



LIGITEK

LIGITEK ELECTRONICS CO.,LTD.  
Property of Ligitek Only

BIPOLAR TYPE LED LAMPS



Lead-Free Parts

LSBKSUG2662/R1

DATA SHEET

DOC. NO : QW0905-LSBKSUG2662/R1-0908

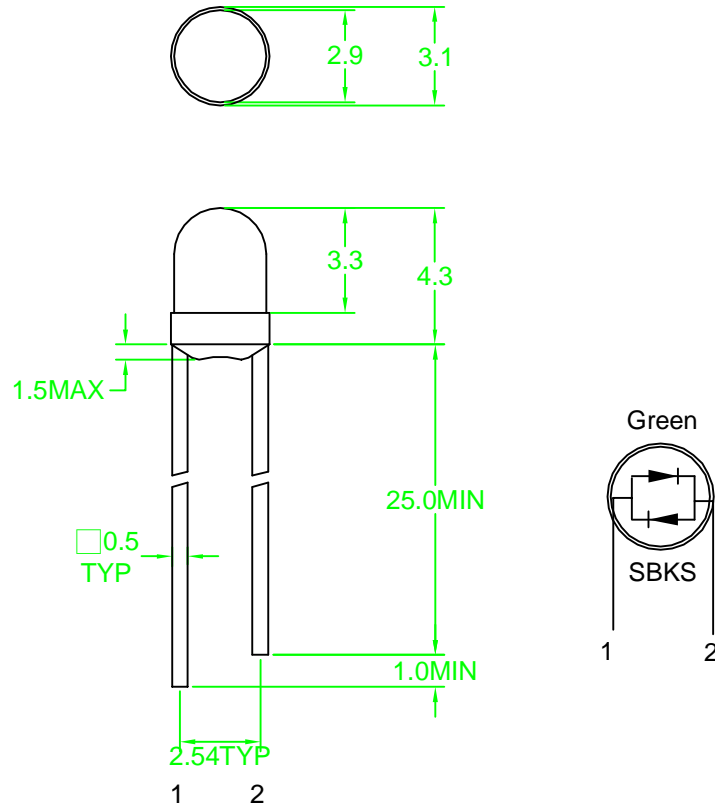
REV. : A

DATE : 21 -Oct. - 2009



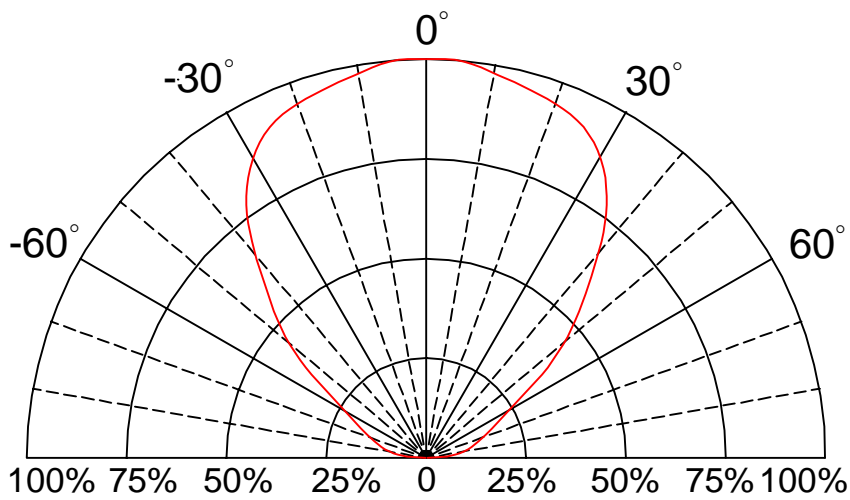


### Package Dimensions



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
		SBKS	Green	
Forward Current	IF	30	25	mA
Peak Forward Current Duty 1/10@10KHz	IFP	100	75	mA
Power Dissipation	PD	120	65	mW
Reverse Current @5V	Ir	50	10	$\mu$ A
Electrostatic Discharge( * )	ESD	500	2000	V
Operating Temperature	Topr	-20 ~ +80		°C
Storage Temperature	Tstg	-30 ~ +100		°C

