



# BRIGHT LED ELECTRONICS CORP.

## LED LAMPS SPECIFICATION

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 REVISION: 1.1

- COMMODITY : T-1 Standard 1.0"Lead , 3  $\phi$  LED LAMP
- DEVICE NUMBER : BL-BG43V1

SHEET DATE	1	2	3	4	5	6					CONTENTS
2001.05.17	-	1.0	1.0	1.0	1.0						Initial Released
2001.07.10	1.0	-	-	-	1.1						Add BIN Remark & PAGE 1
2001.09.14	1.1	1.1	-	-	-	1.0					Iv, Angle, Add Page 6

TOTAL PAGE	5	5	6																	
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APPROVED	DRAWN

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## LED LAMPS SPECIFICATION

●COMMODITY : T-1 Standard 1.0"Lead, 3  $\phi$

●DEVICE NUMBER : BL-BG43V1

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●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25°C)

VERSION : 1.1

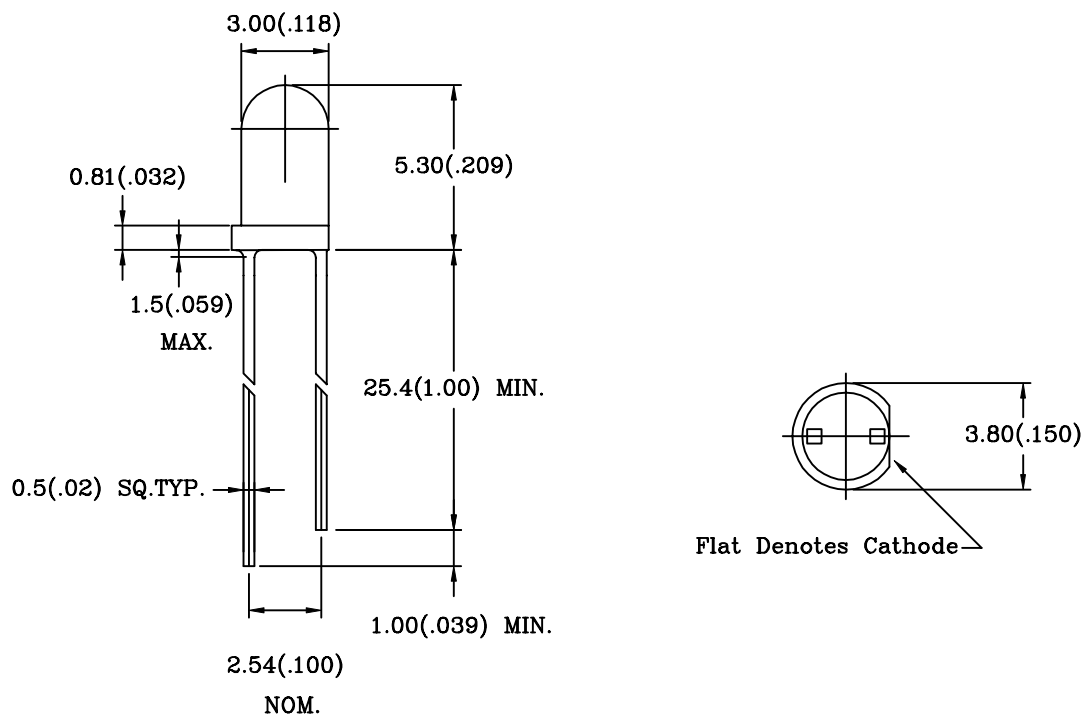
Chip			Lens Appearance	Absolute Maximum Rating				Electro-optical Data (At 20mA)				Viewing Angle 2 $\theta$ 1/2 (deg)
Emitted Color	Peak Wave Length $\lambda_p$ (nm)	Dominant Wave Length $\lambda_d$ (nm)		$\Delta \lambda$ (nm)	Pd (mW)	If (mA)	Peak If(mA)	Vf(V)		Iv Typ. (mcd)		
								Typ.	Max.	Min.	Typ.	
Blue Green	502	505	Water Clear	30	110	30	100	3.5	4.0	1600	3500	24 $\pm$ 3

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

●ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Reverse Voltage .....	5V
Reverse Current (V <sub>R</sub> =5V) .....	100 $\mu$ A
Operating Temperature Range .....	-40°C ~ 80°C
Storage Temperature Range .....	-40°C ~ 85°C
Lead Soldering Temperature .....	260°C For 5 Seconds

●PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters (inches).

