

# BRIGHT LED ELECTRONICS CORP.

## BLINKING LED LAMP SPECIFICATION



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VERSION : 1.0

●DEVICE NUMBER : BB-BD1171-C

●FEATURES :

- Plastic case color red diffused
- Standard T1 3 φ , 1.0"Lead
- 1/4 Duty Cycle
- Pulse Rate 2.4 Hz (VDD=5V)
- Operating Voltage : 5V~10V (DC)
- Easily be driven by TTL & C-MOS circuit no external circuit needed

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

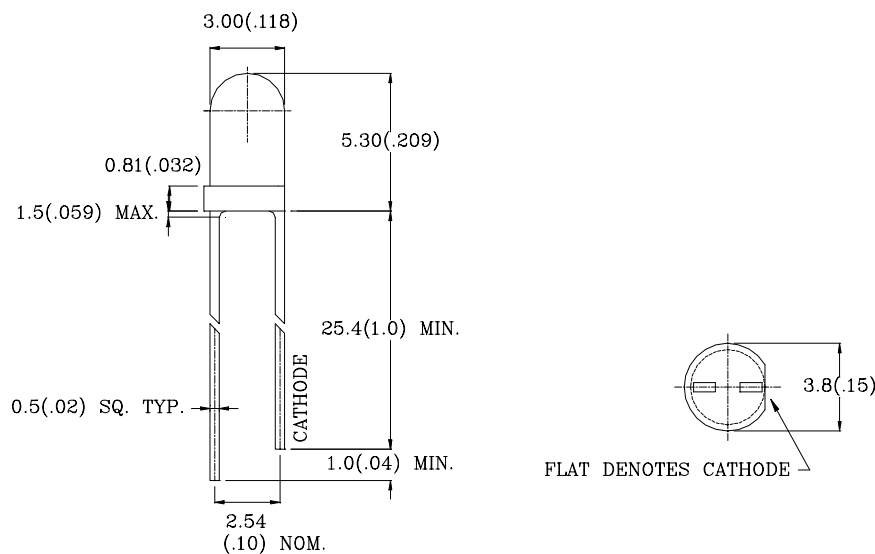
| Chip             |                                    | Δ λ<br>(nm) | Lens Appearance | Forward Current |      | Pulse Rate (Hz)<br>VDD=5V |      |      | Iv Typ.<br>IF=25<br>mA<br>(mcd) | Viewing<br>Angle<br>2 θ 1/2<br>(deg) |
|------------------|------------------------------------|-------------|-----------------|-----------------|------|---------------------------|------|------|---------------------------------|--------------------------------------|
| Emitted<br>Color | Peak<br>Wave<br>Length<br>λ P (nm) |             |                 | Typ.            | Max. | Min.                      | Typ. | Max. |                                 |                                      |
|                  |                                    |             |                 |                 |      |                           |      |      |                                 |                                      |

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)

- Operating Temperature Range ..... 0°C ~ 70°C
- Storage Temperature Range ..... -20°C ~ 85°C
- Operating Voltage (Max) ..... 10 Volt
- Reverse Voltage (Max) ..... 0.5 Volt

●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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## BLINKING LED LAMPS SPECIFICATION



● COMMODITY : Standard T1 3  $\phi$ , 1.0" Lead

● DEVICE NUMBER : BB-BD1171-C

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

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Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

