

DATA SHEET

● DEVICE NUMBER : BL-BEG271

SHEET DATE	1	2	3	4							CONTENTS
2011.10.12	1.0	1.0	1.0								Original Released
2013/5/20	1.1	1.1	1.1	1.1							Modify IV

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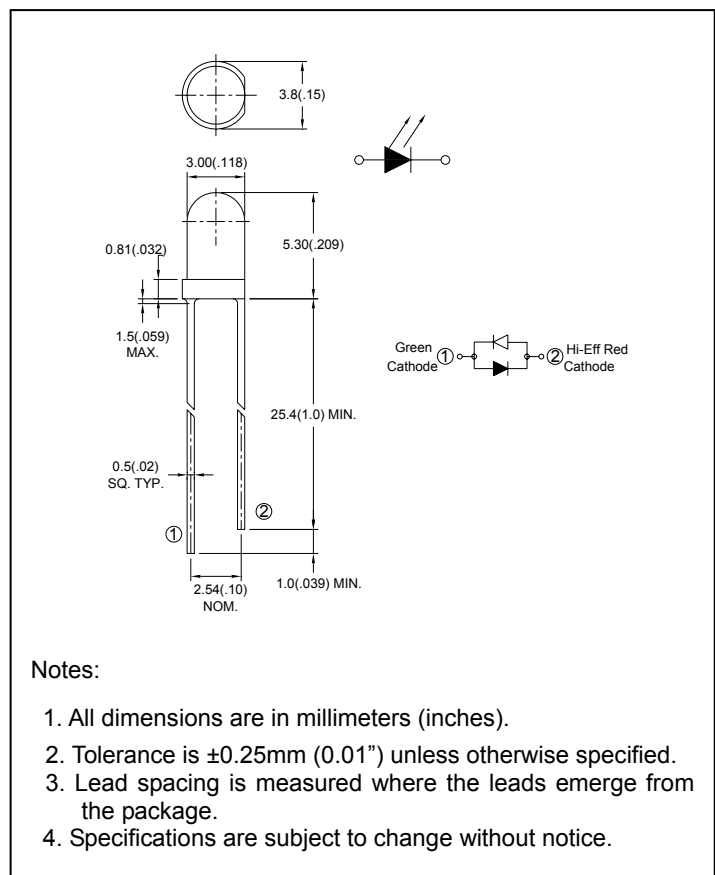
● Features:

1. Chip material: GaAsP/GaP(Red)
and GaP/GaP (Green)
2. Emitted color :Hi-Eff Red and Green
3. Lens Appearance : White Diffused
4. Low power consumption.
5. High efficiency.
6. Versatile mounting on P.C. Board or panel.
7. Low current requirement.
8. 3mm diameter package
9. This product don't contained restriction substance, compliance RoHS standard.

● Applications:

1. TV set
2. Monitor
3. Telephone
4. Computer
5. Circuit board

● Package Dimensions:



● Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

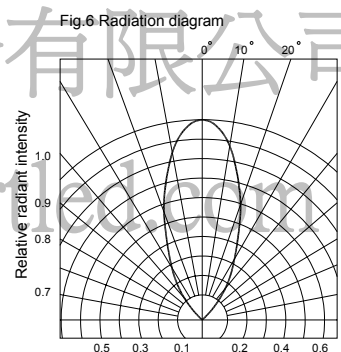
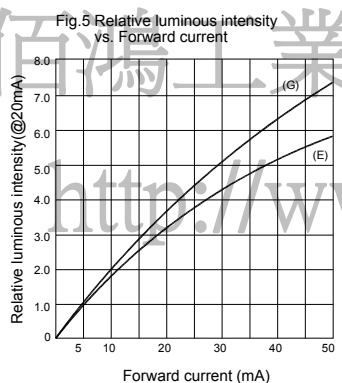
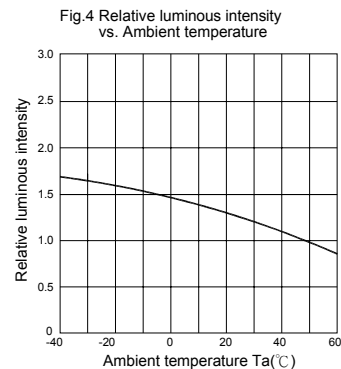
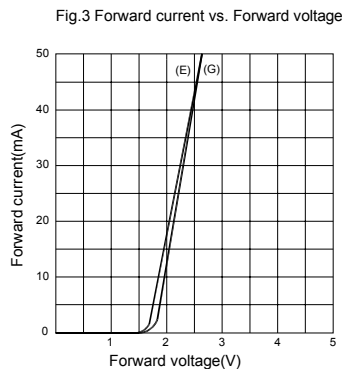
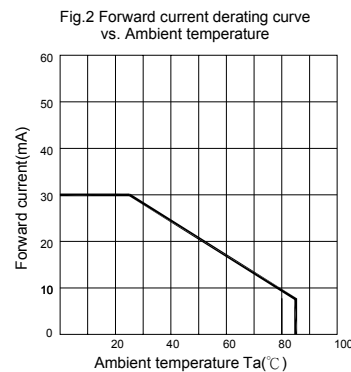
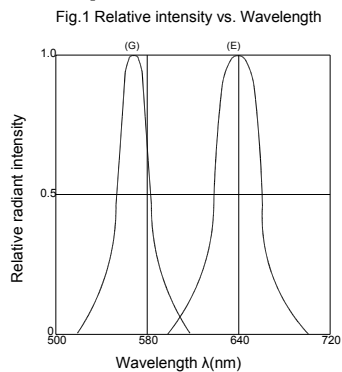
Parameter	Symbol	Hi-Eff Red	Green	Unit
Power Dissipation	P_d	80	80	mW
Forward Current	I_F	30	30	mA
Peak Forward Current	I_{FP}	150	150	mA
Operating Temperature	T_{opr}	$-40^\circ\text{C} \sim 85^\circ\text{C}$		
Storage Temperature	T_{stg}	$-40^\circ\text{C} \sim 100^\circ\text{C}$		
Soldering Temperature	T_{sol}	260°C max (for 5 seconds)		
Hand Soldering Temperature	T_{sol}	350°C max(for 3 seconds)		

