

# BRIGHT LED ELECTRONICS CORP.

## LED LAMPS SPECIFICATION

●COMMODITY : T-1 3/4 Wide Viewing Angle 1.0"Lead, 5  $\phi$

●DEVICE NUMBER : BL-BK23J4G-1

VERSION : 1.0 /2000.06.30

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

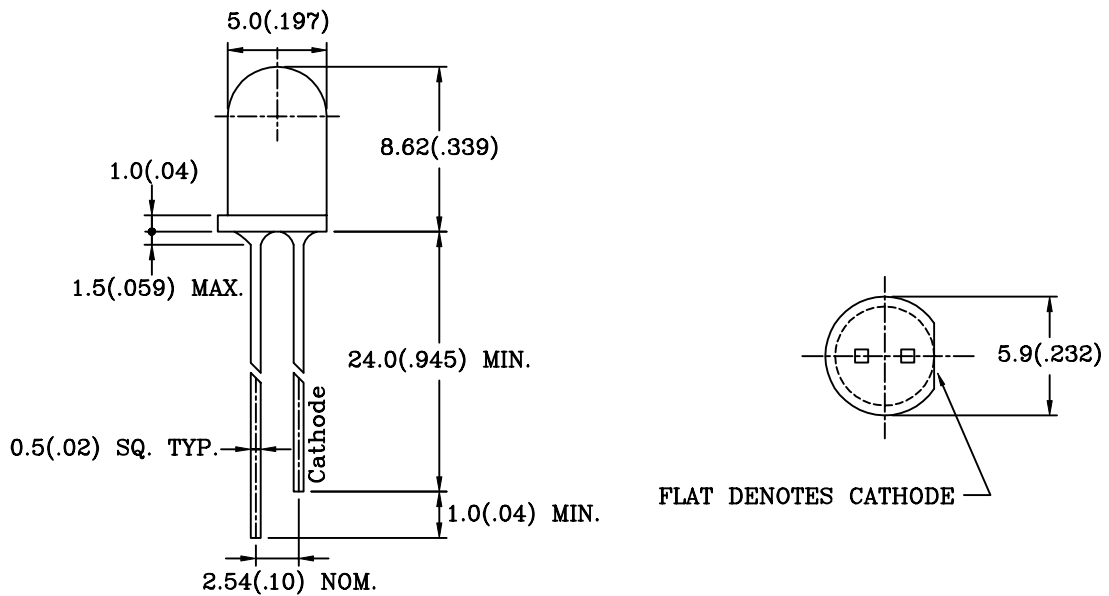
| Chip             |   | Lens<br>Appearance | Absolute Maximum<br>Rating |            |            |                | Electro-optical<br>Data (At 20mA) |      |                  | Viewing<br>Angle<br>2 $\theta$ 1/2<br>(deg) |
|------------------|---|--------------------|----------------------------|------------|------------|----------------|-----------------------------------|------|------------------|---|
| Emitted<br>Color | Peak<br>Wave<br>Length<br>$\lambda$ P(nm) |                    | $\Delta \lambda$<br>(nm)   | Pd<br>(mW) | If<br>(mA) | Peak<br>If(mA) | Vf(V)                             |      | Iv Typ.<br>(mcd) |   |
|                  |   |                    |                            |            |            |                | Typ.                              | Max. |                  |   |
| Ultra Yellow     | 587                                       | Water Clear        | 15                         | 65         | 30         | 150            | 2.0                               | 2.6  | 1800             | 20  |

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

4.Specifications are subject to change without notice.

RELEASED : 

