

### Features

- T-13/4 PACKAGE.
- WITH BUILT-IN BLINKING IC.
- OPERATION VOLTAGE FROM 3.5V TO 13V.
- BLINKING FREQUENCY FROM 2.5Hz TO 1.5Hz.

L56BHD BRIGHT RED

L56BGD GREEN

L56BID HIGH EFFICIENCY RED

L56BYD YELLOW

L56BSRD/B SUPER BRIGHT RED

### Package Dimensions

### Description

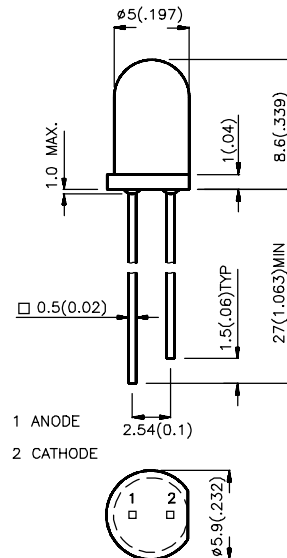
The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

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

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



#### 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 subjected to change without notice.

### Selection Guide

| Part No.  | Dice                            | Lens Type       | Iv (mcd)<br>@ VF=9V |      | Viewing<br>Angle |
|-----------|---------------------------------|-----------------|---------------------|------|------------------|
|           |                                 |                 | Min.                | Typ. |                  |
| L56BHD    | BRIHT RED (GaP)                 | RED DIFFUSED    | 2                   | 5    | 60°              |
| L56BID    | HIGH EFFICIENCY RED (GaAsP/GaP) | RED DIFFUSED    | 20                  | 40   | 60°              |
| L56BGD    | GREEN (GaP)                     | GREEN DIFFUSED  | 5                   | 20   | 60°              |
| L56BYD    | YELLOW (GaAsP/GaP)              | YELLOW DIFFUSED | 5                   | 20   | 60°              |
| L56BSRD/B | SUPER BRIGHT RED (GaAlAs)       | RED DIFFUSED    | 100                 | 200  | 60°              |

#### Notes:

1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. \* Luminous intensity with asterisk is measured at 20mA.

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

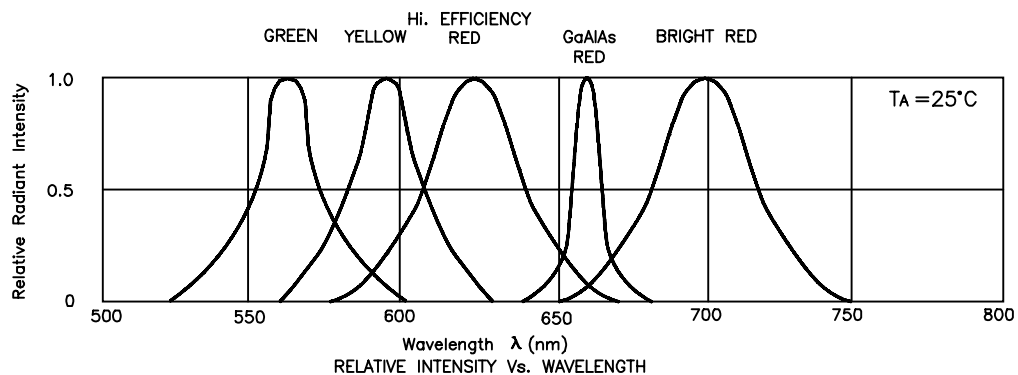
| Symbol                | Parameter               | Device                                                                   | Min. | Typ.                            | Units | Test Conditions                |
|-----------------------|-------------------------|--------------------------------------------------------------------------|------|---------------------------------|-------|--------------------------------|
| $\lambda_{peak}$      | Peak Wavelength         | Bright Red<br>High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |      | 700<br>625<br>565<br>590<br>660 | nm    | IF=20mA                        |
| $\Delta\lambda_{1/2}$ | 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    | IF=20mA                        |
| V <sub>F</sub>        | Forward Voltage         | All                                                                      | 3.5  | 9-12                            | V     | Min. IF=6mA<br>Typ. IF=38-56mA |
| I <sub>SON</sub>      | Supply Current          | All                                                                      |      | 6 -70                           | mA    |                                |
| f                     | Blink Frequency         | All                                                                      |      | 2.5-1.5                         | Hz    |                                |