2.Tolerance is  $\pm 0.25$ mm (0.01) unless otherwise specified.

3.The products are sensitive to static electricity and care must be fully taken when handling products.

4.Lead spacing is measured where the leads emerge from the package.

5.Specifications are subject to change without notice.

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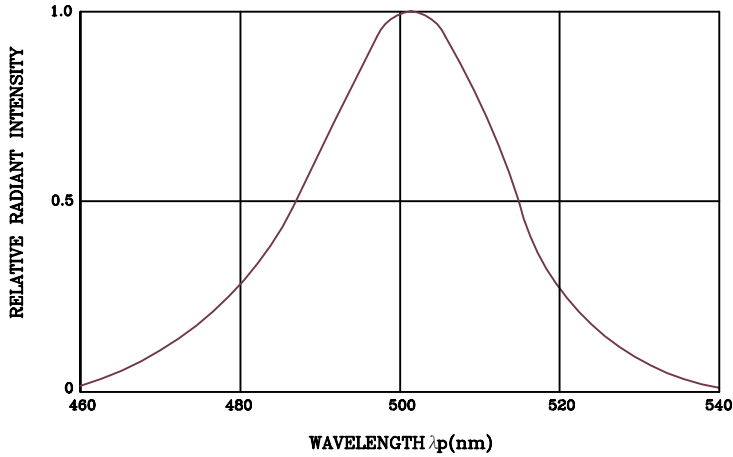
● DEVICE NUMBER: BL-BG43V1

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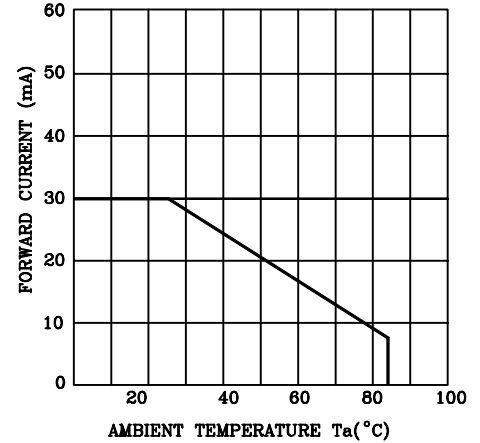
● ELECTRICAL AND OPTICAL CHARACTERISTICS(Ta=25°C)

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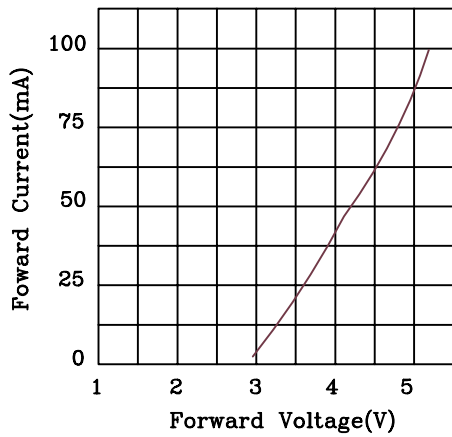
SPECTRAL DISTRIBUTION



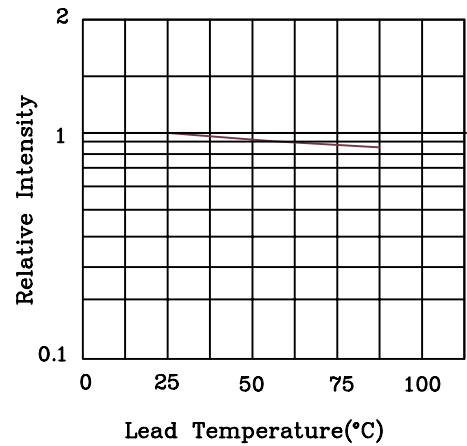
FORWARD CURRENT DERATING CURVE



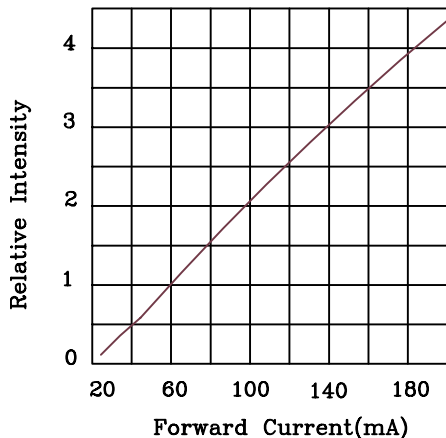
PEAK FORWARD VOLTAGE VS. FORWARD CURRENT



