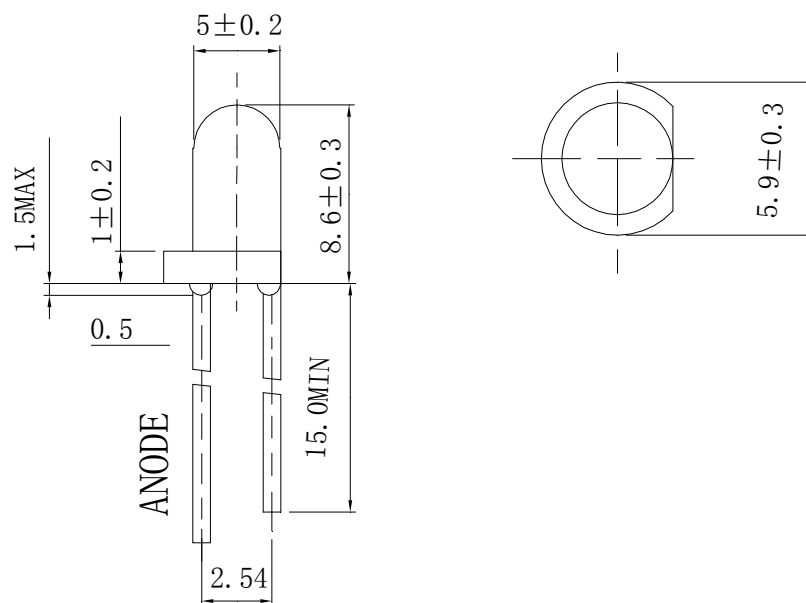


Features

- 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 $\pm 0.25\text{mm}$ (.01") unless otherwise noted.
3. Protruded Resin under flange is 1.0mm (0.04") max.
4. Specifications are subject to change without notice.



Selection Guide

Part No	Lens Type	Dice	Emitted Color
FDL-503SB-ZC1	Water Clear	InGaN	Super Blue

Electrical / Optical Characteristics At Ta=25°C

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
Iv	Luminous Intensity		4500		mcd	IF=20mA
2θ1/2	Viewing Angle		30		deg	IF=20mA
λ Peak	Peak Emission Wavelength		460		nm	IF=20mA
λ d	Dominant Wavelength		450		nm	IF=20mA
Δλ	Spectral Line Half-Width		30		nm	IF=20mA
VF	Forward Voltage	2.9	3.1	3.8	V	IF=20mA
IR	Reverse Current			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	Blue	Unit
Power Dissipation	120	mW
Peak Forward Current[1]	100	mA
Continuous Forward Current	30	mA
Dreading Linear From 25°C	0.25	mA/°C
Reverse Voltage	5	V
Electrostatic Discharge Threshold(HBM)	150	V
Operating Temperature Range	-40°C to + 85°C	
Storage Temperature Range	-40°C to + 85°C	
Soldering Condition	260°C For 5 Seconds	

Note:

1. 1/10DutyCycle, 0.1msPulseWidth

Electrical Optical Characteristics Curves At Ta=25°C

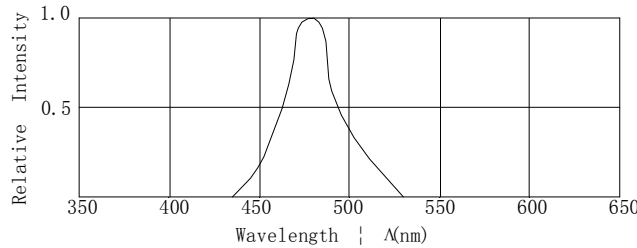


Fig.1 Relative Intensity VS. Wavelength

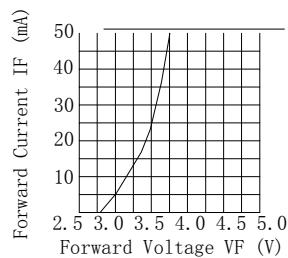


Fig.2 Forward Current vs. Forward Voltage

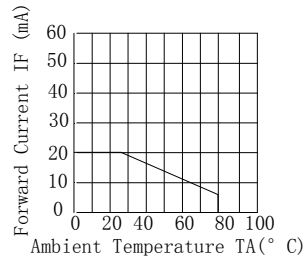


Fig.3 Forward Current Derating Curve

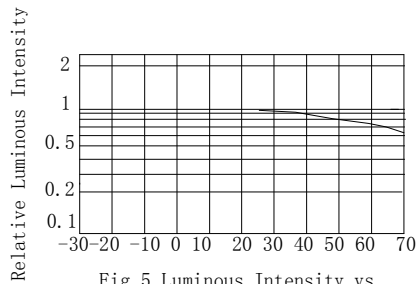


Fig.5 Luminous Intensity vs. Ambient Temperature

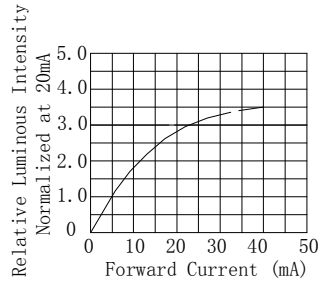
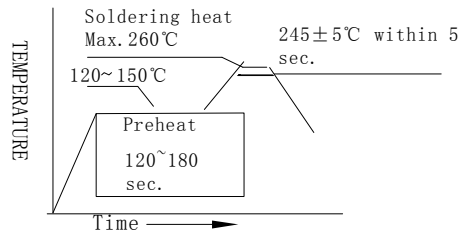


Fig.4 Relative Luminous Intensity vs. Forward Current

Reflow Soldering Instructions



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	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.