## Absolute Maximum Ratings at T<sub>A</sub>=25°C

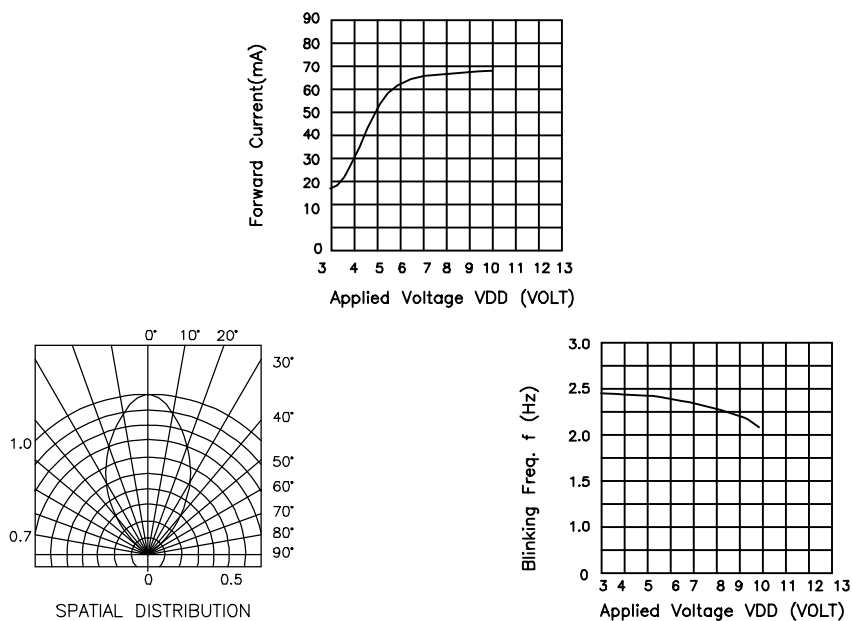
| Parameter                      | Bright Red          | High Efficiency Red | Green | Yellow | Super Bright Red | Units |
|--------------------------------|---------------------|---------------------|-------|--------|------------------|-------|
| Power dissipation              | 200                 | 200                 | 200   | 200    | 200              | mW    |
| DC Forward Current             | 38-56               | 38-56               | 38-56 | 38-56  | 38-56            | 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 |                     |       |        |                  |       |

Notes:

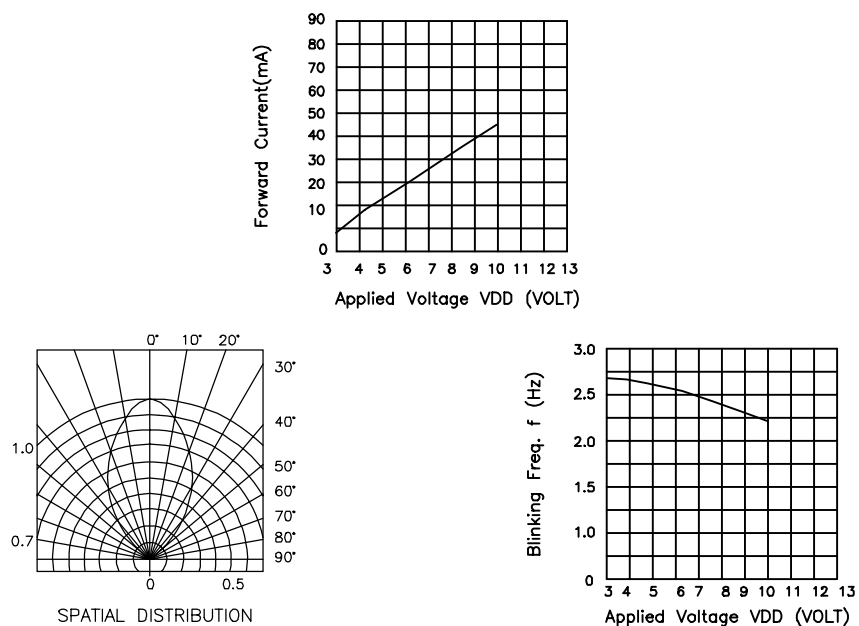
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



