

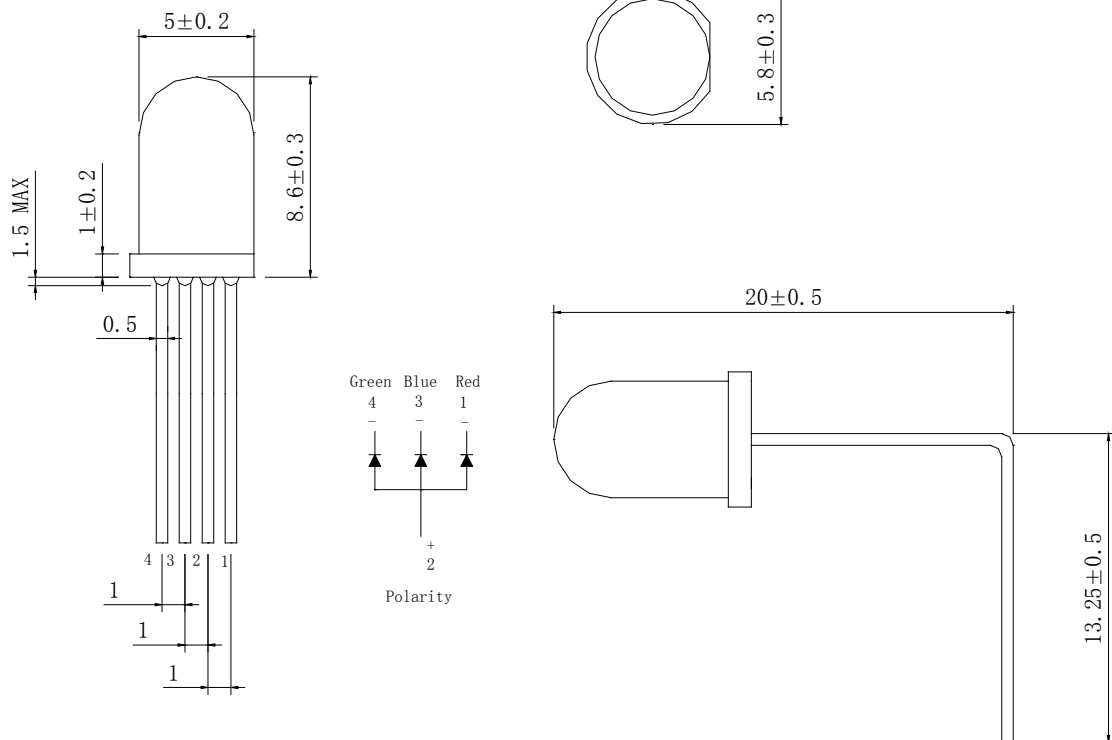
Features

- 5mm DIA LED Lamp
- Low Power Consumption
- High Efficiency
- Various Colors and Viewing Angle
- Long Solid State Reliability
- Package: 1000pcs/Packing

Applications

- Indicator

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm(.01") unless otherwise noted.
3. Protruded Resin under flange is 1.0mm(0.04") max.
4. Specifications are subject to change without notice.

www.FantasyLeds.com

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Selection Guide

Part No	Lens Type	Dice	Emitted Color
FDL-5864RPGb-TWC1MC-2CA-L20-13.25	Water Clear	AllInGaP InGaN InGaN	Red Pure Green Blue

Electrical / Optical Characteristics At Ta=25 °C

Symbol	Parameter		Red	Pure Green	Blue	Unit	Test Condition
Iv	Luminous Intensity	TYP.	1200	1500	1500	mcd	IF=20mA
2θ1/2	Viewing Angle	TYP.	40	40	40	deg	IF=20mA
λ Peak	Peak Emission Wavelength	TYP.	635	510	465	nm	IF=20mA
λ d	Dominant Wavelength	TYP.	640	515	470	nm	IF=20mA
Δλ	Spectral Line Half-Width	TYP.	20	35	25	nm	IF=20mA
VF	Forward Voltage	MIN.	1.7	2.9	2.9	V	IF=20mA
		TYP.	2.0	3.2	3.2		
		MAX.	2.3	3.5	3.5		
IR	Reverse Current	MAX.	10	10	10	μ A	VR=5V

