

# VISIBLE LIGHT PRODUCTS SPECIFICATION

## HB3b-390GC



Drawn by	Checked by	Approved by



DATE:2009/1/6

REV:E



**HUEY JANN ELECTRONICS INDUSTRY CO., LTD.**

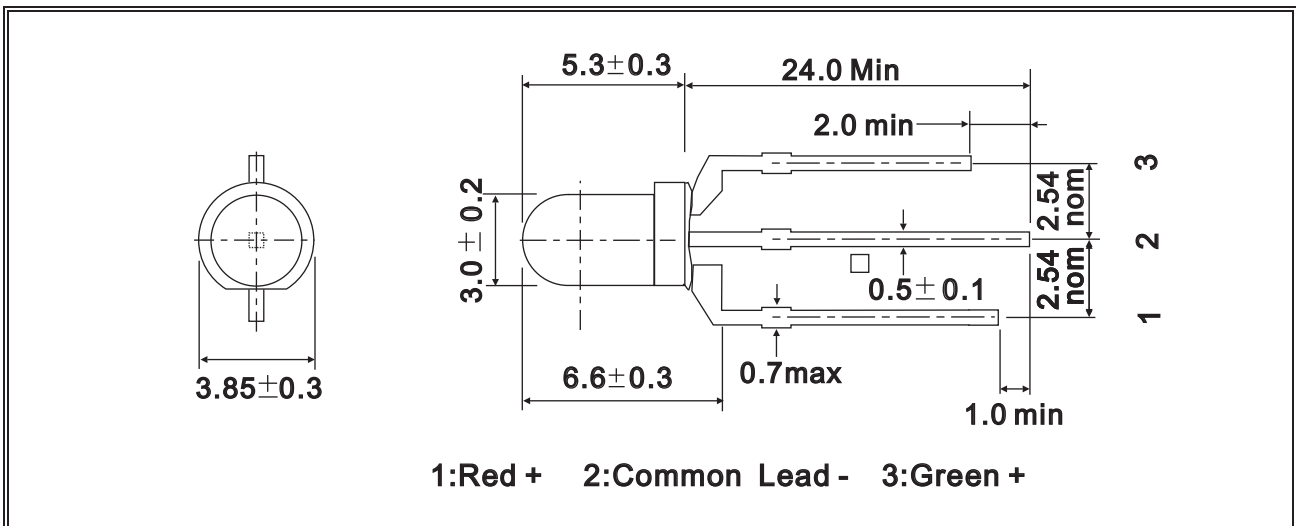
No.27 Line 466 Sec.2,Cannng-nan Rd. Wu-chi Town Taichung Shien, Taiwan, R.O.C.

TEL:+886-4-26393976 FAX:+886-4-26393125

DEVICES

Part Number	Lens		Source	
	Color	Diffusion	Dice Source	Color
HB3b-39OGC	White	Diffusion	GaP/GaP & GaP/GaP	Hi-Eff Red & Yellow Green

PACKAGE DIMENSIONS:



NOTE:

- 1.All dimensions are in millimeter.
- 2.Lead spacing is measured where the lead emerge from the package.
- 3.protruded resin under flange is 1.5mm max.
- 4.specifications are subject to change without notice.
- 5.Tolerance is  $\pm 0.3$ mm unless otherwise noted.



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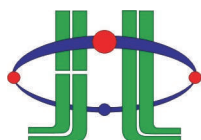
**ABSOLUTE MAXIMUM RATINGS**

TA=25°C

PARAMETER	SYMBOL	MAX. RATING		UNIT
		Hi-Eff Red	Yellow Green	
Power Dissipation	Pd	90	90	mW
Continuous Forward Current	IF	30	25	mA
Peak Forward Current *1	IFM	50	50	mA
Reverse Voltage	VR	5	5	V
Operating Temperature	Topr	-40 ~ +80		°C
Storage Temperature	Tstg	-40 ~ +100		°C
Dip Soldering Temperature (3mm from case Bottom 260 °C for 5 seconds)				

\*1.Duty Ratio=0.1%,Pulse Width=10us.

\*2.Iron soldering in 350°C within 5 seconds will not cause damage to the dice. But be aware of the high temperature will not only make the epoxy soften but also cause the lead moving and the gold wire broken and even open. So before returning to the normal temperature PLEASE AVOID any serious pressure on the top of epoxy and lead.



