1W Power Light LED

LGLB-311H

DATA SHEET

DOC. NO ： QW0905- LGLB-311H

REV： B

DATE ： 24- Oct. -2011

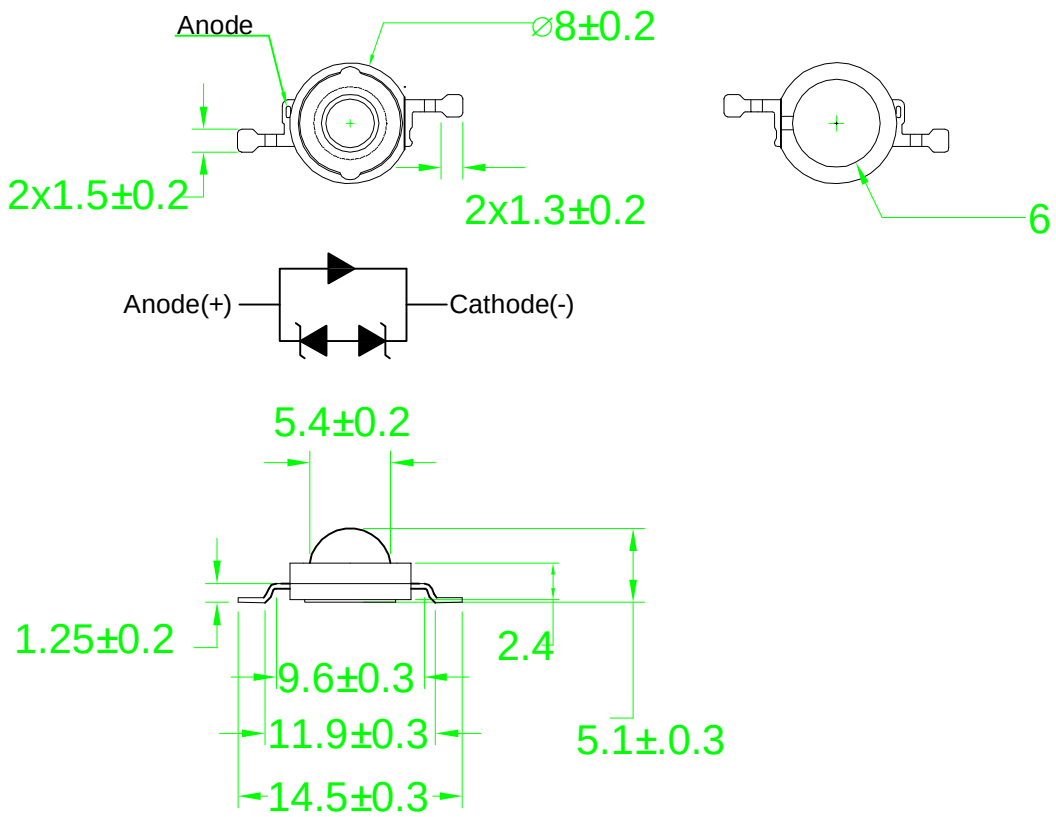
Features

*. High Flux per LED
*. Very long operating life(up to 100k hours).
*. Available in White.
*. More Energy Efficient than Incandescent and most Halogen lamps.
*. Low voltage DC operated..
*. Cool beam, safe to the touch.
*. Instant light(less than 100 ns).
*. Fully dimmable.
*. No UV.
*. Superior ESD protection..
*. Soldering methods: hand Soldering.