Note:

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

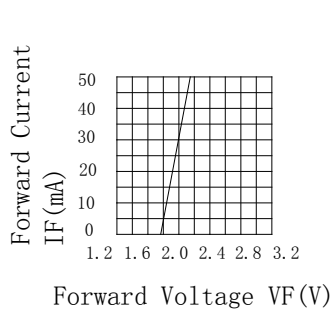
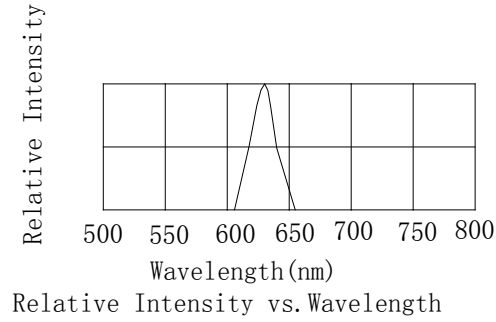
Absolute Maximum Ratings At Ta=25°C

Parameter	Red	Pure Green	Blue	Unit
Power Dissipation	70	70	70	mW
Peak Forward Current[1]	80	80	80	mA
Continuous Forward Current	25	25	25	mA
Reverse Voltage	5	5	5	V
Operating Temperature Range	-45°C to + 85°C			
Storage Temperature Range	-55°C to + 105°C			
Soldering Condition	260°C For 10 Seconds			

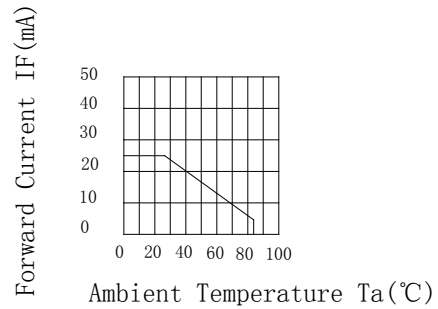
Note:

1. 1/10DutyCycle, 0.1ms Pulse Width

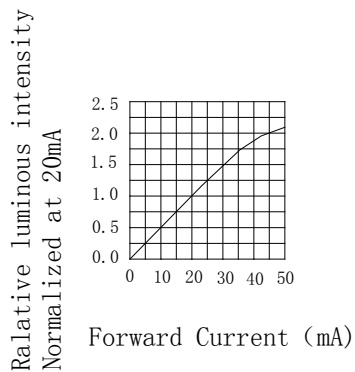
Electrical Optical Characteristics Curves At Ta=25 °C



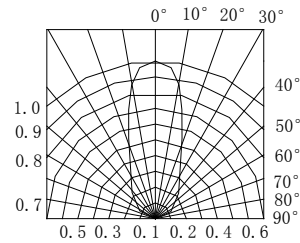
Forward Current vs. Forward Voltage



Forward Current Derating Curve

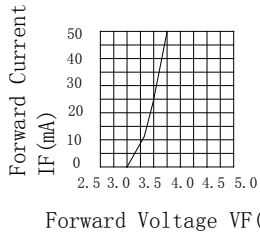
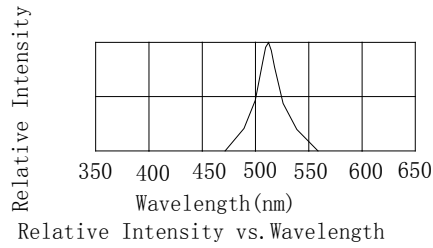


