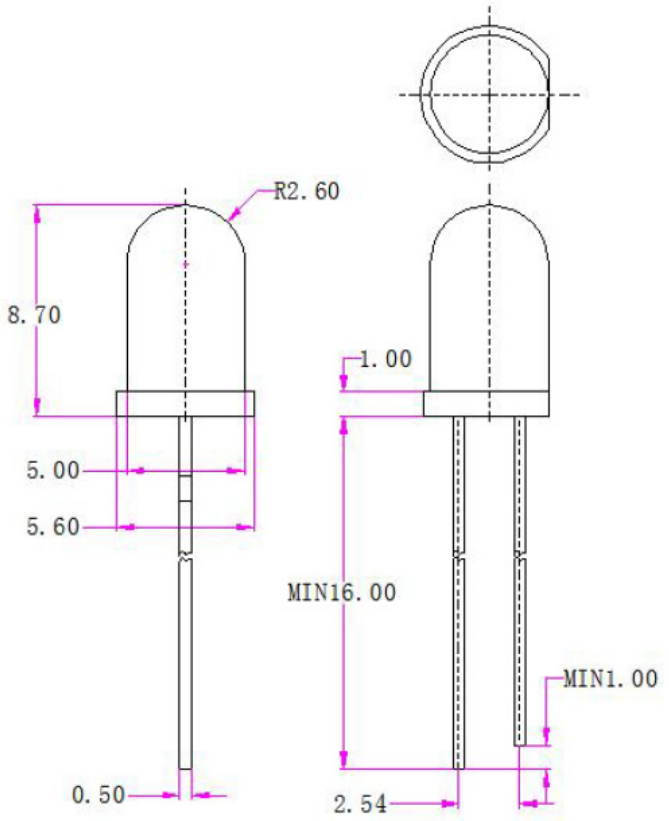
Green 500-510nm 5mm Round LED Lamp for LED traffic Light

Part No.: LL5-01BGW30-Y12-1C

·Package Dimensions



Pb-free

Notes:
1. All dimension units are millimeters.
2. All dimension tolerance is ±0.15mm

·Features

· Dimensions: 5.6mm×5.0x8.7mm
· PB Free products and RoHS Compliant
· Description
1. Emitted color: Green(500-510nm)
2. Luminous intensity: 10000-16000mcd
3. Anti-static Level(MIL-STD-883E)：HBM 2(≥2000V)
4. Lens type: Water clear Lens
5. Stopper: Without stopper
6. High anti-oxidation and good UV resistance performance
7. An advanced optical-grade epoxy offers ultra-low temperature and high-moisture resistance performance.

·Application

· LED Traffic Signal lights

·Absolute Maximum Ratings (Ta=25Cº)

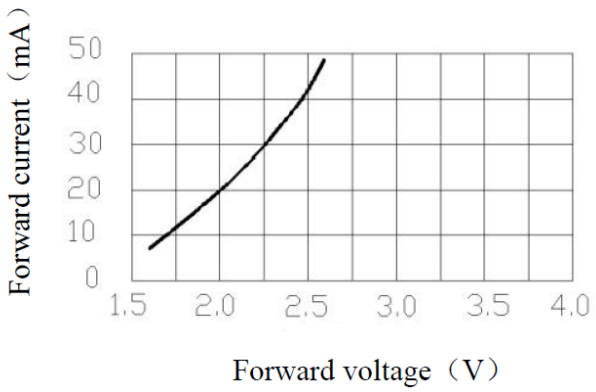
Item	Symbol	Maximum	Unit
Power Dissipation	PD	60	mW
Peak Forward Current (1/10 Duty Cycle 0.1ms Pulse Width)	IFP	100	mA
Forward Current	IF_{max}	20	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	-40 to +85℃	
Storage Temperature Range	Tstg	-40 to +85℃	

