2.0	V	IF=20mA
		MAX.	3.7	3.7	2.6		
2θ1/2	Viewing Angle	TYP.	90	90	90	deg	IF=20mA
λ Peak	Peak Emission Wavelength	TYP.	468	525	639	nm	IF=20mA
λ d	Dominant Wavelength	TYP.	465	510	631	nm	IF=20mA
Δλ	Spectral Line Half-Width	TYP.	35	35	20	nm	IF=20mA
IR	Reverse Current	MAX.	50	50	50	uA	VR=5V

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 optical centerline value

Absolute Maximum Ratings At Ta=25°C

Parameter	Red	Green	Blue	Unit
Power Dissipation	60	110	110	mW
Peak Forward Current[1]	60	100	100	mA
Continuous Forward Current	25	25	25	mA
Dreading Linear From25°C	0.4	0.5	0.25	mA/°C
Reverse Voltage	5	5	5	V
Electrostatic Discharge Threshold	2000	150	150	V
Operating Temperature Range	-20°C to + 80°C			
Storage Temperature Range	-30°C to + 100°C			
Soldering Condition	260°C For 5 Seconds			

Note:

1. 1/10DutyCycle, 0.1msPulseWidth

Electrical Optical Characteristics Curves At Ta=25°C

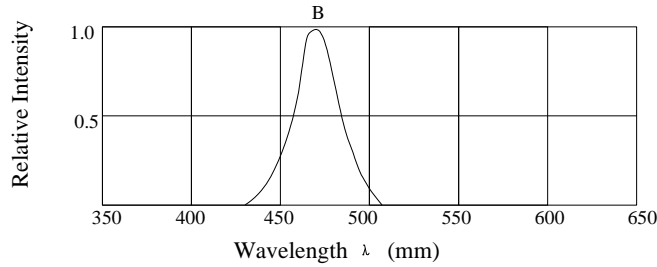


Fig.1 Relative Intensity vs. Wavelength

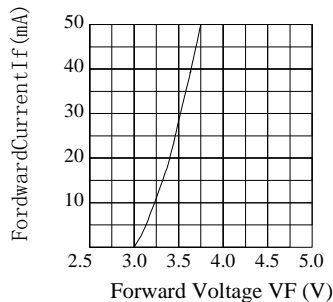


Fig.2 Forward Current VS. Forward Voltage

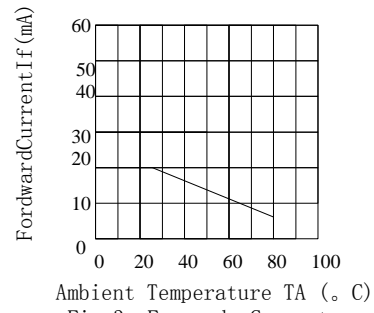


Fig.3 Forward Current Derating Curve

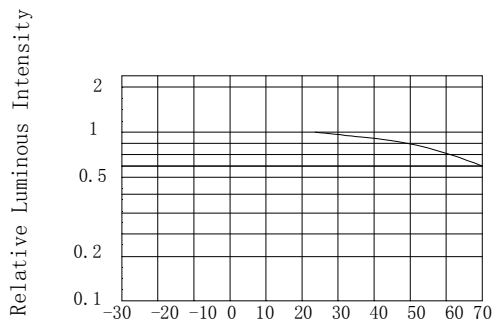


Fig.5 Luminous Intensity VS. Ambient Temperature TA

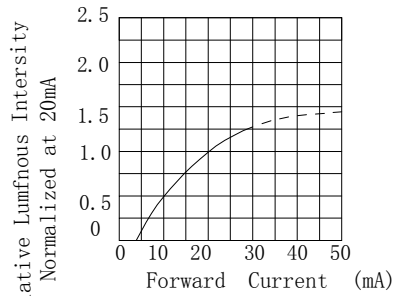


Fig.4 Relative Luminous Intensity VS. Forward Current

Electrical Optical Characteristics Curves At Ta=25°C

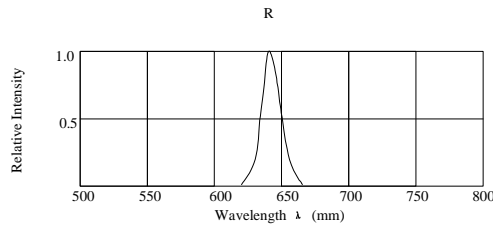


Fig.1 Relative Intensity vs. Wavelength

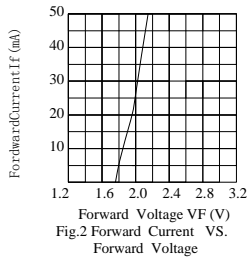


Fig.2 Forward Current vs. Forward Voltage

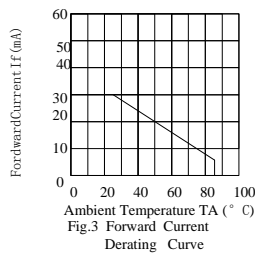


