

L-56BHD BRIGHT RED                      L-56BGD GREEN  
 L-56BID HIGH EFFICIENCY RED      L-56BYD YELLOW  
 L-56BSRD-B SUPER BRIGHT RED

### Features

- T-1 PACKAGE WITH RECTANGULAR BASE.
- WITH BUILT-IN BLINKING IC.
- OPERATION VOLTAGE FROM 3.5V TO 14V.
- BLINKING FREQUENCY FROM 3.0Hz TO 1.5Hz.

### Description

The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

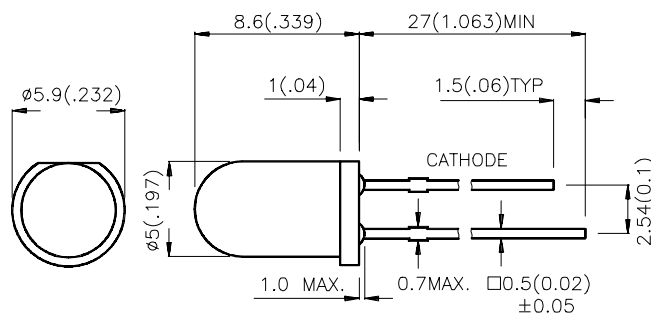
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

### Package Dimensions



#### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.

## Selection Guide

| Part No.   | Dice                            | Lens Type       | Iv (mcd)<br>VF=9V |      | Viewing Angle |
|------------|---------------------------------|-----------------|-------------------|------|---------------|
|            |                                 |                 | Min.              | Typ. |               |
| L-56BHD    | BRIGHT RED(GaP)                 | RED DIFFUSED    | 2                 | 5    | 60°           |
| L-56BID    | HIGH EFFICIENCY RED (GaAsP/GaP) | RED DIFFUSED    | 20                | 40   | 60°           |
| L-56BGD    | GREEN (GaP)                     | GREEN DIFFUSED  | 5                 | 20   | 60°           |
| L-56BYD    | YELLOW (GaAsP/GaP)              | YELLOW DIFFUSED | 5                 | 20   | 60°           |
| L-56BSRD-B | SUPER BRIGHT RED(GaAlAs)        | RED DIFFUSED    | 100               | 200  | 60°           |

Note:

1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value..

## Electrical / Optical Characteristics at T<sub>A</sub>=25°C

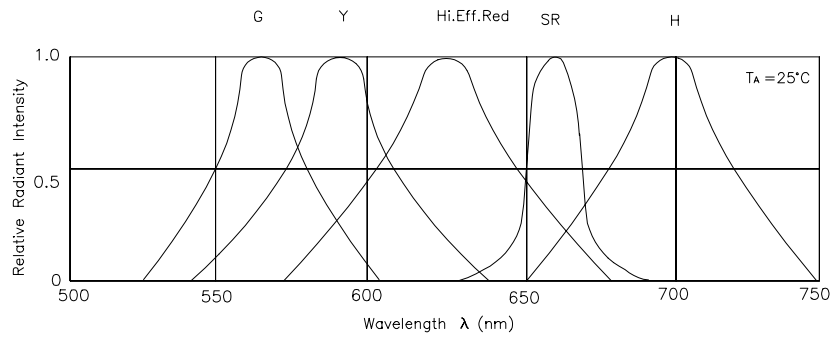
| Symbol                | Parameter               | Device   | Min                   | Typ                                  | Units | Test Conditions                                      |
|-----------------------|-------------------------|--|-----------------------|--------------------------------------|-------|--|
| $\lambda_{peak}$      | Peak Wavelength         | Bright Red<br>High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                       | 700<br>627<br>565<br>590<br>660      | nm    |  |
| $\lambda_D$           | Dominate Wavelength     | Bright Red<br>High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                       | 660<br>625<br>568<br>588<br>640      | nm    |  |
| $\Delta\lambda_{1/2}$ | Spectral Line Halfwidth | Bright Red<br>High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                       | 45<br>45<br>30<br>35<br>20           | nm    |  |
| $I_F$                 | Forward Current         | Bright Red<br>High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 8<br>8<br>8<br>8<br>8 | 20<br>22<br>20<br>21<br>25           | mA    | Min: V <sub>F</sub> =3.5V<br>Typ: V <sub>F</sub> =5V |
| $I_{SON}$             | Supply Current          | Bright Red<br>High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                       | 8~43<br>8~44<br>8~42<br>8~43<br>8~45 | uA    | V <sub>F</sub> =3.5V~14V                             |
| f                     | Blink Frequency         | All  |                       | 3~1.5                                | Hz    | V <sub>F</sub> =3.5V~14V                             |