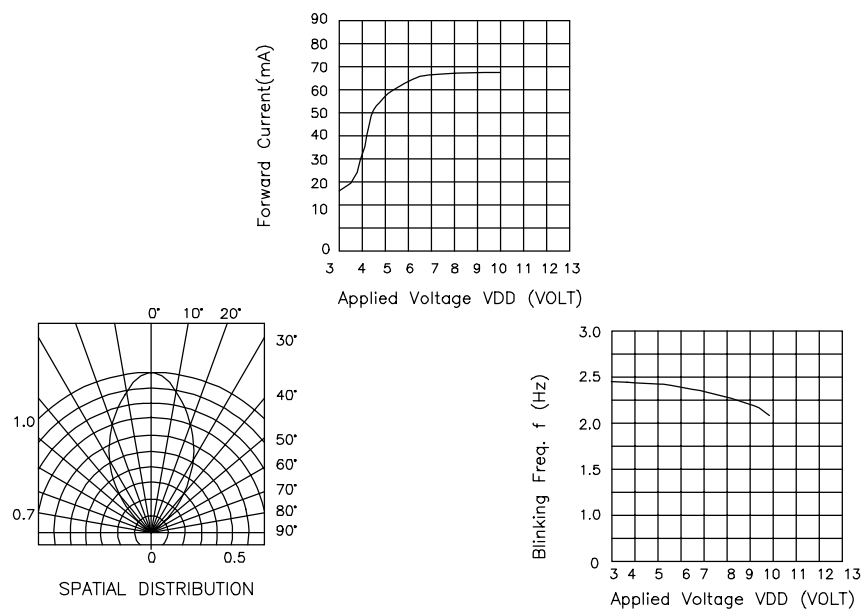
## Bright Red L56BHD



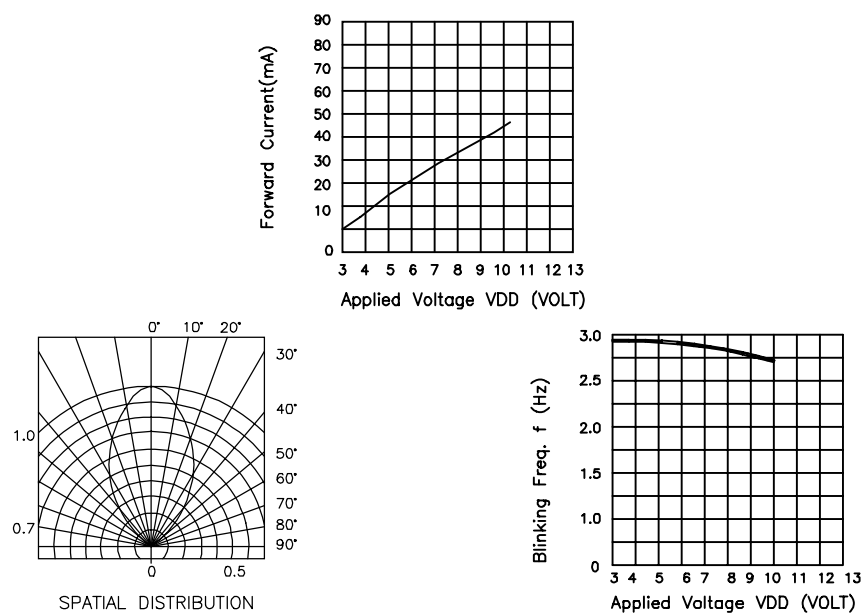
## High Efficiency Red L56BID



## Green L56BGD



## Yellow L56BYD



Super Bright Red L56SRD/B