Forward luminous Intensity vs. Forward Current

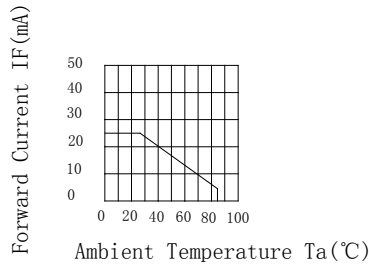


Spatial Distribution

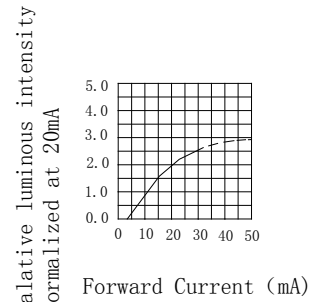
Electrical Optical Characteristics Curves At Ta=25 °C



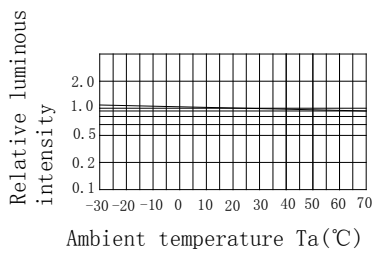
Forward Current vs. Forward Voltage



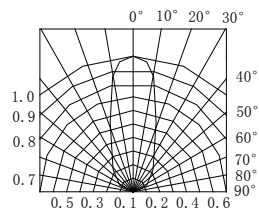
Forward Current Derating Curve



Forward luminous Intensity vs. Forward Current

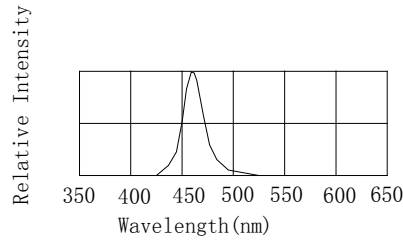


Relative Luminous Intensity vs. Ambient temperature

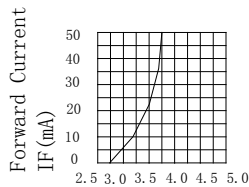


Spatial Distribution

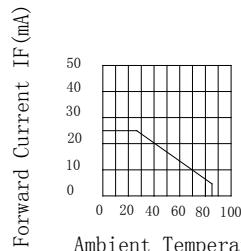
Electrical Optical Characteristics Curves At Ta=25 °C



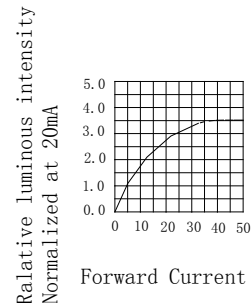
Relative Intensity vs. Wavelength



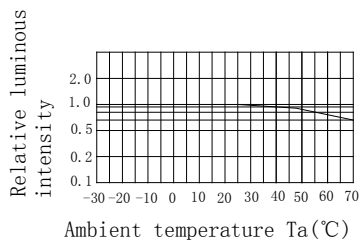
Forward Current vs. Forward Voltage



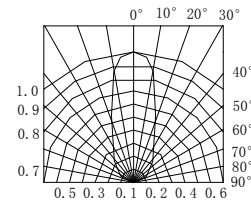
Forward Current Derating Curve



Forward luminous Intensity vs Forward Current



Relative Luminous Intensity vs. Ambient temperature



Spatial Distribution

Notes:

1. The LEDs should be used within a year.
2. The LEDs should be kept in 5~30°C and 60% RH for less.
3. The LEDs should be used within 24 hours, or else should be kept a 5~30°C and 30% RH or less. And LEDs should be used within 7 days after opening the package.

Reliability Test Items Conditions

Classification	Test Item	Test Conditions	Test hours	Result
Endurance Test	Operation Life	Connect with a power if=20mA Ta=Under room temperature	1000Hrs	0/20
	High Temperature High Humidity	Ta=+65°C±5°C RH=90%-95%	240Hrs	0/20
	High 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 failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V _F (V)	I _F =20mA	Over U×1.2
Reverse 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.Measurement shall be taken between 2 hours after the test pieces have been returned to normal ambient conditions after completion of each test.