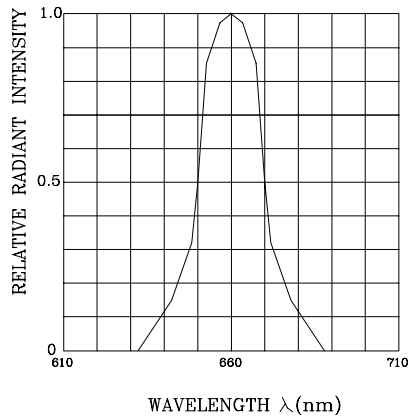


Fig.2 FORWARD CURRENT DERATING CURVE

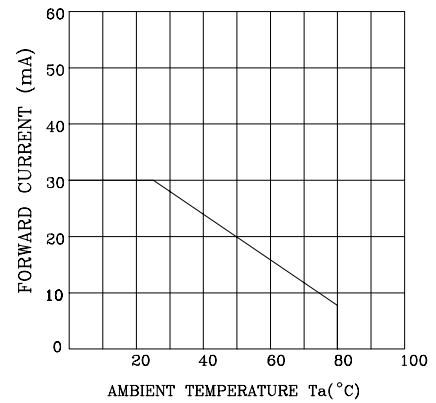


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

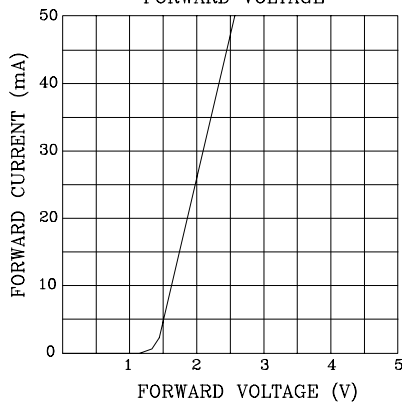


Fig.4 RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

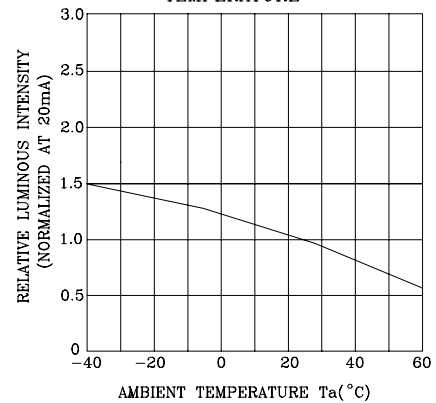


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

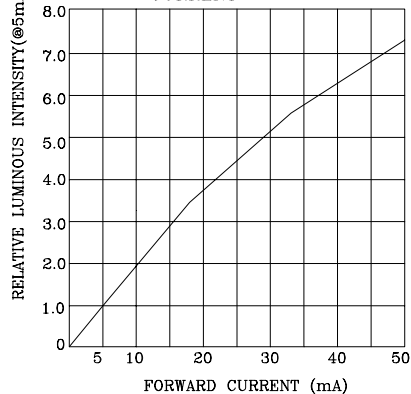
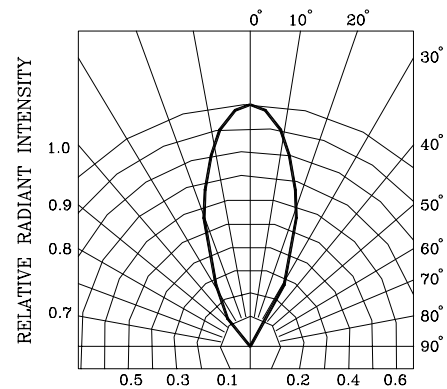


Fig.6 RADIATION DIAGRAM



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## RELIABILITY TEST

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REVISION: 1.0

| Classification     | Test Item                                    | Reference Standard  | Test Conditions   | Result |
|--------------------|--|---|---|--------|
| Endurance Test     | Operation Life                               | MIL-STD-750:1026<br>MIL-STD-883:1005<br>JIS C 7021 :B-1                     | Connect with a power V=10V<br>Ta=Under room temperature<br>Test time=1,000hrs                                     | 0/20   |
|                    | High Temperature<br>High Humidity<br>Storage | MIL-STD-202:103B<br>JIS C 7021 :B-11  | Ta=+65°C ±5°C<br>RH=90%-95%<br>Test time=1,000hrs   | 0/20   |
|                    | High Temperature<br>Storage                  | MIL-STD-883:1008<br>JIS C 7021 :B-10  | High Ta=+85°C ±5°C<br>Test time=1,000hrs  | 0/20   |
|                    | Low Temperature<br>Storage                   | JIS-C-7021 :B-12  | Low Ta=-35°C ±5°C<br>Test time=1,000hrs   | 0/20   |
| Environmental Test | Temperature Cycling                          | MIL-STD-202:107D<br>MIL-STD-750:1051<br>MIL-STD-883:1010<br>JIS C 7021 :A-4 | -35°C ~ +25°C ~ +85°C ~ +25°C<br>60min 20min 60min 20min<br>Test Time=5cycle                                      | 0/20   |
|                    | Thermal Shock                                | MIL-STD-202:107D<br>MIL-STD-750:1051<br>MIL-STD-883:1011                    | +85°C ±5°C ~ -35°C ±5°C<br>20min 20min<br>Test Time=10cycle   | 0/20   |
|                    | Solder Resistance                            | MIL-STD-202:201A<br>MIL-STD-750:2031<br>JIS C 7021 :A-1                     | Preheating :<br>140°C -160°C ,within 2 minutes.<br>Operation heating :<br>235°C (Max.), Within 10 seconds. (Max.) | 0/20   |

### JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

| Measuring items    | Symbol     | Measuring conditions | Judgment criteria for failure |
|--------------------|------------|----------------------|-------------------------------|
| Pulse Rate (Hz)    | F (Hz )    | V=10V                | 2.0-3.0Hz                     |
| Pulse Rate (Hz)    | F (Hz)     | V=5V                 | 2.0-3.0Hz                     |
| Luminous intensity | IV ( mcd ) | V=10V                | 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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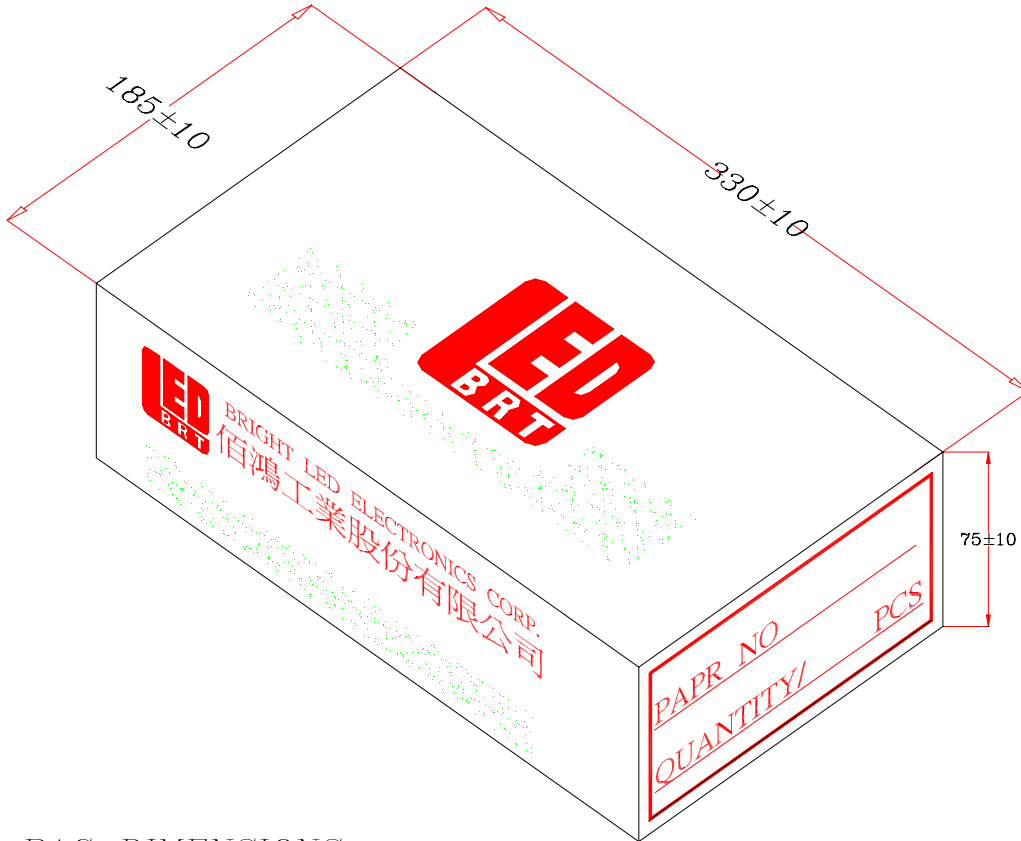
## PACKAGING DIMMENSIONS



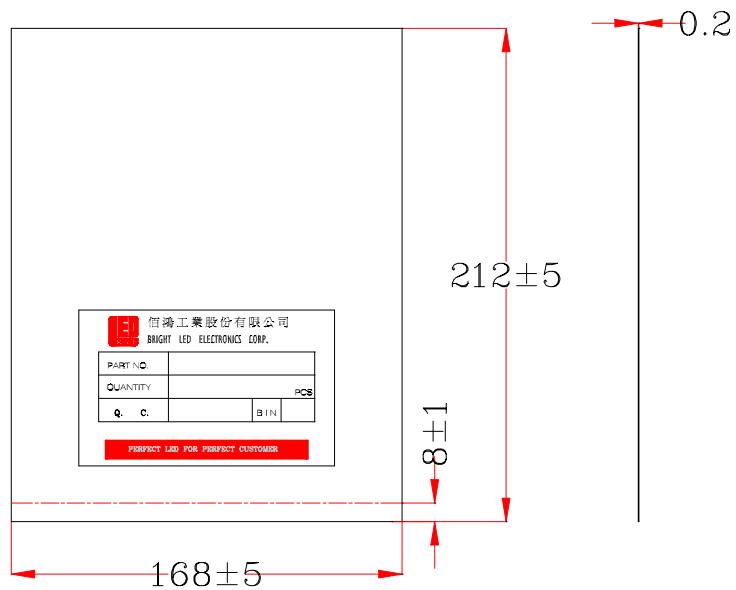
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### PACKAGING BOX DIMENSIONS:



### 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.