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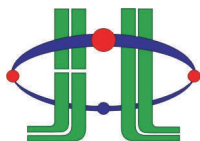
ELECTRIC-OPTICAL CHARACTERISTICS

TA=25°C

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT																															
View Angle of Half Power	2θ1/2	IF=20mA	Red	40		deg																															
			Green				Forward Voltage	VF	Red	2.05	2.50	V	Green	2.15	2.60	Luminous Intensity *2	IV	Red	25	50	mcd	Green	25	50	Peak Emission Wavelength	λp	Red		625	nm	Green		570	Dominate Wave Length *3	λd(HUE)	Red	
Forward Voltage	VF		Red	2.05	2.50	V																															
			Green	2.15	2.60		Luminous Intensity *2	IV	Red	25	50	mcd	Green	25	50	Peak Emission Wavelength	λp	Red		625	nm	Green		570	Dominate Wave Length *3	λd(HUE)	Red		618	nm	Green		567				
Luminous Intensity *2	IV		Red	25	50	mcd																															
			Green	25	50		Peak Emission Wavelength	λp	Red		625	nm	Green		570	Dominate Wave Length *3	λd(HUE)	Red		618	nm	Green		567													
Peak Emission Wavelength	λp		Red		625	nm																															
			Green		570		Dominate Wave Length *3	λd(HUE)	Red		618	nm	Green		567																						
Dominate Wave Length *3	λd(HUE)	Red		618	nm																																
		Green		567																																	

\*2.Tolerance:±15% HUEY-JANN measuring equipment : EXELTRON 2001. 2.S370 made by U.D.T.

\*3.The dominate wavelength , λ d, is derived from the CIE Chromaticity Diagram and represents the color of the device.



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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	Connect with a power if=20mA Ta=Under room temperature Test Time=1,000hrs	0/22
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	Ta=+85°C±5°C RH=90% ~ 95% Test Time=1000hrs	0/22
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High Ta=+100°C±5°C Test Time=1,000hrs	0/22
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-40°C±5°C Test Time=1,000hrs	0/22
	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-40°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=200cycle	0/22
Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010	-40°C±5°C ~ +85°C±5°C 20min 20min Test Time=200cycle	0/22	

\*Failure Criteria:

