



LIGITEK

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BIPOLAR TYPE LED LAMPS



Lead-Free Parts

LVYUG65062/L15

DATA SHEET

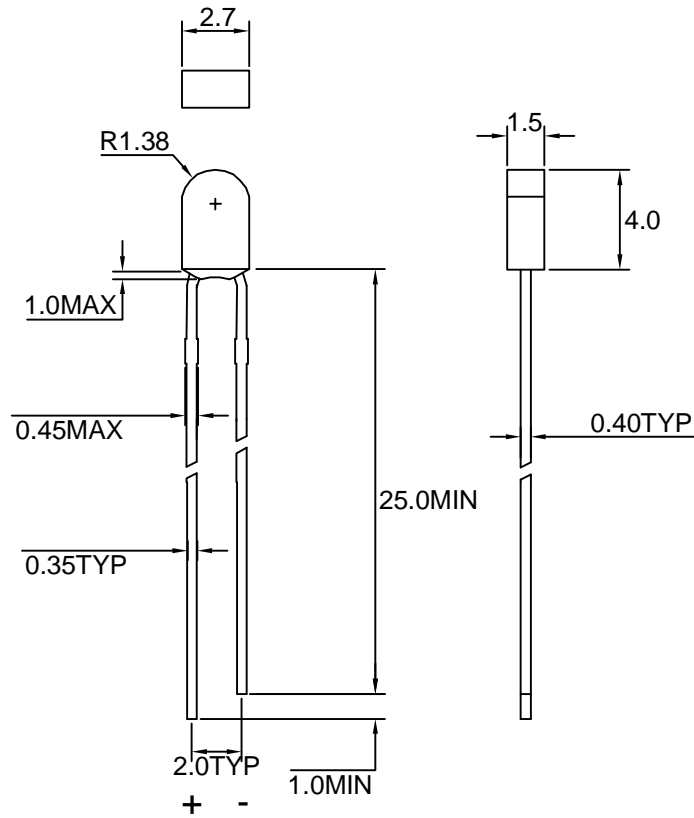
DOC. NO : QW0905-LVYUG65062/L15

REV. : B

DATE : 19 - Dec. - 2008

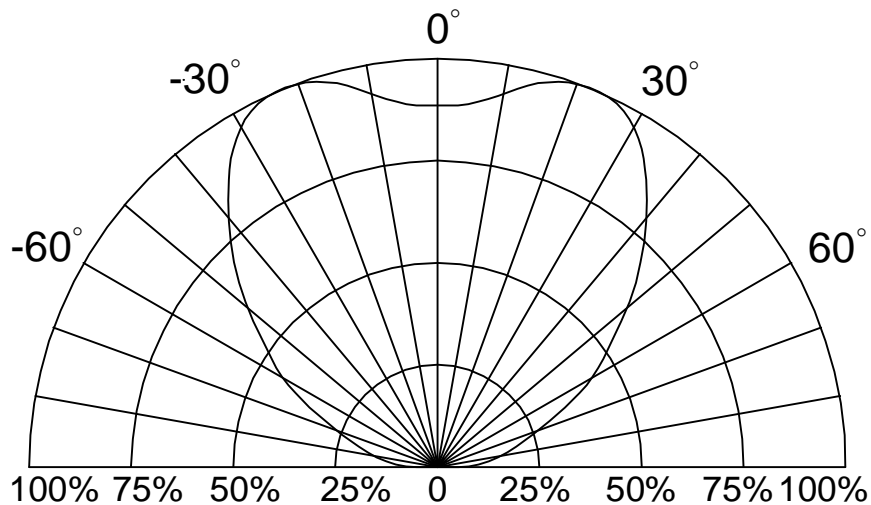


Package Dimensions



Note : 1.All dimension are in millimeter tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.
2.Specifications are subject to change without notice.

Directivity Radiation



**Absolute Maximum Ratings at Ta=25 °C**

Parameter	Symbol	Ratings		UNIT
		VY	UG	
Forward Current	IF	30	30	mA
Peak Forward Current Duty 1/10@10KHz	IFP	60	100	mA
Power Dissipation	PD	75	120	mW
Reverse Current @5V	Ir	10	10	μA
Electrostatic Discharge(*)	ESD	2000		V
Operating Temperature	Topr	-40 ~ +85		°C
Storage Temperature	Tstg	-40 ~ +100		°C

* Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrostatic glove is recommended when handling these LED. All devices, equipment and machinery must be properly grounded.