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

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

PART NO	MATERIAL	COLOR		Peak wave length $\lambda$ Pnm	Spectral halfwidth $\Delta \lambda$ nm	Forward voltage @20mA(V)			Luminous intensity @ 20mA(mcd)		Viewing angle $2\theta$ 1/2 (deg)
		Emitted	Lens			Min.	Typ.	Max.	Min.	Max.	
LSBKSUG2662/R1	GaAsP/GaP	Blue	White Diffused	475	26	---	3.5	4.2	65	350	100
	GaP	Green		574	20	1.7	---	2.6	28	160	100

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



### Brightness Code For Standard LED Lamps

SBKS CHIP

Group	Luminous Intensity(mcd) at 20 mA	
	Min.	Max.
A16	65	90
A17	90	120
A18	120	160
A19	160	220
A20	220	300
A21	300	350

### Color Code

SBKS CHIP

Group	Dominant Wave length(nm) at 20 mA	
	Min.	Max.
0E	462	465
0D	465	468
0C	468	471
0B	471	474
0A	474	477



### Brightness Code For Standard LED Lamps

UG CHIP

Group	Luminous Intensity(mcd) at 20 mA	
	Min.	Max.
8	28	38
9	38	50
10	50	65
11	65	90
12	90	120
13	120	160

### Color Code

UG CHIP

Group	Dominant Wave length(nm) at 20 mA	
	Min.	Max.
7	568	570
8	570	572
9	572	574
10	574	576
11	576	578



