



# BRIGHT LED ELECTRONICS CORP.

## LED DISPLAY SPECIFICATION

TOTAL PAGE: 4  
PAGE: 1  
REVISION: 1.0

- COMMODITY : .56”(14.2mm) SINGLE DIGIT LED DISPLAY
- DEVICE NUMBER : BS-C512RD

| SHEET<br>DATE | 1   | 2   | 3   | 4   |  |  |  |  |  |  | CONTENTS         |
|---------------|-----|-----|-----|-----|--|--|--|--|--|--|------------------|
| 2003.04.01    | 1.0 | 1.0 | 1.0 | 1.0 |  |  |  |  |  |  | Original Release |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |
|               |     |     |     |     |  |  |  |  |  |  |                  |

|            |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| TOTAL PAGE | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

佰

BRIGHT LED ELECTRONICS CORP.

台北縣板橋市和平路 19 號 3 樓  
3F., No. 19, Ho Ping Road, Pan Chiao City,  
Taipei, Taiwan, R. O. C.  
Tel: 886-2-29591090  
Fax: 886-2-29547006/29558809  
[www.brtled.com](http://www.brtled.com)

| APPROVED | DRAWER |
|----------|--------|
|          |        |

# BRIGHT LED ELECTRONICS CORP.

## LED DISPLAY SPECIFICATION

●COMMODITY : 0.56"(14.20mm) SINGLE DIGIT LED DISPLAY

PAGE: 2

●DEVICE NUMBER : BS-C512RD

VERSION : 1.0

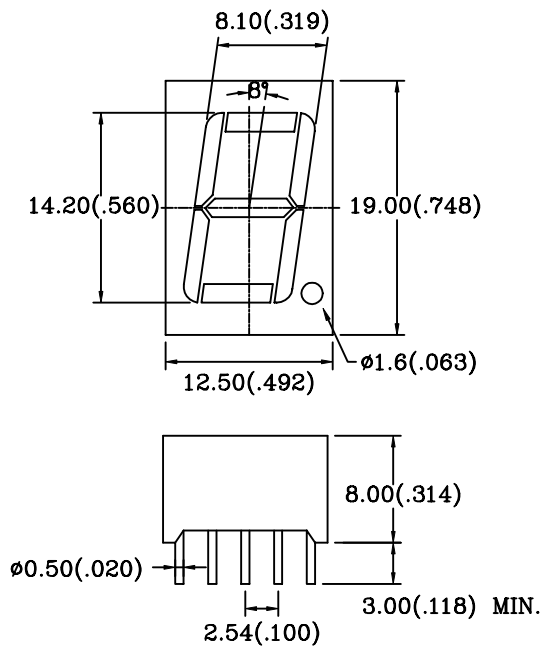
●ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta=25°C)

| Chip             |                                            | Absolute Maximum<br>Rating |            |            |                | Electro-optical<br>Data (At 10mA) |     |                  | Surface<br>Color | Segment<br>Color |
|------------------|--------------------------------------------|----------------------------|------------|------------|----------------|-----------------------------------|-----|------------------|------------------|------------------|
| 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.                                       |                            |            |            |                |                                   |     |                  |                  |                  |
| Green            | 568                                        | 30                         | 80         | 30         | 150            | 2.2                               | 2.5 | 3.0              | Black            | White            |

●ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Reverse Voltage ..... 5V  
 Reverse Current ( $V_R=5V$ ) ..... 100 $\mu$ A  
 Operating Temperature Range ..... -40°C ~ 80°C  
 Storage Temperature Range ..... -40°C ~ 85°C  
 Lead Soldering Temperature (1/16" From Body).....260°C For 5 Seconds

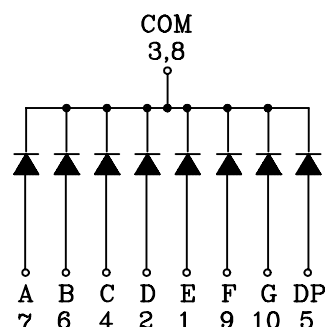
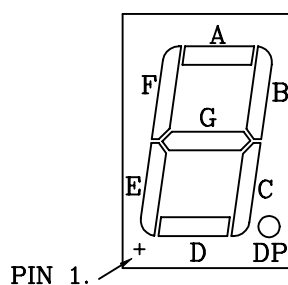
### PACKAGE DIMENSIONS:



### NOTES:

- 1.All dimensions are in millimeters(inches).
- 2.Tolerance is  $\pm 0.25$ mm(.01") unless otherwise specified.
- 3.Specifications are subject to change without notice.