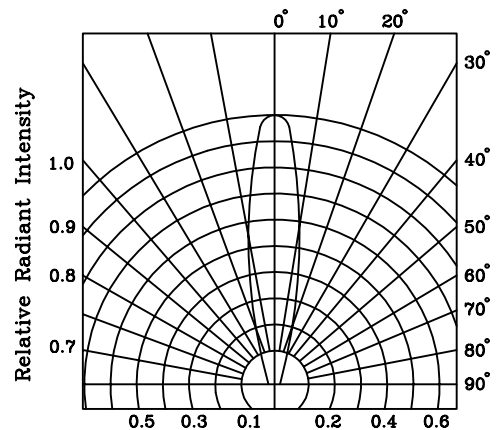
RELATIVE INTENSITY VS. LEAD TEMPERATURE



RELATIVE INTENSITY VS. PEAK FORWARD CURRENT



RADIATION DIAGRAM



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## LED LAMP SPECIFICATION

### RELIABILITY TEST

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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 $I_f=30\text{mA}$ $T_a$ =Under room temperature Test time=1,000hrs	0/100
	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=1,000hrs	0/100
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High $T_a=105^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs	0/100
	Low Temperature Storage	JIS-C-7021 :B-12	Low $T_a=-55^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs	0/100
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	$-35^\circ\text{C} \sim 25^\circ\text{C} \sim 85^\circ\text{C} \sim 25^\circ\text{C}$ 30min 5min 30min 5min Test Time=10cycle	0/100
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	$105^\circ\text{C}\pm 5^\circ\text{C} \sim -55^\circ\text{C}\pm 5^\circ\text{C}$ 10min 10min Test Time=10cycle	0/100
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	$T_{\text{sol}}=260\pm 5^\circ\text{C}$ Dwell Time= $10\pm 1\text{sec.}$	0/50
	Solderability	MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021 :A-2	$T_{\text{sol}}=230\pm 5^\circ\text{C}$ Dwell Time= $5\pm 1\text{sec.}$	0/50
	Lead Bending Stress	MIL-STD-750:2036 JIS C 7021 :A-11	$0^\circ\sim 90^\circ\sim 0^\circ$ 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	VF	$I_F=20\text{mA}$	Over $U_x1.2$
Reverse current	IR	$V_R=5\text{V}$	Over $U_x2$
Luminous intensity	IV	$I_F=20\text{mA}$	Below $S_x0.5$

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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## LED LAMPS SPECIFICATION Intensity And Color Bin Limits

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● DEVICE NUMBER : BL-BG43V1

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● Intensity Bin Limits (At 20mA)

<b>BIN CODE</b>	<b>Min. (mcd)</b>	<b>Max. (mcd)</b>
X	1600	2400
Y	2400	3700
Z	3700	5550
ZA	5550	8325

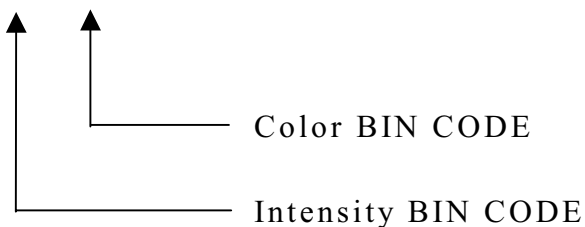
Tolerance for each Bin limit is  $\pm 15\%$

● Color Bin Limits (At 20mA)

<b>BIN CODE</b>	<b>Min. (nm)</b>	<b>Max. (nm)</b>
2	500.0	505.0
3	505.0	510.0

Tolerance for each Bin limit is  $\pm 15\%$

● BIN : x x



Notes:

1. Bin categories are established for classification of products.

Products may not be available in all bin categories.