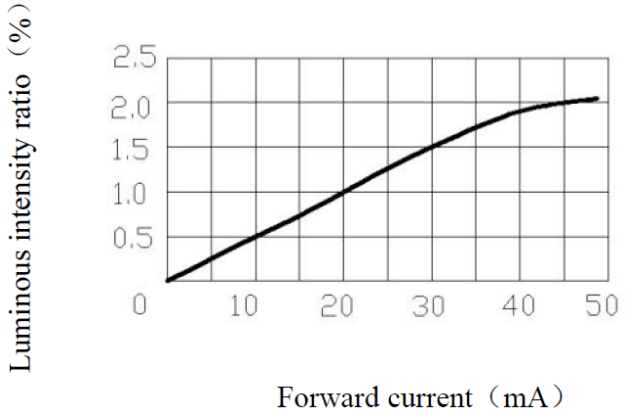
·Electrical / Optical Characteristics (Ta=25Cº)

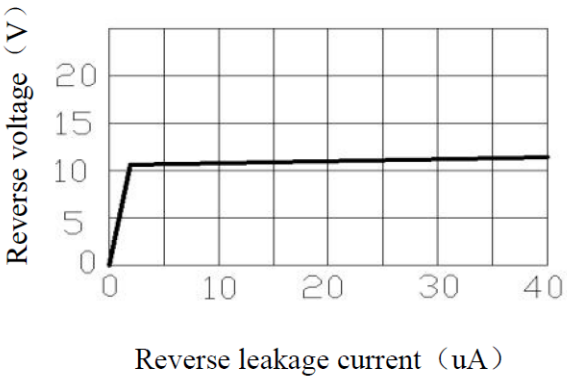
Item	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	VF	2.5	--	3.4	V	I_F=20mA
Luminous intensity	Iv	10000	--	16000	mcd	I_F=20mA
Dominant wavelength	WD	500	--	510	nm	I_F=20mA
Reverse Current	IR	-	-	0.5	uA	VR=5V
Viewing Angle	2θ½	--	30	--	--	IF=20mA

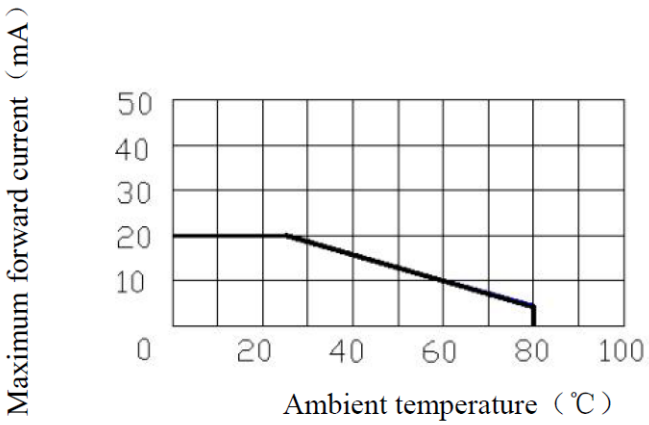
Note:
1.Tolerance of measurement of luminous intensity is ±5%;
2.Tolerance of measurement of Forward voltage is ± 0.05V;
3.Tolerance of measurement of dominant wavelength is ±0.5 nm;
4.Tolerance of measurement of Viewing Angle is ±10%。

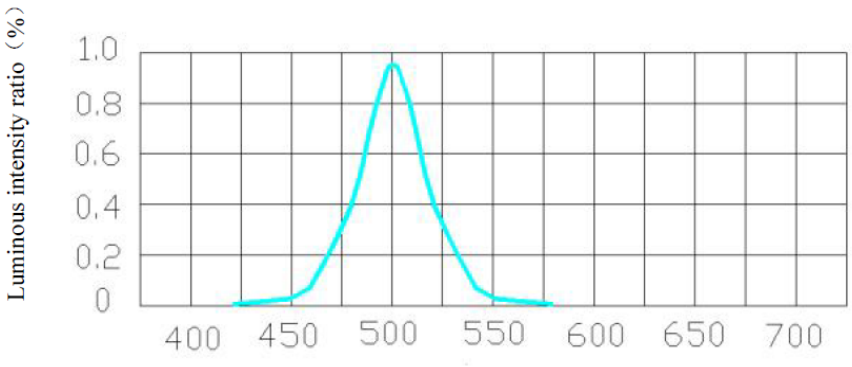
·Typical Electro-Optical Characteristic Curve