Typical Applications

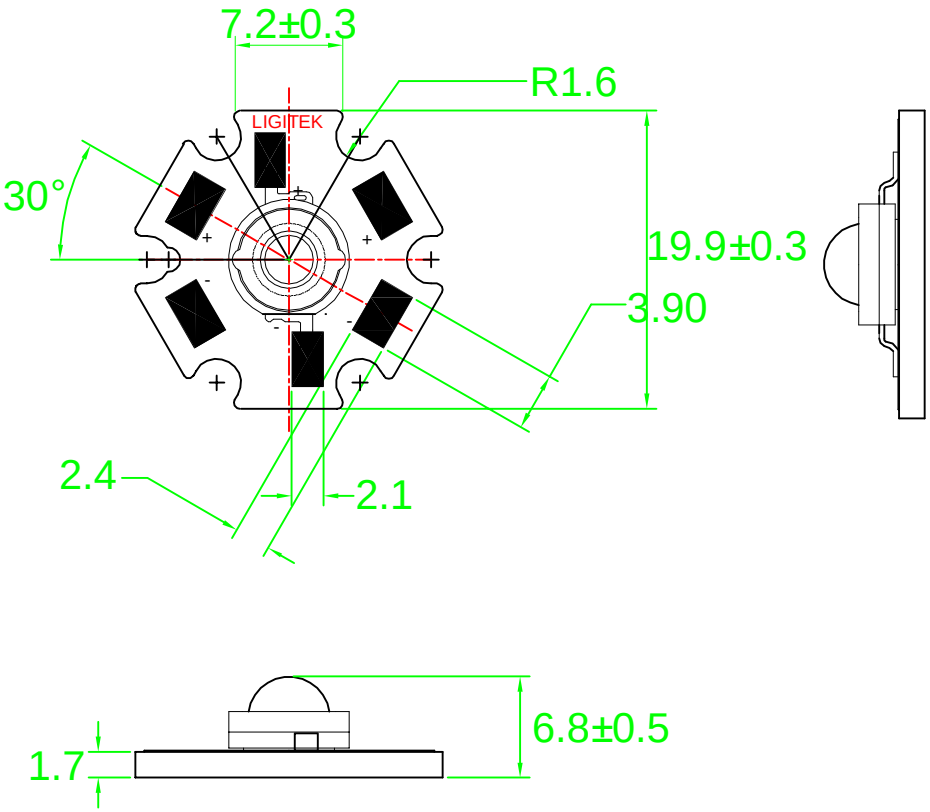
*. Reading Light (car,bus,aircraft)
*. Portable(flashlight,bicycle).
*. LCD Backlights / Light Guides.
*. Automotive Exterior (Stop-Tail-Tum,CHMSL,Mirror Side Repeat).
*. Commercial and Residential Architectural lighting.
*. Mini-accent / Uplighters / Downlighters / Orientation lighting
*. Fiber Optic Alternative / Decorative / Entertainment lighting.
*. Security / Garden lighting.
*. Cove / Undershelf / Task lighting.
*. Traffic signaling / Beacons / Rail crossing and Wayside lighting.
*. Decorative.
*. Sign and channel Letter.

Dimension



Note:1.All dimension are in millimeter
2.Specifications are subject to change without notice

Star Mechanical Dimensions



Note:1.All dimension are in millimeter

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Ratings	UNIT
		Blue	
DC Forward Current	I_F	350	mA
Power Dissipation	PD	1.4	W
Peak pulse current Duty 1/10@10KHz	I_{FP}	500	mA
LED junction Temperature	Tj	125	℃
Reverse Current(VR=5V)	Ir	100	μA
Storage Temperature	Tstg	-40 ~ +120	℃
Operating Temperature	Topr	-40 ~ +100	℃
Manual Soldering Time at 260°C(Max)	Tsol	5	seconds

. Luminous Flux Characteristics at 350mA

(Ratings At 25℃ Ambient)

Radiation Pattern	PART NO	Emission Color	Luminous Flux @350mA(lm)			Units
			Min.	Typ.	Max.	
Lambertian	LGLB-311H	Blue	10.7	17	----	lm

. Forward Voltage Characteristics at 350mA

(Ratings At 25℃ Ambient)

Radiation Pattern	PART NO	Emission Color	Vf			Units
			Min.	Typ.	Max.	
Lambertian	LGLB-311H	Blue	3.0	3.6	4.0	V

Note : Forward Voltage is measured with an accuracy of ±0.1V

. Dominant Wavelength Characteristics at 350mA

(Ratings At 25℃ Ambient)

Radiation Pattern	PART NO	Emission Color	λ D			Units
			Min.	Typ.	Max.	
Lambertian	LGLB-311H	Blue	465	----	475	nm

. Tempeature Coefficient Of Forward Voltage&Thermal Resistance Junction To Board Characteristics at 350mA

(Ratings At 25℃ Ambient)

Radiation Pattern	PART NO	Emission Color	ΔVF/ΔT		Rth,j-B	
			Typ.	Units	Typ.	Units
Lambertian	LGLB-311H	Blue	-2	mV/°C	18	°C/W

. Emission Angle Characteristics at 350mA

(Ratings At 25℃ Ambient)

PART NO	Emission Color	Lambertian	Units
LGLB-311H	Blue	130	Degrees

Brightness Code For High Power LED

Group	Luminous flux(lm)	
	Min	Max
F17	10.7	13.9
F18	13.9	18.1
F19	18.1	23.5
F20	23.5	30.6