### PIN FUNCTIONS:



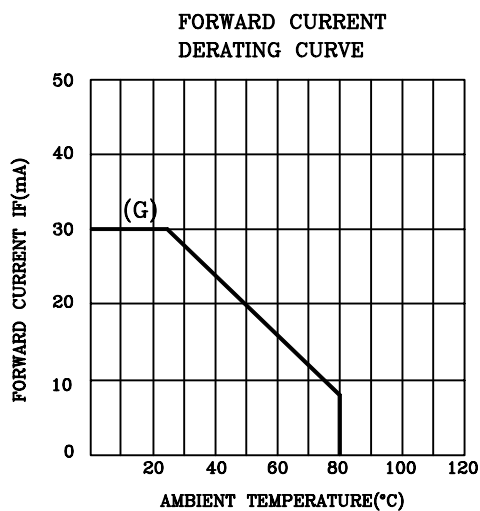
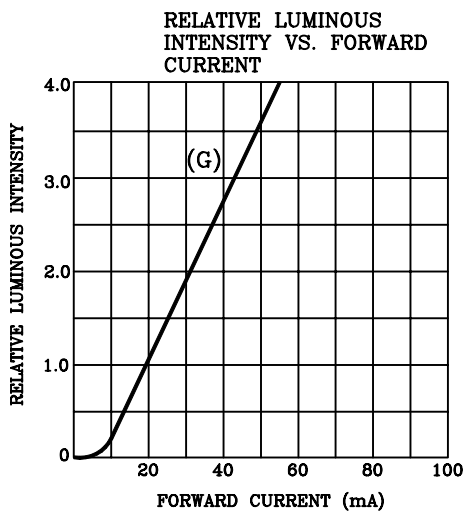
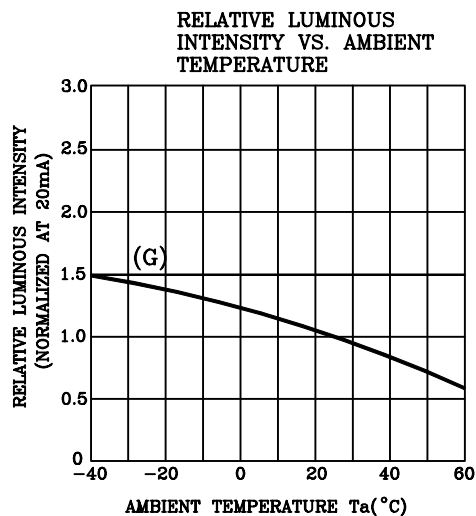
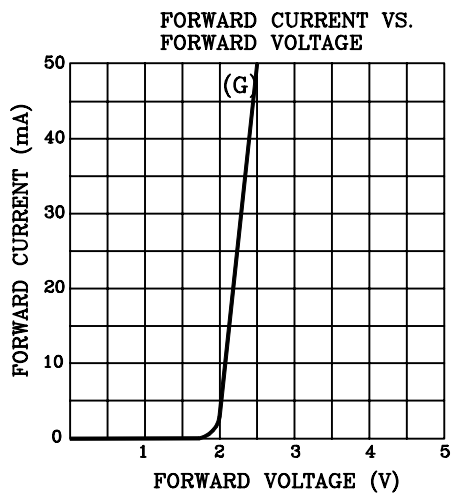
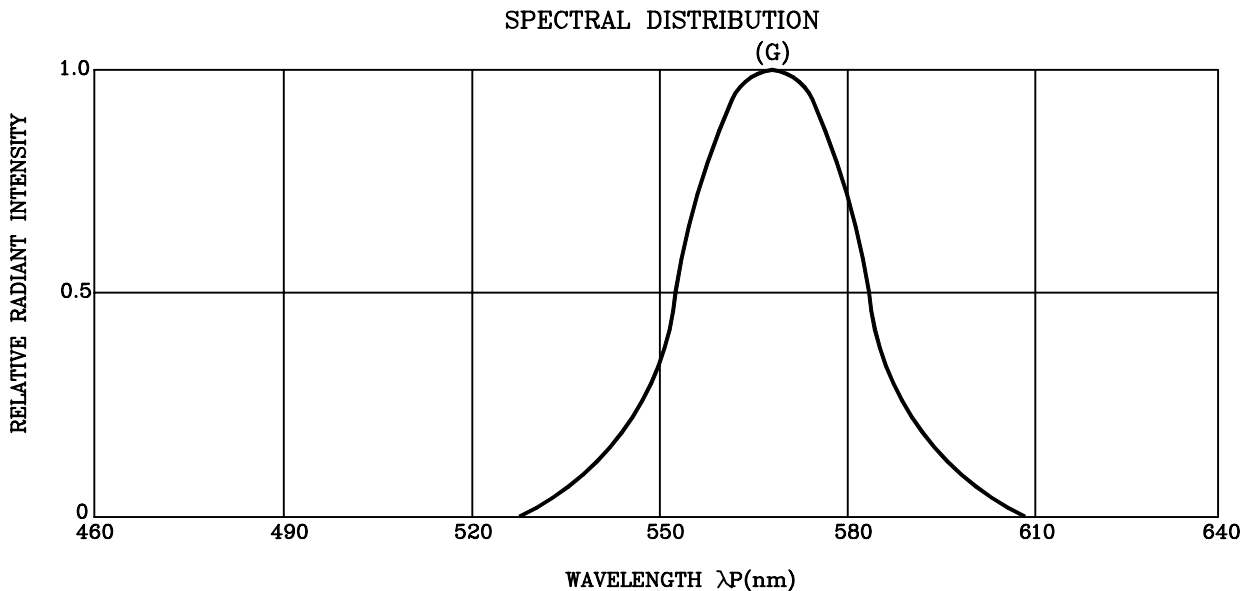
BRIGHT LED ELECTRONICS CORP.