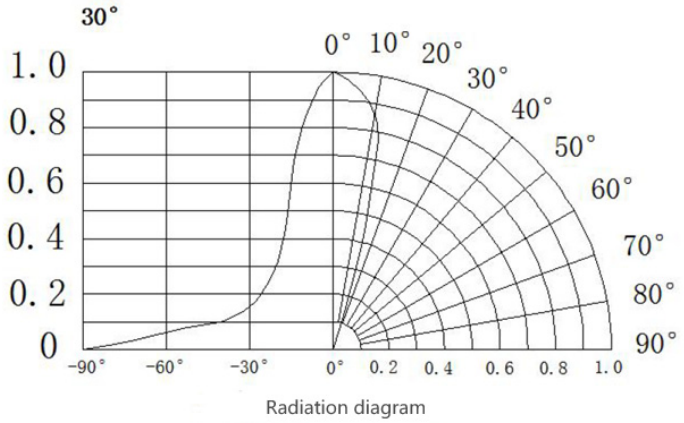












·Reliability test items and conditions

Category	Test Items	Ref.standard	Test Condition	Time	Units/Failed
Environmental tes	Temperature cycle	JEITA ED-4701 100 105	-40℃→25℃→100℃→25℃ 30min 5min 30min 5min	100Cycles	0/100
	High temperature storage	JEITA ED-4701 200 201	Ta=100℃	1000 hours	0/100
	Low temperature storage	JEITA ED-4701 200 202	Ta=-40℃	1000 hours	0/100
	Humidity Heat Storage	MIL-STD 883:1005	Ta=85℃ RH=85%	1000 hours	0/100
Life Test	Room temperature life test	MIL-STD 883:1005	Ta=25℃ IF=30mA	1000 hours	0/10
	Humidity Heat life test	MIL-STD 883:1005	Ta=85℃ RH=85% IF=30mA	500 hours	0/10
	Low-Temperature Life test		Ta=-40℃ IF=30mA	1000 hours	0/10
Damage test	Resistance to soldering heat	JEITA ED-4701 300 302	Tsol=260±5℃,10sec (3 mm from the base of the epoxy bulb)	One time	0/100
	Solderability	JEITA ED-4701 300 303A	Tsol=245±5℃,5sec （Sn-3.0Ag-0.5Cu）	One time	0/100
Static electricity	Antistatic ability	AEC (Q101-001)	Human body model 2000 V	Forward and reverse one time	0/100

·Failure Criteria

Test Items	Symbol	Test Condition	Criteria for Judgment
Forward voltage	VF	IF=20mA	Less than the upper limit of x 1.1
Reverse Current	IR	VR = 5V	Less than the upper limit of x 2.0
Luminous Intensity	Im	IF=3*20mA	＞Initial Data x 0.9 (Single lamp degradation)
Weldability	--	--	Dip tin area ＞95%

U. S.L: Upper Specification Limit　　L.S.L: Lower Specification Limit

Instruction manual

1. Pin forming method

a. 2 mm from collate is required to bend the bracket.
b. Bracket forming must be done with a fixture or by a professional.
c. Bracket forming must be done before welding.
d. Bracket forming needs to ensure that the pins and spacing are consistent with the circuit board.

2. LED installation method

a. Please pay attention to the arrangement of the external lines of various types of devices, to prevent polarity from being misplaced. The device must not be too close to the heating element and the working conditions should not exceed its specified limits.
b. Be sure not to install led in the case of pin deformation.
c. When deciding to install in the hole, calculate the dimensions and tolerances of the face and the pitch of the hole on the circuit board to avoid excessive pressure on the bracket.
d. When installing LEDs, the construction of a guide set positioning.
e. Before the welding temperature returns to normal, the LED must be avoided by any vibration or external force.

3. Storage conditions

a. Prevent continued exposure to the condensing moisture environment and keep the product away from rapid transitions in ambient temperature.
b. LEDs should be stored with temperature ≤30℃ and relative humidity ≤60%。
c. Product in the original sealed package is recommended to be assembled within 72 hours of opening. Product in opened package for more than a week should be baked for 30 (+10/-0) hours at 85-100℃.

4. Static electricity

a. Static electricity or surge voltage damages the LEDs. It is recommended that a wrist band or an anti-electrostatic glove be used when handing the LEDs.
b. All devices, equipment and machinery must be properly grounded. It is recommended that precautions be taken against surge voltage to the equipment that mounts LEDs.