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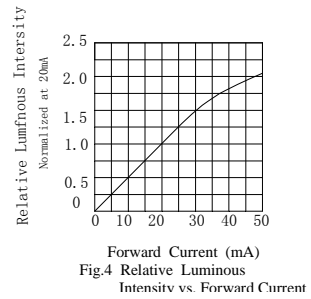


Fig.4 Relative Luminous Intensity vs. Forward Current

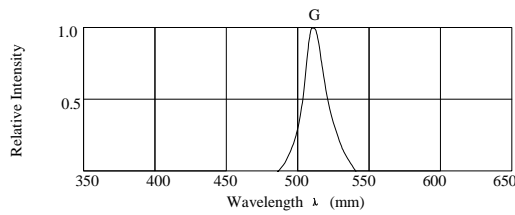


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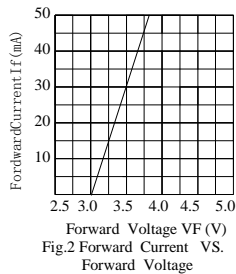


Fig.2 Forward Current vs. Forward Voltage

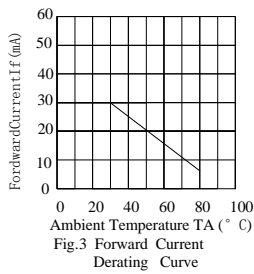


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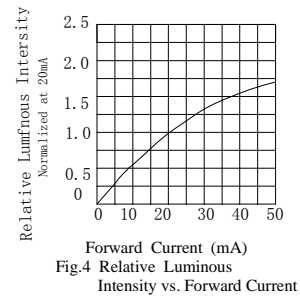


Fig.4 Relative Luminous Intensity vs. Forward Current

Reliability Test Items Conditions

Classification	Test Item	Test Conditions	Test hours	Result
Endurance Test	Opertion Life	Connect with a power if=20mA Ta=Under room temperature	1000Hrs	0/20
	Hige Temperature High Humidity	Ta= +65°C±5°C RH=90%-95%	240Hrs	0/20
	Hige Temperature Storage	High Ta= +85°C±5°C	1000Hrs	0/20
	Low Temperature Storage	Low Ta=-35°C±5°C Test time=1000hrs	1000Hrs	0/20
Environmental Test	Temperature Cycling	-45°C ~ +105°C 15min 5min 15min	300 Cycles	0/20
	Thermal Shock	-35°C ~ ±5°C ~ +85°C ~ ±5°C 5min 10sec 5min	300 Cycles	0/20
	Solder Resistance	Preheating: 120°C-150°C, within 2 minutes. Operation heating : 260°C (Max.), within 5 seconds (Max.)	5Cycles	0/20

Judgment criteria of fialure for the reliability

Measuring items	Symbol	Measuring conditions	Judement criteria for failure
Forward voltage	V _F (V)	I _F =20mA	Over U×1.2
Rvevrse current	I _R (μA)	V _R =5V	Over U×2
Luminous intensity	I _v (mcd)	I _F =20mA	Below S×0.5

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.Meansurment shall be taken between 2 hours after the test pieces have been returnde to normal ambient cnditions after completion of each test.