Typical Electrical & Optical Characteristics (Ta=25 °C)

PART NO	MATERIAL	COLOR		Dominant wave length λ Dnm		Spectral halfwidth Δ λ nm	Forward voltage @20mA(V)		Luminous intensity @20mA(mcd)		Viewing angle 2θ 1/2 (deg)
		Emitted	Lens	Min.	Max.		Min.	Max.	Min.	Max.	
LUYUG65062/L15	AlGaInP	Yellow	White Diffused	583	598	20	1.7	2.6	28	300	174
	AlGaInP	Green		564	576		20	1.7	2.6	28	

Note : 1. The forward voltage data did not including ±0.1V testing tolerance.
2. The luminous intensity data did not including ±15% testing tolerance.



Brightness Code For Standard LED Lamps

VY CHIP

Group	Luminous Intensity(mcd) at 20 mA	
	Min.	Max.
A8	28	38
A9	38	50
A10	50	65
A11	65	90
A12	90	120
A13	120	160
A14	160	220
A15	220	300

UG CHIP

Group	Luminous Intensity(mcd) at 20 mA	
	Min.	Max.
A8	28	38
A9	38	50
A10	50	65
A11	65	90
A12	90	120
A13	120	160
A14	160	220
A15	220	300



Brightness Code For Standard LED Lamps

Color Code

VY CHIP

Group	Wave length(nm) at 20 mA	
	Min.	Max.
14	583	585
15	585	587
16	587	589
17-1	589	590
17-2	590	591
17-3	591	592
18	592	595
19	595	598

UG CHIP

Group	Wave length(nm) at 20 mA	
	Min.	Max.
5	564	566
6	566	568
7	568	570
8-1	570	571
8-2	571	572
9	572	574
10	574	576