Note : Flux is measuBlue with an accuracy of ±10%

Dominant Wavelength For High Power LED

Group		λ D (nm)	
		Min	Max
B	OF	459	462
	OE	462	465
	OD	465	468
	OC	468	471
	OB	471	474
	OA	474	477

Fig.1 Forward current vs. Forward Voltage

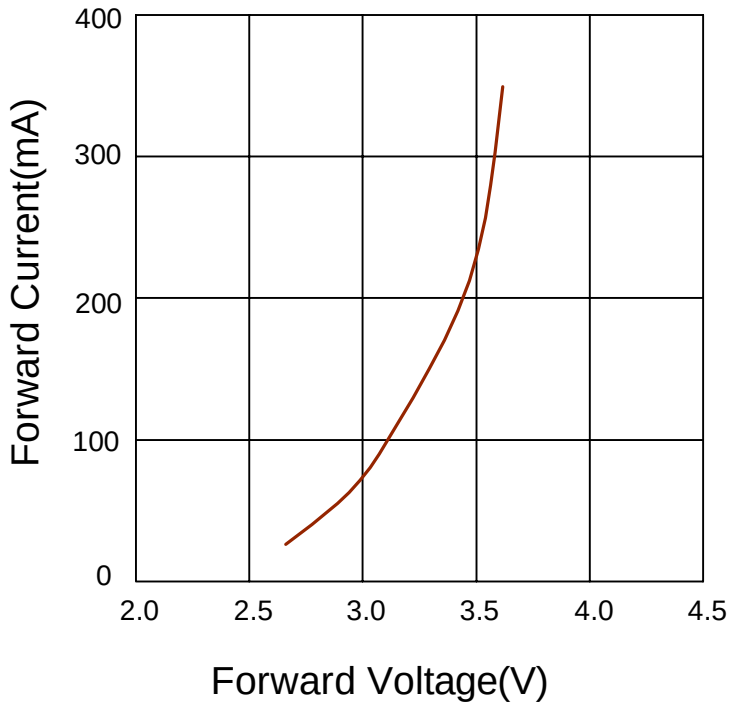


Fig.2 Operating current vs. Ambient Temperature

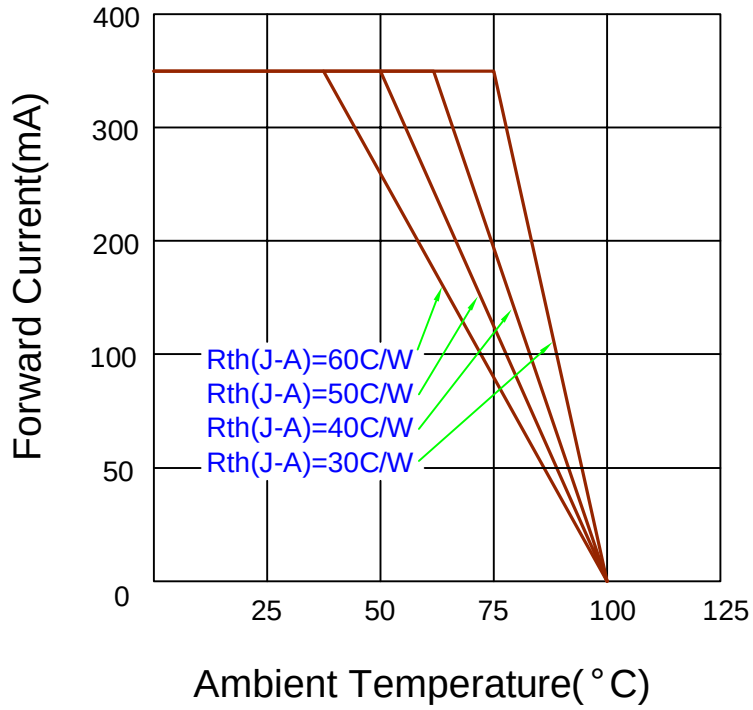


Fig.3 Forward current vs. Luminous Flux

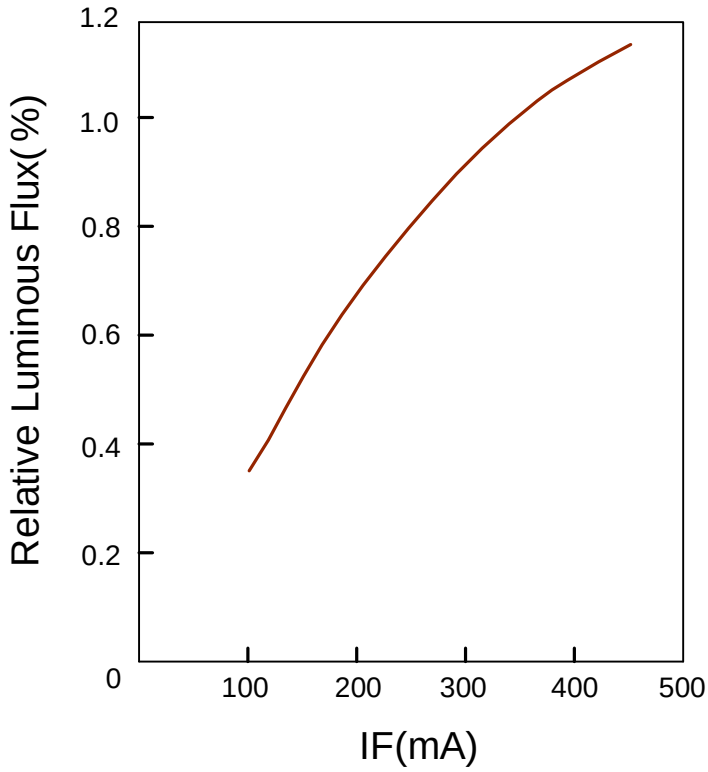


Fig.4 Junction Temperature vs. Forward Voltage

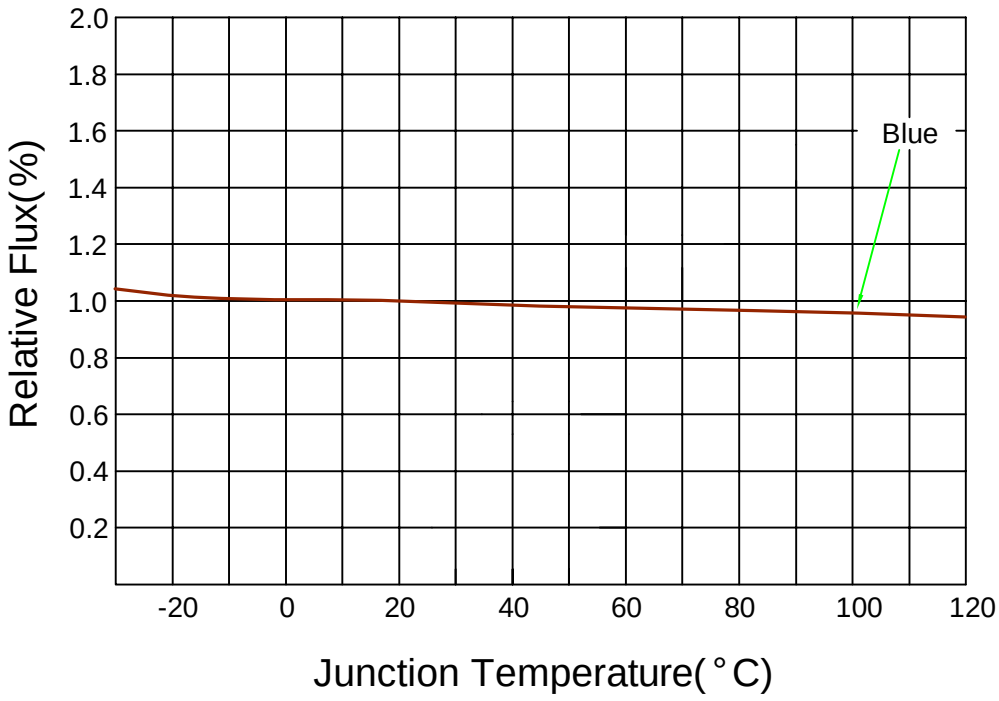


Fig.5 Relative Luminous Flux vs. Wavelength

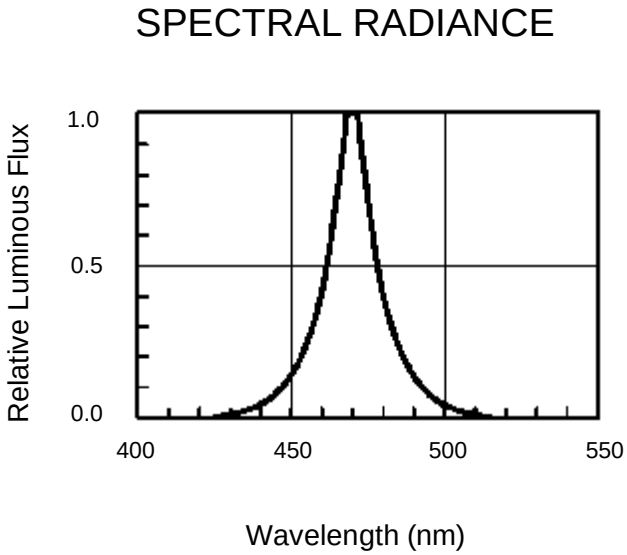