*1 Condition for I_{FP} is pulse of 1/10 duty and 0.1msec width.

Electrical and optical characteristics(Ta=25°C)

Parameter	Symbol	Condition	Color	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=20\text{mA}$	Hi-Eff Red Green	-	2.1 2.2	2.6 2.6	V
Luminous Intensity	I_v	$I_F=20\text{mA}$	Hi-Eff Red Green	-	13 13	-	mcd
Peak Wave Length	λ_p	$I_F=20\text{mA}$	Hi-Eff Red Green	-	640 568	-	nm
Dominant Wave Length	λ_d	$I_F=20\text{mA}$	Hi-Eff Red Green	617 560	- -	638 574	nm
Spectral Line Half-width	$\Delta\lambda$	$I_F=20\text{mA}$	Hi-Eff Red Green	-	35 30	-	nm
Viewing Angle	$2\theta_{1/2}$	$I_F=20\text{mA}$	Hi-Eff Red Green	-	45	-	deg

Typical Electro-Optical Characteristics Curves



● Reliability Test

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	$I_F=20\text{mA}$ $T_a=+25^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Test time=1,000hrs	0/32
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	$T_a=+85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ RH=90%-95% Test time=240hrs	0/32
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High $T_a=+85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Test time=1,000hrs	0/32
	Low Temperature Storage	JIS-C-7021 :B-12	Low $T_a=-45^{\circ}\text{C}\pm 5^{\circ}\text{C}$ Test time=1,000hrs	0/32
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	$T_a: +85^{\circ}\text{C} (30\text{min}) \sim +25^{\circ}\text{C} (5\text{min}) \sim -45^{\circ}\text{C} (30\text{min}) \sim +25^{\circ}\text{C} (5\text{min})$ Test Time : 70min/ctcle 10cycle	0/32
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	$-45^{\circ}\text{C}\pm 5^{\circ}\text{C} \sim +85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ 20min 20min Test Time=10cycle	0/32
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : 120°C, within 120-180 sec. Operation heating : 255°C±5°C within 5 sec. 260°C (Max)	0/32
	Solderability	MIL-STD-202F:208D MIL-STD-750D:2026 MIL-STD-883D:2003 JIS C 7021:A-2	$T_{\text{sol}}=230\pm 5^{\circ}\text{C}$ Dwell Time=5±1secs	0/32

● Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	$V_F (V)$	$I_F=20\text{mA}$	Over $U^1 \times 1.2$
Reverse current	$I_R (\mu A)$	$V_R=5V$	Over $U^1 \times 2$
Luminous intensity	$I_v (\text{mcd})$	$I_F=20\text{mA}$	Below $S^1 \times 0.5$

Note: 1. U means the upper limit of specified characteristics. S means initial value.

2. Measurement shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

● Lead Frame Dipping

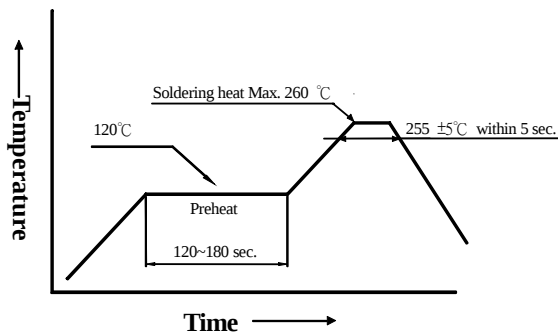
The LED Lead Frame are dipped by Sn in order to protect the rust. Also the dipping thickness is Max 5 μm . When soldering, leave 2.0mm of minimum clearance between the resin and the soldering point.

● DIP soldering (Wave Soldering)

Preheating : 120°C, within 120~180 sec.

Operation heating : 255°C $\pm$ 5°C within 5 sec. 260°C (Max)

Gradual Cooling (Avoid quenching).



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