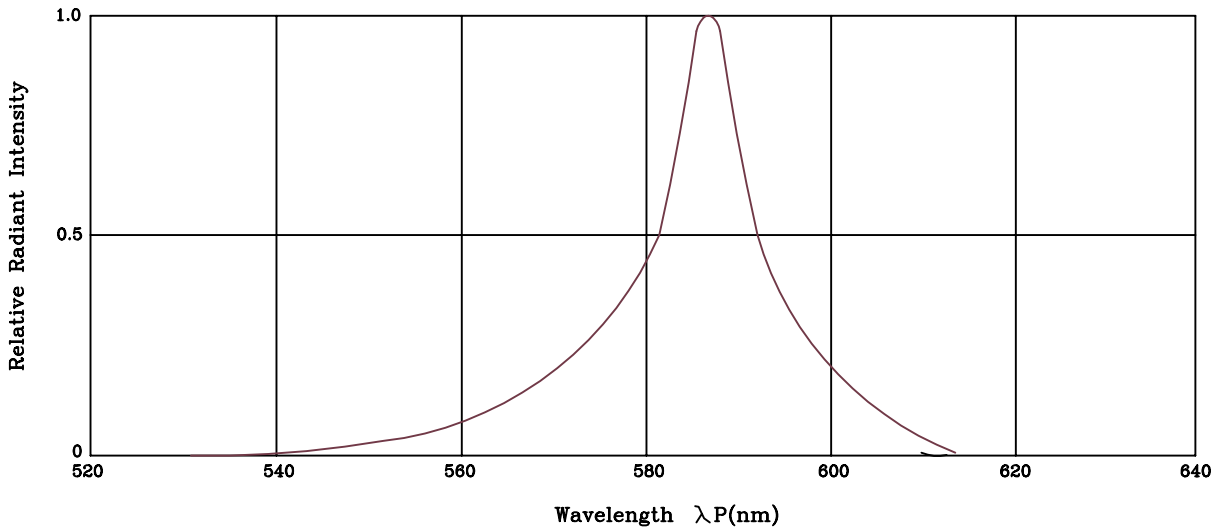
ENGINEER : 

# BRIGHT LED ELECTRONICS CORP.

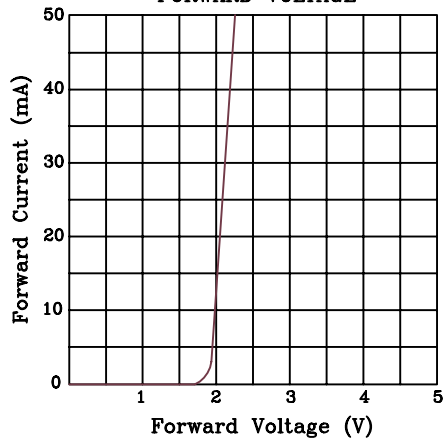
## TYPICAL CHARACTERISTICS

DEVICE NUMBER: BL-BK23J4G-1

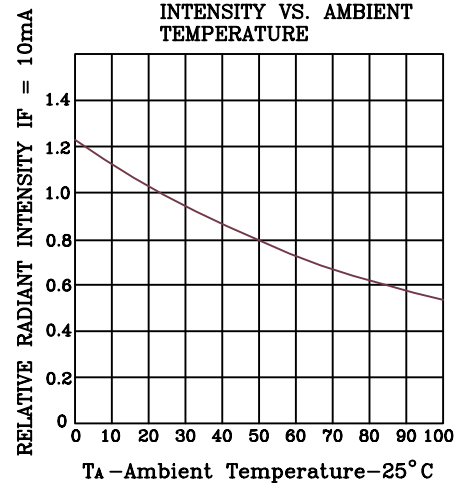
### SPECTRAL DISTRIBUTION



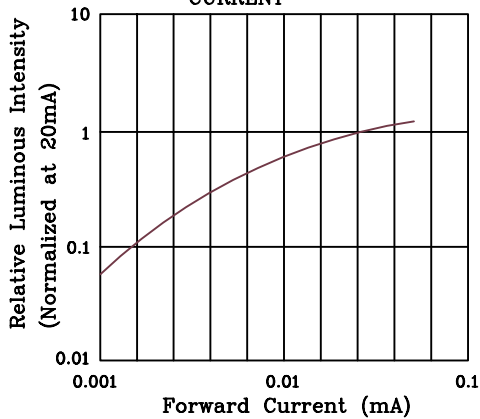
### FORWARD CURRENT VS. FORWARD VOLTAGE



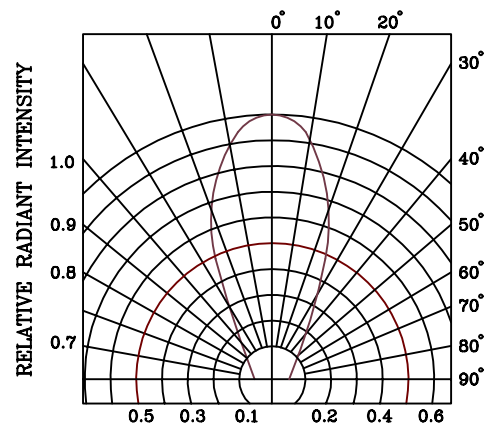
### RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE



### RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT



### RADIATION DIAGRAM



# RELIABILITY TEST

DEVICE NO.: BL-BK23J4G-1

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

## JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

| Measuring items    | Symbol | Measuring conditions | Judgement criteria for failure |
|--------------------|--------|----------------------|--------------------------------|
| Forward voltage    | VF     | 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.