BRIGHT LED ELECTRONICS CORP.

SINCE 1981

LED LAMPS SPECIFICATION

TOTAL PAGE: 5
PAGE: 1
REVISION: 1.0

- COMMODITY：2.0x2.0x7.0mm 1.0”Lead Rectangular
- DEVICE NUMBER：BL-R4531A

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2003.06.28	1.0	1.0	1.0	1.0	1.0						Original Released

TOTAL PAGE	5																

佰鴻工業股份有限公司

BRIGHT LED ELECTRONICS CORP.

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BRIGHT LED ELECTRONICS CORP.

LED LAMPS SPECIFICATION

●COMMODITY：2.0x2.0x7.0mm 1.0”Lead Rectangular

●DEVICE NUMBER：BL-R4531A VERSION：1.0

●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25℃)

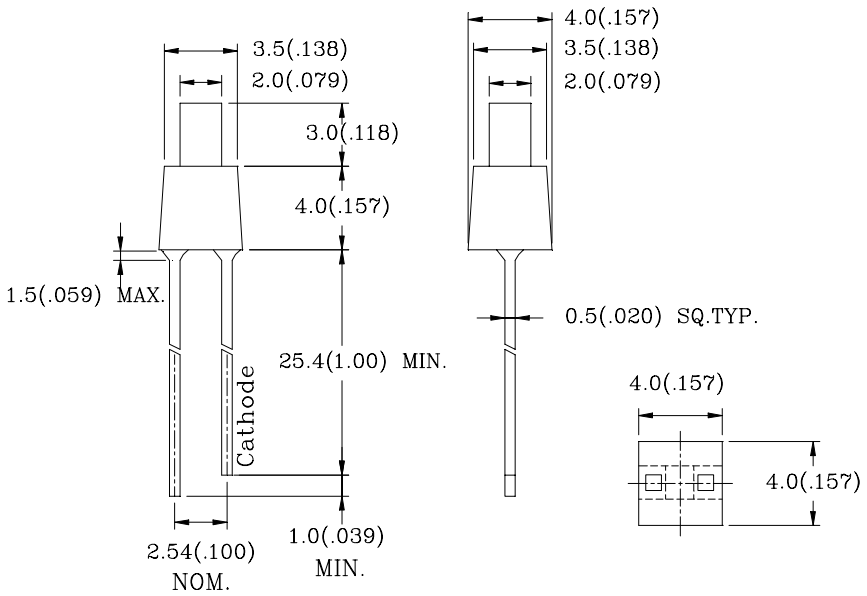
Chip		Lens Appearance	Absolute Maximum Rating				Electro-optical Data (At 2mA)			Viewing Angle 2θ1/2 (deg)
Emitted Color	Peak Wave Length λP(nm)		Δλ (nm)	Pd (mW)	If (mA)	Peak If (mA)	Vf(V) Typ.	Vf(V) Max.	Iv Typ. (mcd)	
Hi-Eff Red	640	Red Diffused	45	80	30	150	2.0	2.6	7	120

Remark：Viewing angle is the Off-axis angle at which the luminous intensity is half the axial luminous intensity.

●ABSOLUTE MAXIMUM RATINGS (Ta=25℃)

Reverse Voltage …… 5V
Reverse Current (V_R=5V) …… 100μA
Operating Temperature Range …… -40℃ ～ 80℃
Storage Temperature Range …… -40℃ ～ 85℃
Lead Soldering Temperature …… 260℃ For 5 Seconds

●PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters (inches).
2.Tolerance is ± 0.25mm (0.01”) unless otherwise specified.
3.Lead spacing is measured where the leads emerge from the package.
4.Specifications are subject to change without notice.