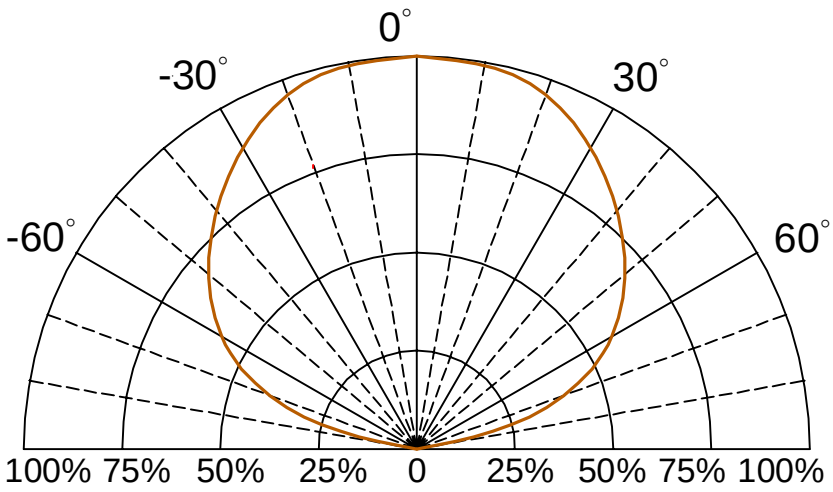
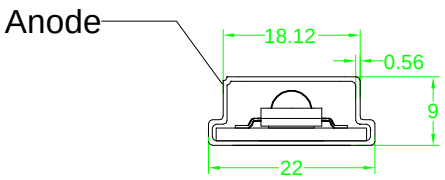
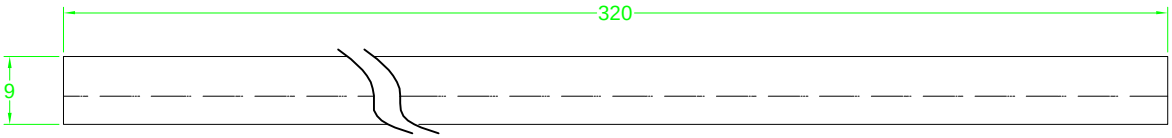


Fig.6 Directivity Radiation



Package Specificatious





1. All dimensions are in mm.
2. There are 20 pcs emitters in a tube.
3. There are 64 tubes in a inner box.

Reliability Test

Item	Description	Stress Condition	Test Duration
RTOL	Room Temperature Operation Life	25°C, Max. I_F	1000 hours
WHT	Wet High Temperature	85°C/85%RH	1000 hours
TC	Temperature Cycling	-40/+110°C, 30min dwell,<5min trans.	200 cycles
TS	Thermal Shock	-40/+110°C, 20min dwell,<20min trans.	200 cycles
HTSL	High Temperature Storage Life	120°C	1000 hours
LTSL	Low Temperature Storage Life	-40°C	1000 hours
SHR	Solder Heat Resistance	260±5°C, 5secs	
MS	Mechanical Shock	1500G,0.5msec pulse, 5 shocks each 6 axis	
ND	Natural Drop	On concrete from 1.2m, 3xtimes	
RV	Random Vibration	6G RMS from 10 to 2KHz, 10mins/axis	
VVF	Variable Vibration Frequency	10-2000-10Hz, 20G 1 min, 1.5mm, 3timesx/axis	

Note :

Failure criteria:

Electrical failures

V_F shife >= 10%

I_R < 50uA@Vr = 5v

Ligitek output Degradation

%I_V shift >= 30%@1000hrs or 200cycle

Visual failures

Broken or damaged pockage or lead

Dimension out of tolerance