### Typical Electro-Optical Characteristics Curve

SBKS CHIP

Fig.1 Forward current vs. Forward Voltage

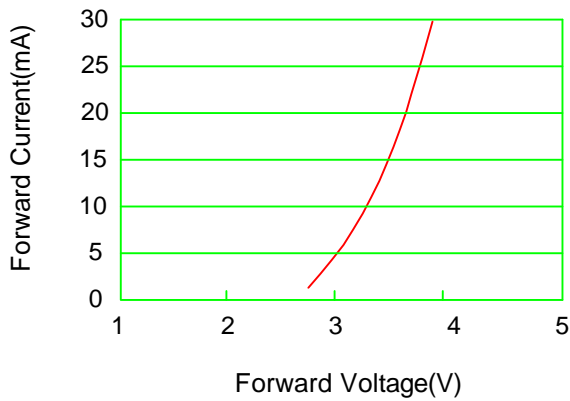


Fig.2 Relative Intensity vs. Forward Current

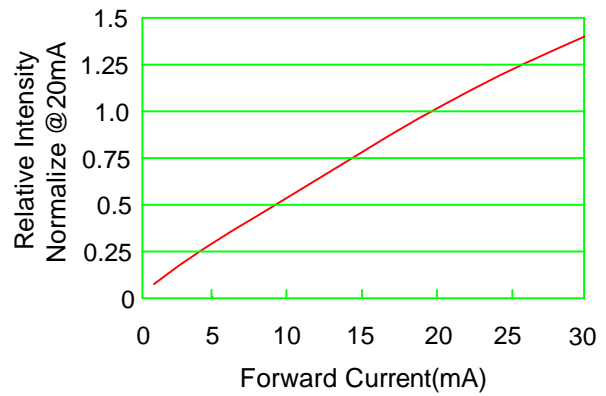


Fig.3 Forward Current vs. Temperature

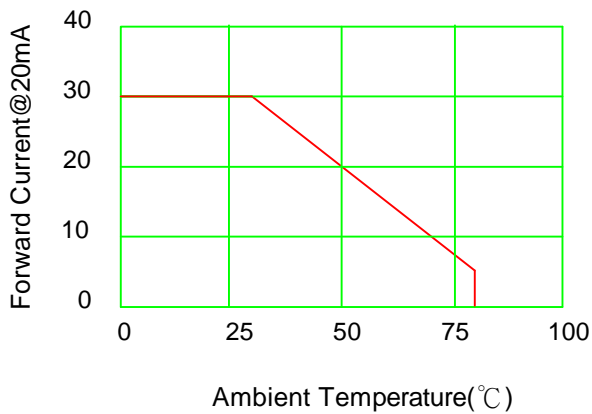
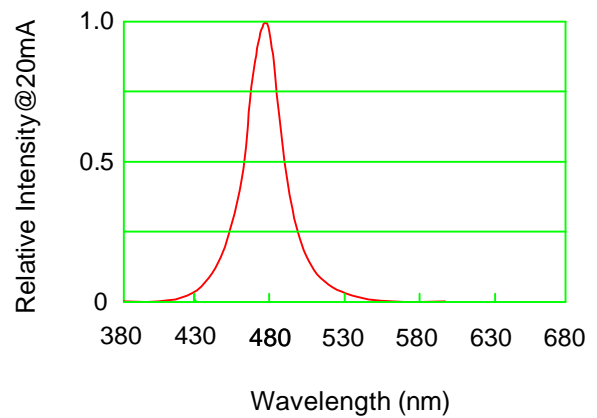