1. VF arise  $\geq 10\%$
2. IV decline  $\geq 30\%$
3. A failure is an LED that is open or shorted

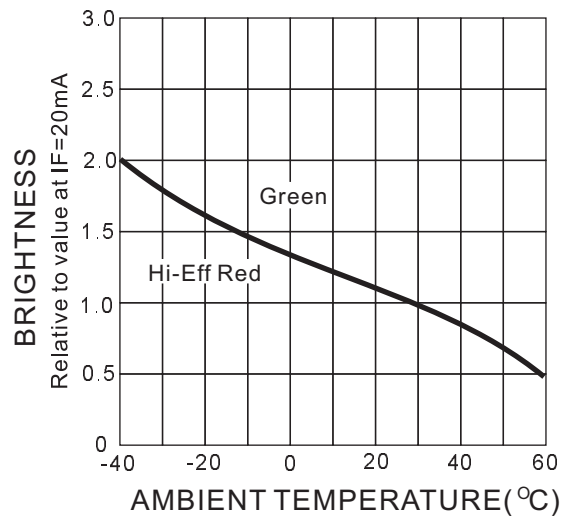
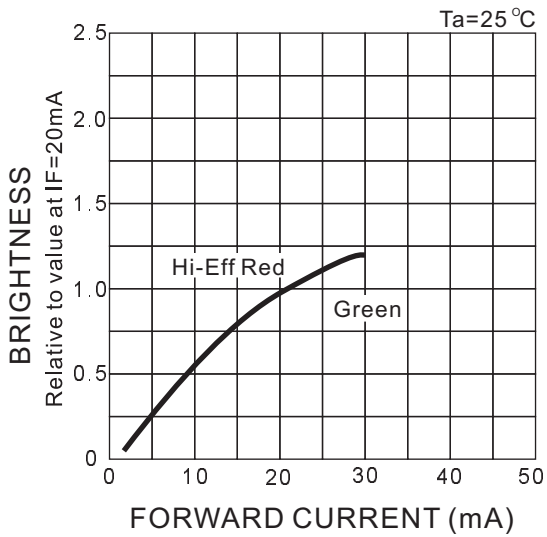
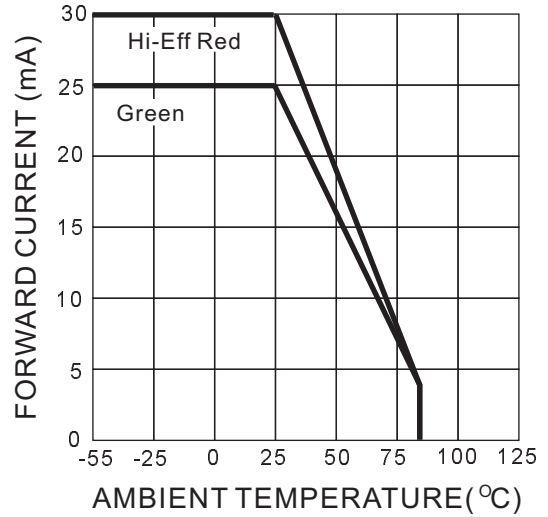
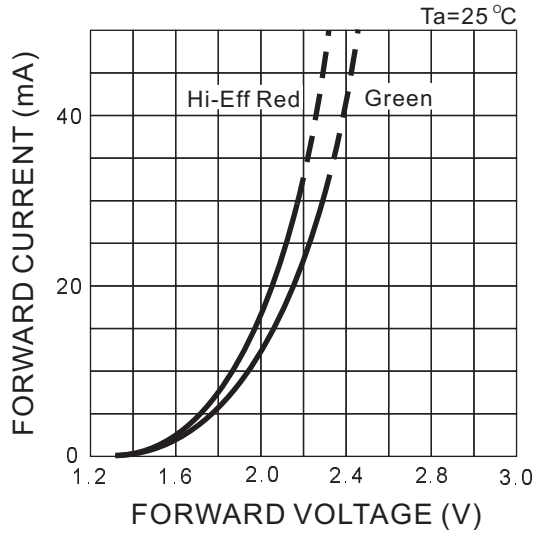


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TYPICAL ELECTRICAL OPTICAL CHARACTERISTICS CURVES

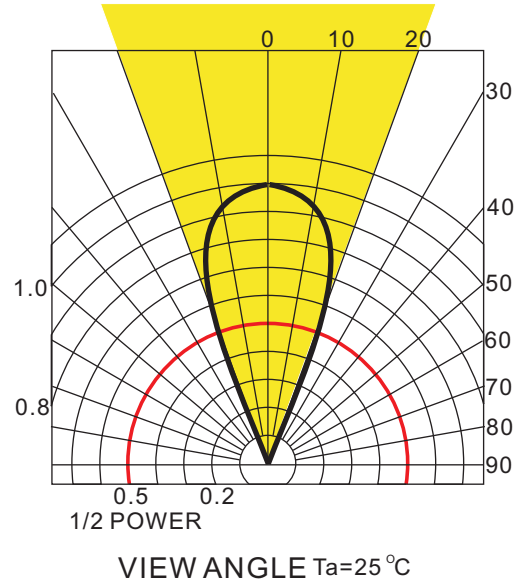
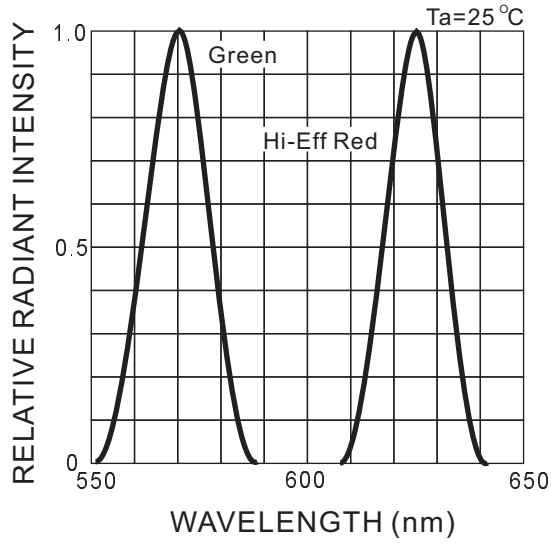


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