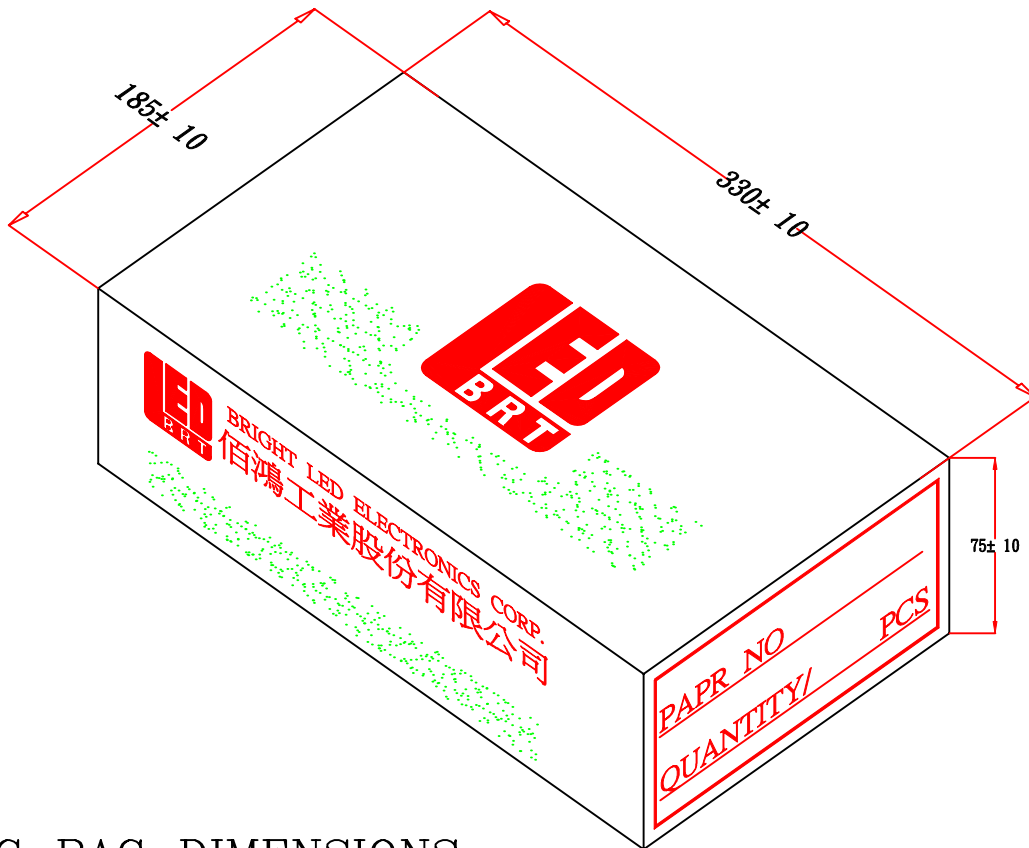
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## PACKAGING DIMMENSIONS

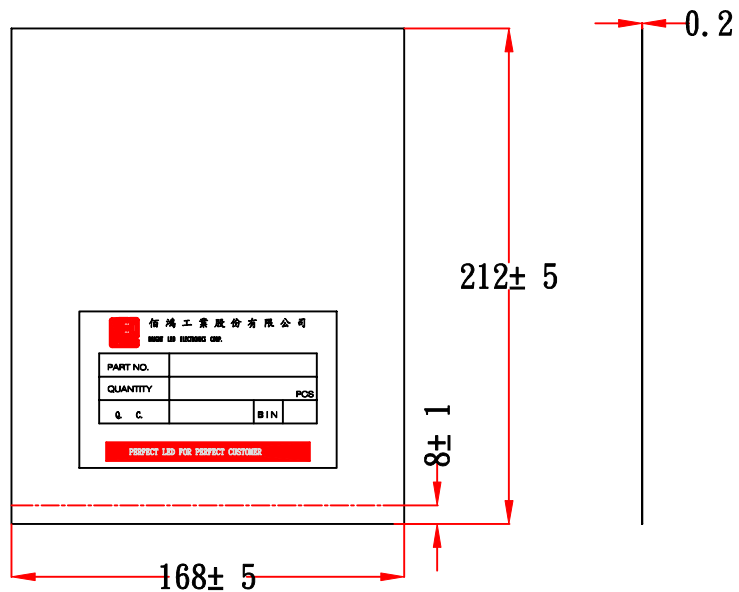
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### PACKAGING BOX DIMENSIONS



### PACKAGING BAG DIMENSIONS



#### NOTES:

1. 1000PCS PER BAG, 10K PCS PER BOX
2. ALL Dimensions are in millimeters(inches).
3. Specifications are subject to change without notice.