Fig.4 Relative Intensity vs. Wavelength





### Typical Electro-Optical Characteristics Curve UG CHIP

Fig.1 Forward current vs. Forward Voltage

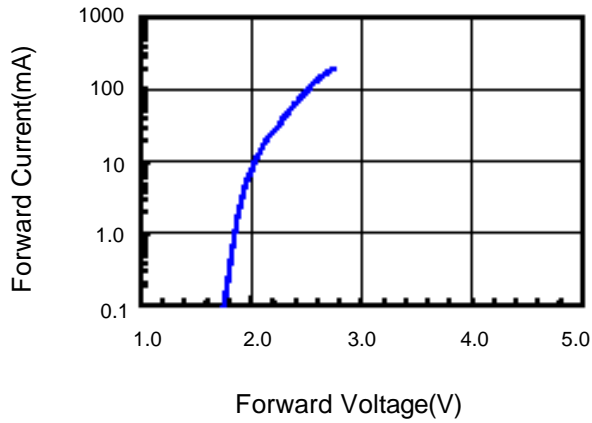


Fig.2 Relative Intensity vs. Forward Current

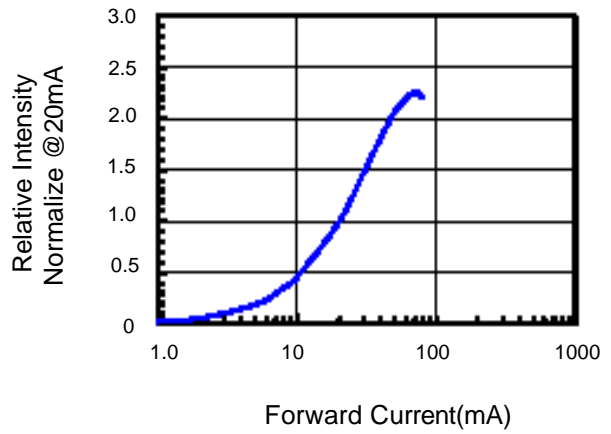


Fig.3 Forward Voltage vs. Temperature

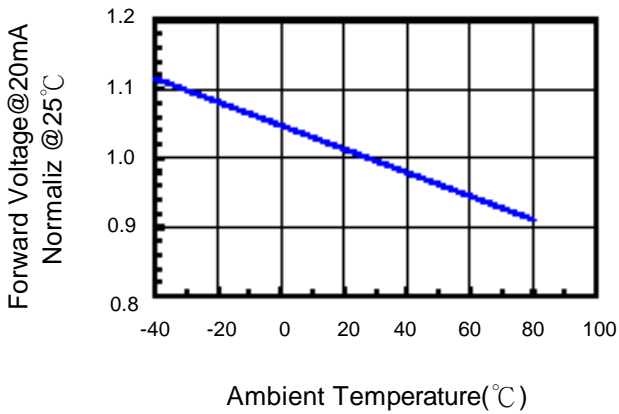


Fig.4 Relative Intensity vs. Temperature

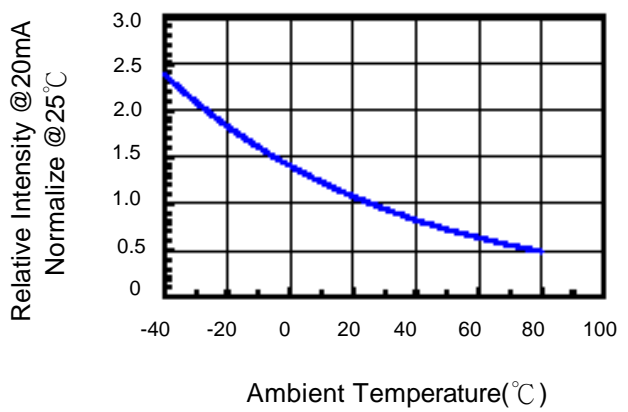
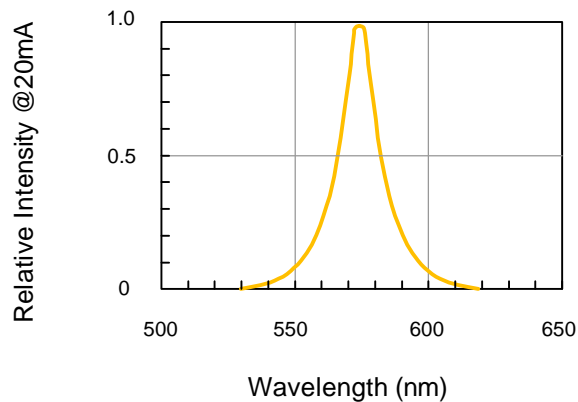


Fig.5 Relative Intensity vs. Wavelength





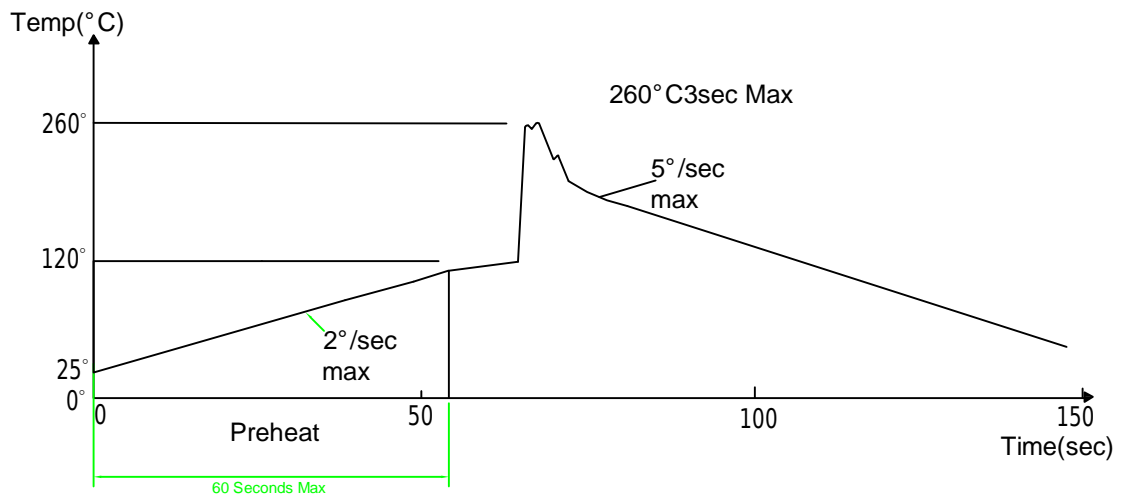
### Soldering Condition(Pb-Free)

#### 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