Typical Electro-Optical Characteristics Curve

VY CHIP

Fig.1 Forward current vs. Forward Voltage

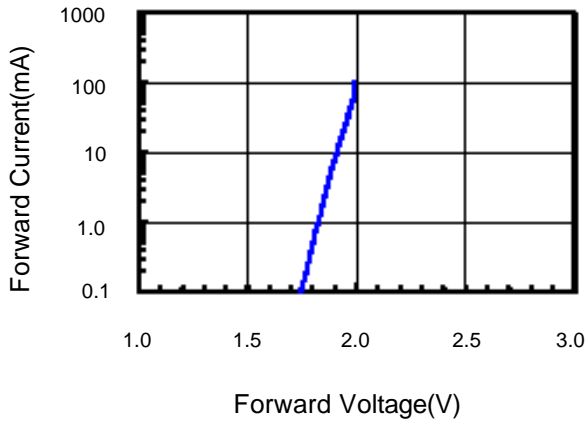


Fig.2 Relative Intensity vs. Forward Current

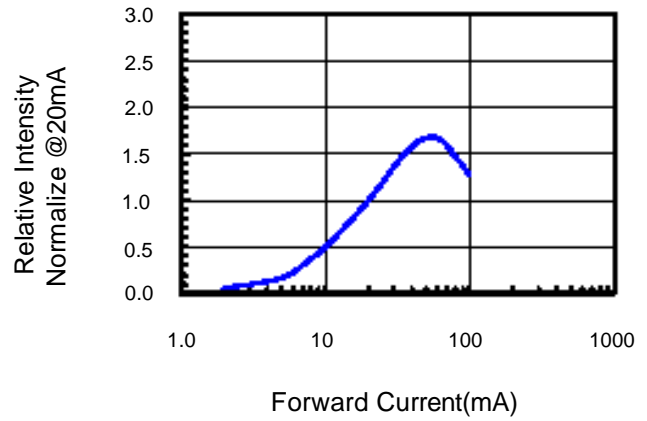


Fig.3 Forward Voltage vs. Temperature

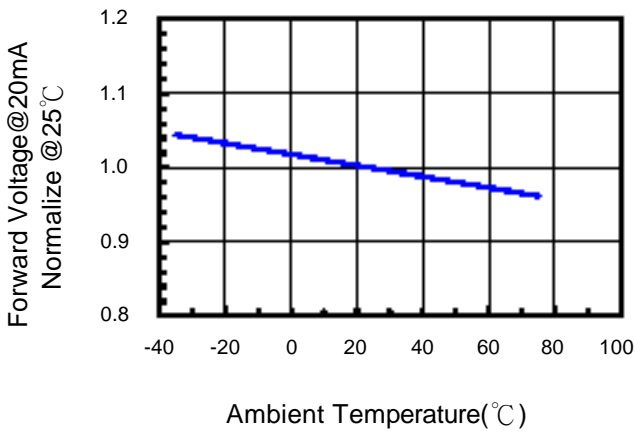


Fig.4 Relative Intensity vs. Temperature

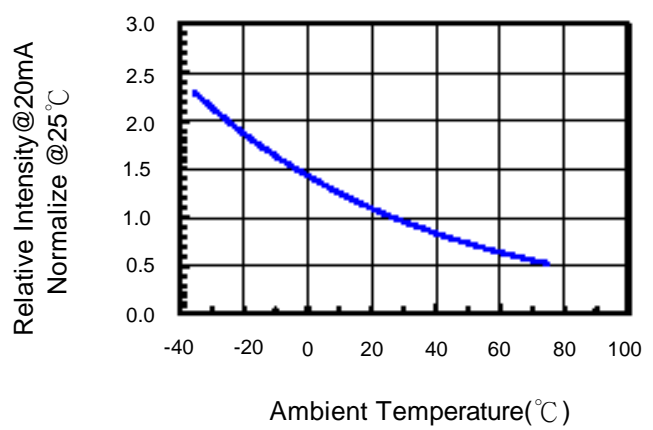
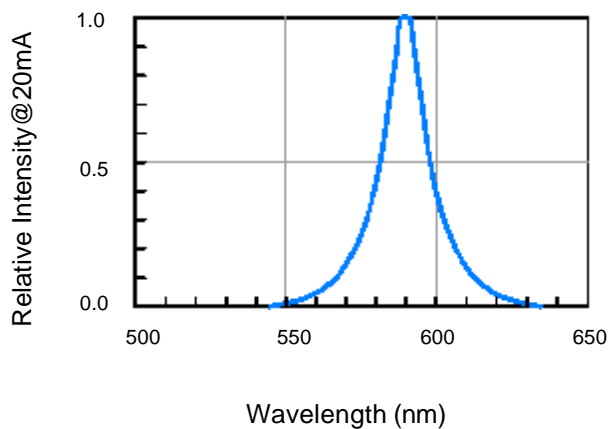