## TYPICAL CHARACTERISTICS

DEVICE NUMBER: BS-C512RD

PAGE: 3

VERSION:1.0



# RELIABILITY TEST

PAGE: 4

DEVICE NO.: BS-C512RD

VERSION: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 If=30mA<br>Ta=Under room temperature<br>Test time=1,000hrs(-24hrs,+72hrs) | 0/10   |
|                    | 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=240hrs±2hrs                                           | 0/10   |
|                    | 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(-24hrs,+72hrs)                                        | 0/10   |
|                    | Low Temperature<br>Storage                   | JIS-C-7021 :B-12                                                            | Low Ta= -35°C ± 5°C<br>Test time=1,000hrs(-24hrs,+72hrs)                                       | 0/10   |
| 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>30min 5min 30min 5min<br>Test Time=10cycle                       | 0/10   |
|                    | 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>10min 10min<br>Test Time=10cycle                                   | 0/10   |
|                    | 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 ± 1 sec.                                                      | 0/10   |
|                    | 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 ± 1 sec.                                                       | 0/10   |

## JUDGMENT CRITERIA OF FAILURE FOR THE RELIABILITY

| Measuring items    | Symbol | Measuring conditions | Judgement criteria for failure |
|--------------------|--------|----------------------|--------------------------------|
| Forward voltage    | VF     | IF=10mA              | Over Ux1.2                     |
| Reverse current    | IR     | VR=5V                | Over Ux2                       |
| Luminous intensity | IV     | IF=10mA              | 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.