## Absolute Maximum Ratings at $T_A=25^\circ\text{C}$

| Parameter                      | Bright Red          | High Efficiency Red | Green | Yellow | Super Bright Red | Units |
|--------------------------------|---------------------|---------------------|-------|--------|------------------|-------|
| Power dissipation              | 310                 | 310                 | 310   | 310    | 310              | mW    |
| DC Forward Current             | 55                  | 55                  | 55    | 55     | 55               | mA    |
| Reverse Voltage                | 0.5                 | 0.5                 | 0.5   | 0.5    | 0.5              | V     |
| Operating Temperature          | -40°C To +70°C      |                     |       |        |                  |       |
| Storage Temperature            | -50°C To +100°C     |                     |       |        |                  |       |
| Lead Soldering Temperature [1] | 260°C For 5 Seconds |                     |       |        |                  |       |

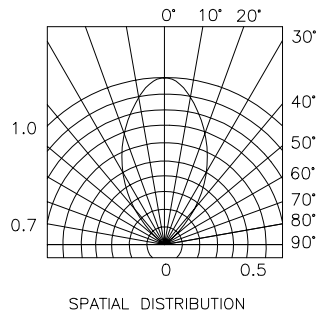
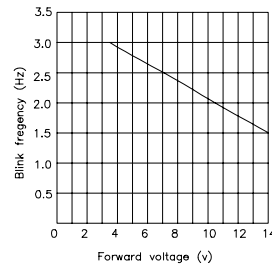
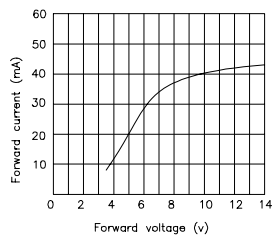
Note:

1. 4mm below package base.

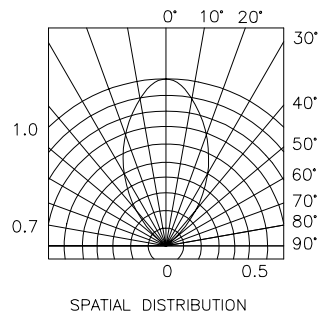
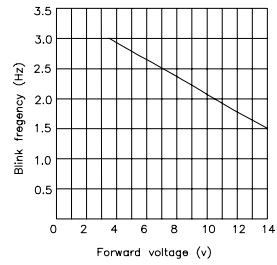
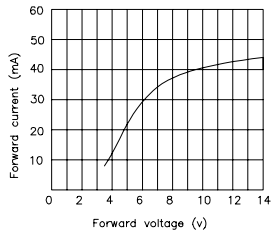


RELATIVE INTENSITY vs. WAVELENGTH

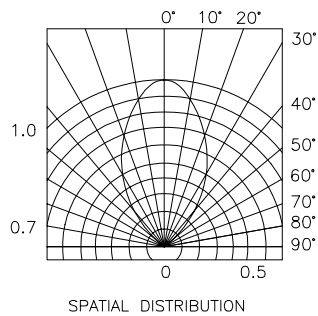
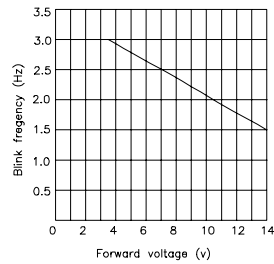
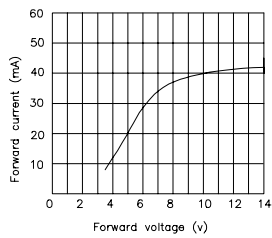
## BRIGHT RED L-56BHD



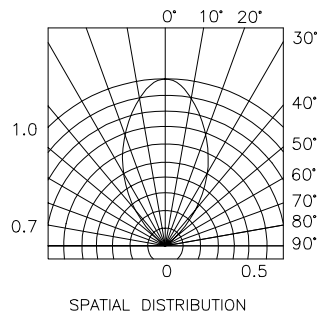
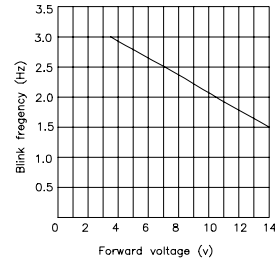
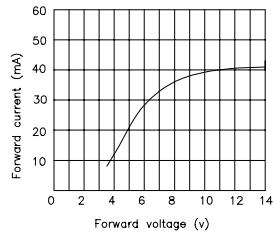
## High Efficiency Red L-56BID



## Green L-56BGD



## Yellow L-56BYD



## Super Bright Red L-56BSRD-B