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VERSION：1.0

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

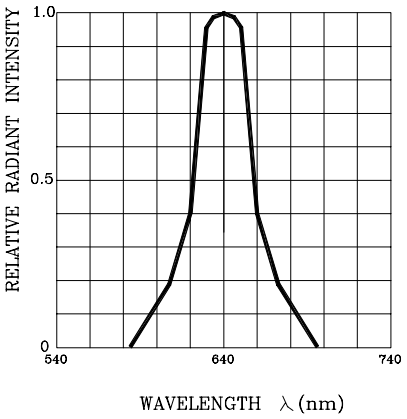


Fig.2 FORWARD CURRENT DERATING CURVE

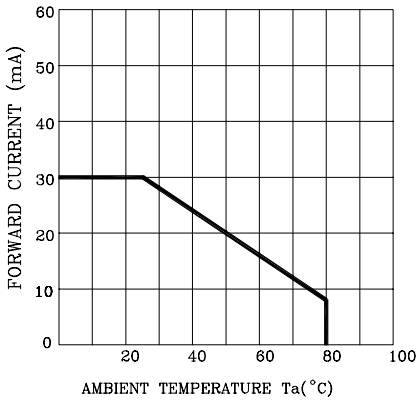


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

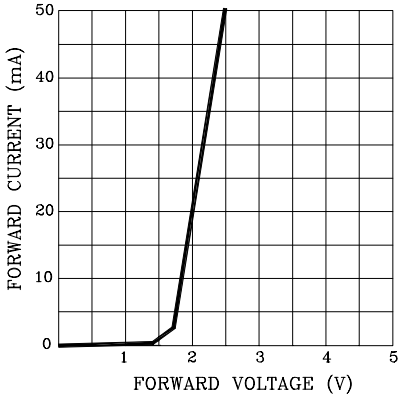


Fig.4 RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

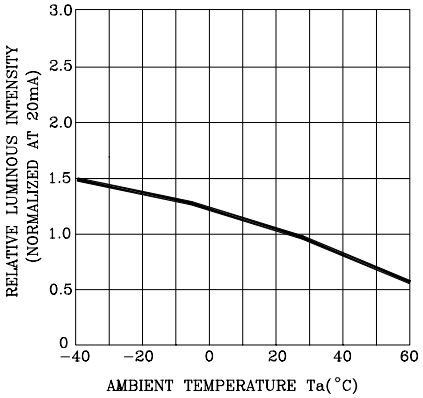
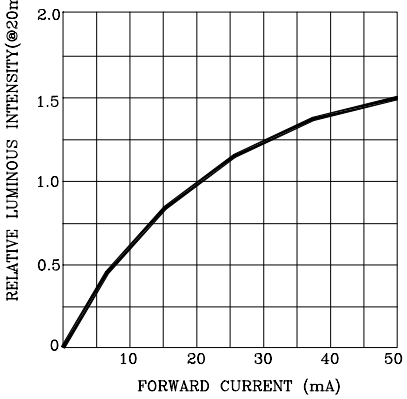
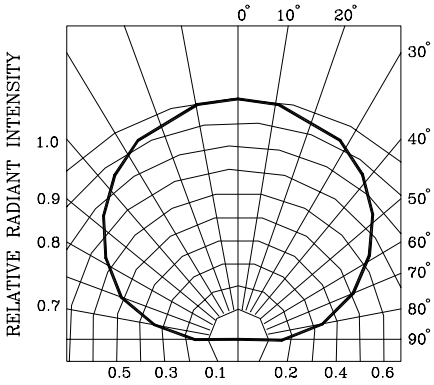


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



RADIATION DIAGRAM



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LED LAMPS SPECICATION

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	0/100
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS C 7021 :B-11	Ta=85℃ ±5℃ RH=90%-95% Test time=240hrs	0/100
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High Ta=105℃ ±5℃ Test time=1,000hrs	0/100
	Low Temperature Storage	JIS-C-7021 :B-12	Low Ta=-55℃ ±5℃ Test time=1,000hrs	0/100
Environmental Text	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	-55℃ ～25℃ ～105℃ ～25℃ 30min 5min 30min 5min Test Time=10cycle	0/100
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-55℃ ±5℃ ～105℃ ±5℃ 10min 10min Test Time=10cycle	0/100
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	T.sol=260 ±5℃ Dwell Time=5 ±1sec.	0/50
	Solder ability	MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021 :A-2	T.sol=230 ±5℃ Dwell Time=5 ±1sec.	0/50
	Lead Bending Stress	MIL-STD-750:2036 JIS C 7021 :A-11	0 °～90 °～0 °bend , 3 cycles Weight 250g	0/50

JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	V_F	If=20mA	Over Ux1.2
Reverse current	Ir	Vr=5V	Over Ux2
Luminous intensity	Iv	If=20mA	Below Sx0.5