Fig.5 Relative Intensity vs. Wavelength





Typical Electro-Optical Characteristics Curve

UG CHIP

Fig.1 Forward current vs. Forward Voltage

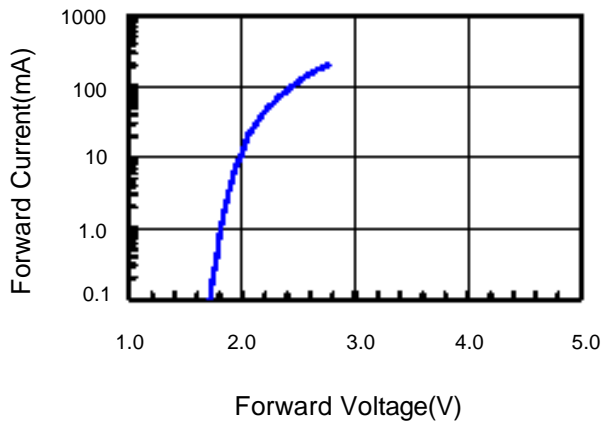


Fig.2 Relative Intensity vs. Forward Current

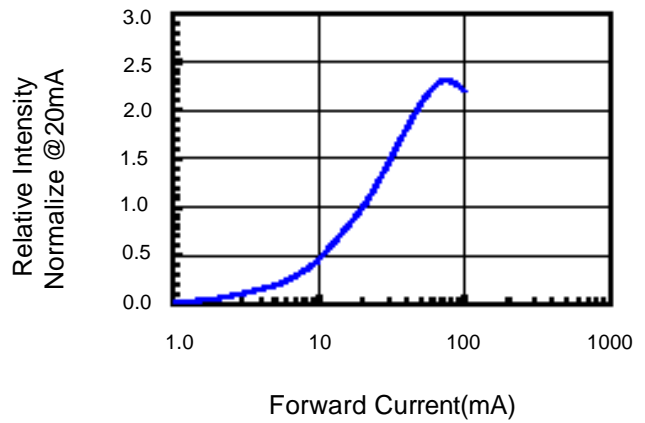


Fig.3 Forward Voltage vs. Temperature

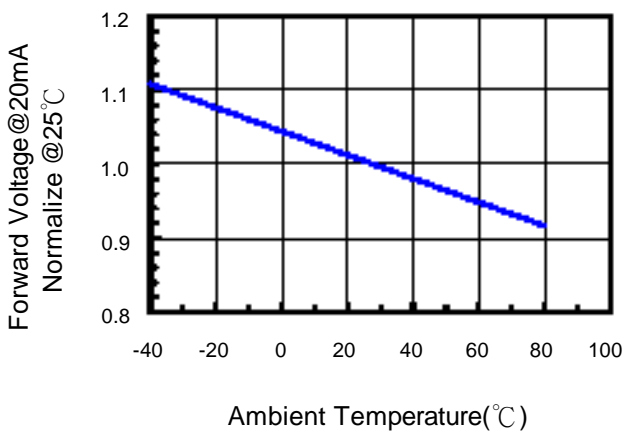


Fig.4 Relative Intensity vs. Temperature

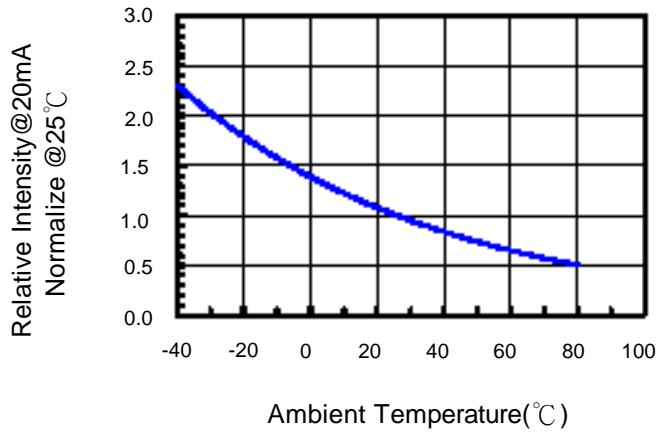
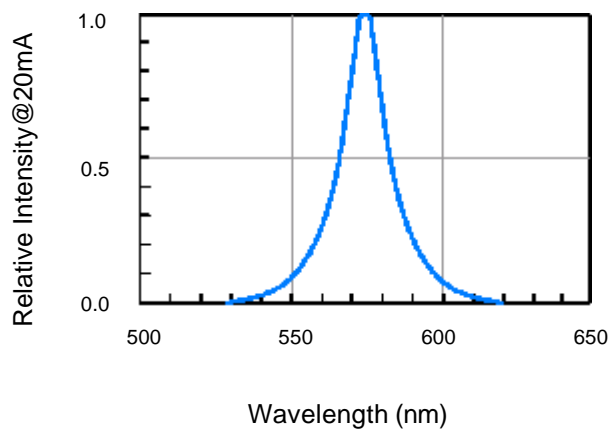


Fig.5 Relative Intensity vs. Wavelength





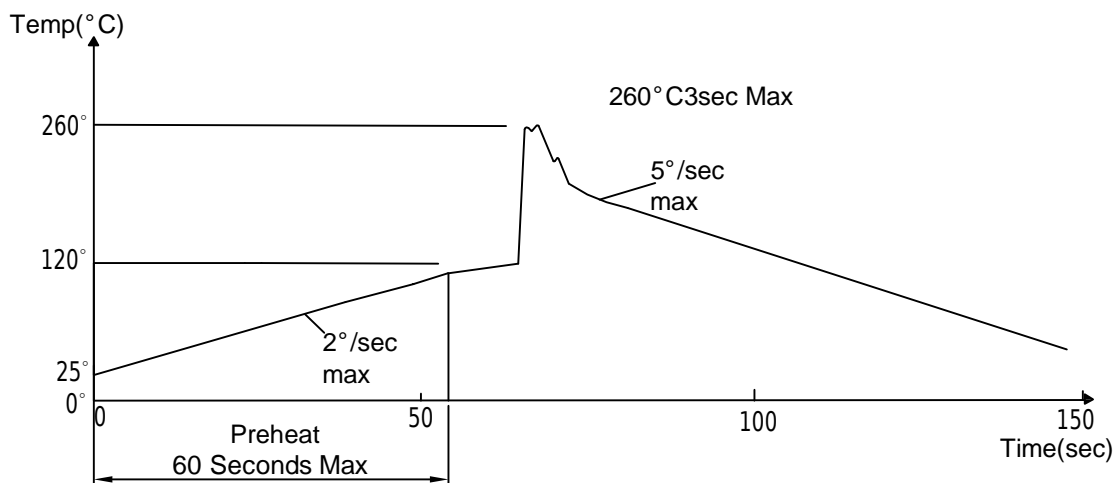
Soldering Condition(Pb-Free)

1.Iron:

Soldering Iron:30W Max
Temperature 350° C Max
Soldering Time:3 Seconds Max(One time only)
Distance:2mm Min(From solder joint to body)

2.Wave Soldering Profile

Dip Soldering
Preheat: 120° C Max
Preheat time: 60seconds Max
Ramp-up
2° C/sec(max)
Ramp-Down:-5° C/sec(max)
Solder Bath:260° C Max
Dipping Time:3 seconds Max
Distance:2mm Min(From solder joint to body)



Note: 1.Wave solder should not be made more than one time.
2.You can just only select one of the soldering conditions as above.



Reliability Test:

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 °C±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C±5°C 2.RH=90 %-95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 °C±5°C & -40°C±5°C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 °C±5°C 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 °C±5°C 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2