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

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

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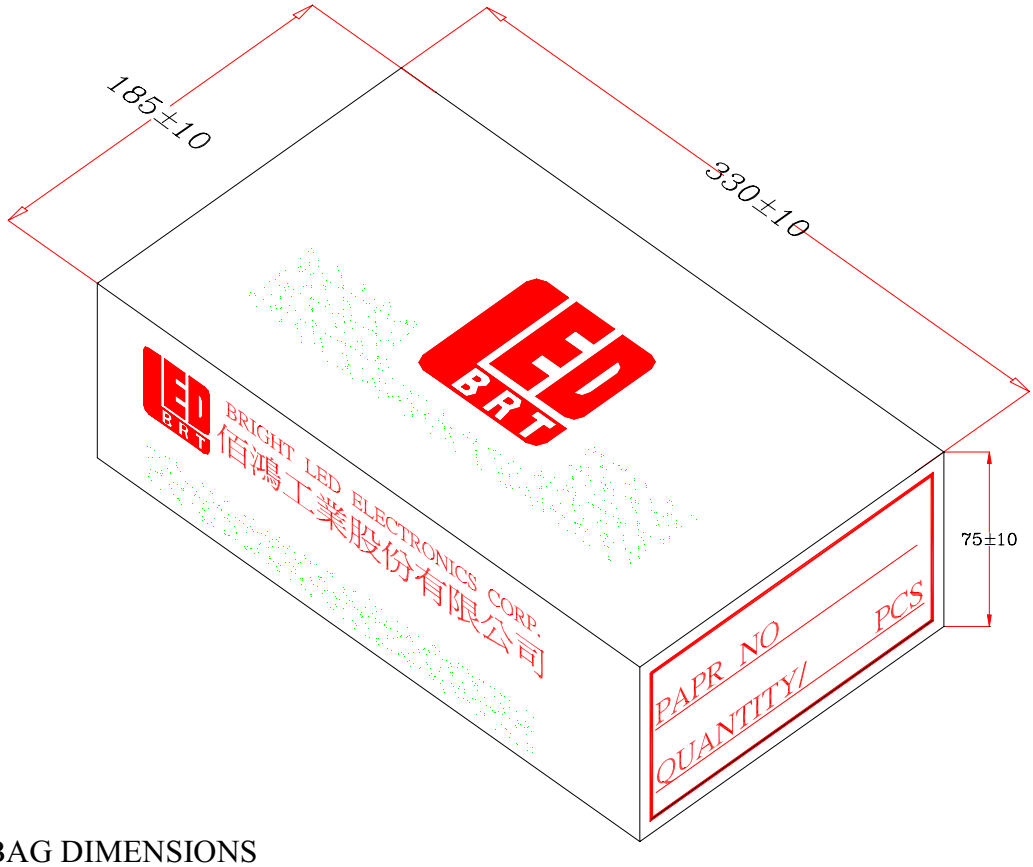
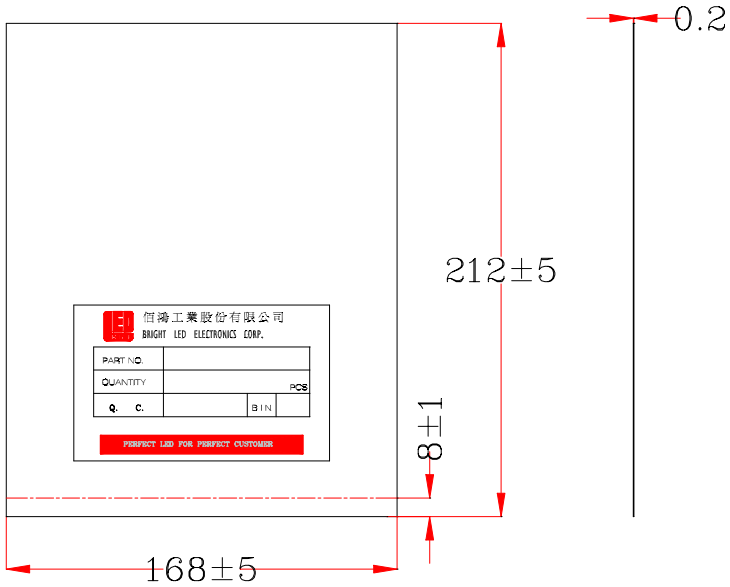
PACKAGING DIMMENSIONS

VERSION：1.0

PACKAGING BOX DIMENSIONS:



PACKAGING BAG DIMENSIONS



NOTES:

1.500 pcs per bag, 5k pcs per box.

2.All dimensions are in millimeters (inches).

3.Specifications are subject to change without notice.