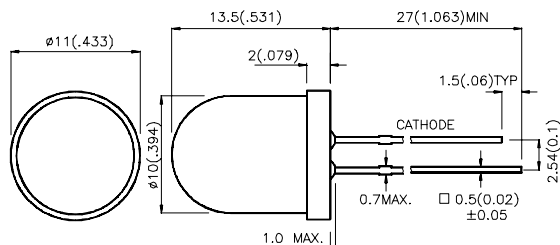


## Package Dimensions

## 10mm BLINKING LED LAMPS



|          |                     |
|----------|---------------------|
| E816BID  | HIGH EFFICIENCY RED |
| E816BGD  | GREEN               |
| E816BYD  | YELLOW              |
| E816BSRx | SUPER BRIGHT RED    |

## Features

1. 10mm DIAMETER BIG LAMP WITH BUILT-IN BLINKING IC.
2. OPERATION VOLTAGE FROM 3.5V to 14V.
3. BLINKING FREQUENCY FROM 3.0Hz to 1.5Hz.

### 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.

## Description

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.

## Selection Guide

| Part No.   | Emitting Color<br>+Material | $\lambda D(nm)$ | Lens Type       | Iv (mcd)<br>VF=9V |      | Viewing<br>Angle |
|------------|-----------------------------|-----------------|-----------------|-------------------|------|------------------|
|            |                             |                 |                 | Min.              | Typ. | 2 $\theta$ 1/2   |
| E816BID    | GaAsP/GaP                   | 625             | RED DIFFUSED    | 20                | 60   | 60°              |
| E816BGD    | GaP                         | 568             | GREEN DIFFUSED  | 20                | 50   | 60°              |
| E816BYD    | GaAsP/GaP                   | 588             | YELLOW DIFFUSED | 20                | 40   | 60°              |
| E816BSRD/B | GaAlAs                      | 640             | RED DIFFUSED    | 100               | 300  | 60°              |
| E816BSRC/B | GaAlAs                      | 640             | WATER CLEAR     | 500               | 800  | 40°              |

### Note:

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

DATA NO :EA0103

REV NO :V1

DATE :AUG/29/2001

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

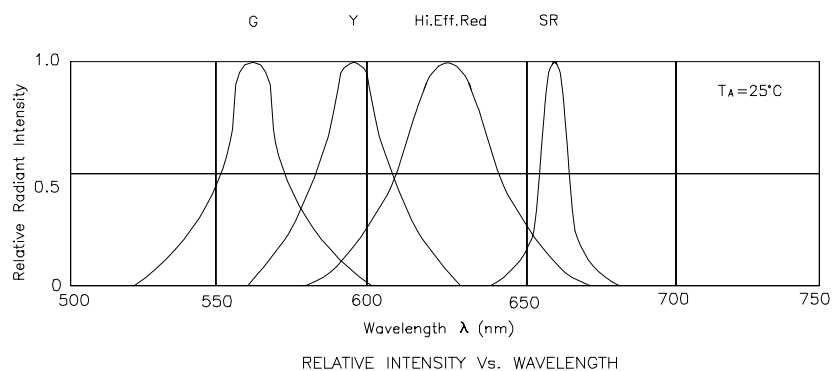
| Symbol                | Parameter               | Device                                                     | Min              | Typ                          | Units | Test Conditions                                      |
|-----------------------|-------------------------|------------------------------------------------------------|------------------|------------------------------|-------|------------------------------------------------------|
| $\lambda_{peak}$      | Peak Wavelength         | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                  | 627<br>565<br>590<br>660     | nm    | I <sub>F</sub> =20mA                                 |
| $\lambda_D$           | Dominate Wavelength     | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                  | 625<br>568<br>588<br>640     | nm    | I <sub>F</sub> =20mA                                 |
| $\Delta\lambda_{1/2}$ | Spectral Line Halfwidth | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                  | 45<br>30<br>35<br>20         | nm    | I <sub>F</sub> =20mA                                 |
| I <sub>F</sub>        | Forward Current         | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red | 8<br>8<br>8<br>8 | 22<br>20<br>21<br>25         | mA    | Min: V <sub>F</sub> =3.5V<br>Typ: V <sub>F</sub> =5V |
| I <sub>SON</sub>      | Supply Current          | High Efficiency Red<br>Green<br>Yellow<br>Super Bright Red |                  | 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<sub>A</sub>=25°C

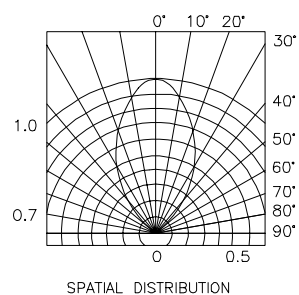
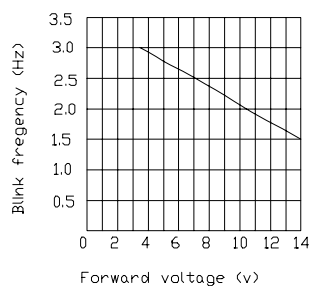
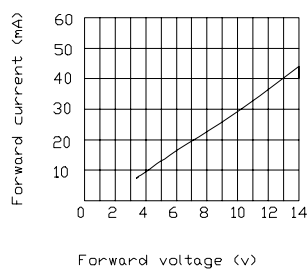
| Parameter                      | High Efficiency Red | Green | Yellow | Super Bright Red | Units |
|--------------------------------|---------------------|-------|--------|------------------|-------|
| Power dissipation              | 310                 | 310   | 310    | 310              | mW    |
| DC Forward Current             | 55                  | 55    | 55     | 55               | mA    |
| Reverse Voltage                | 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:

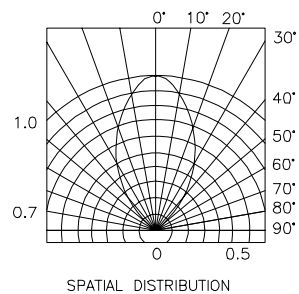
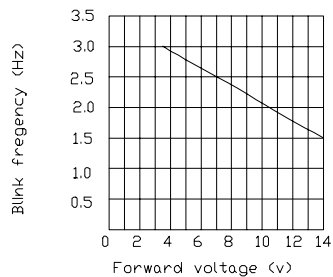
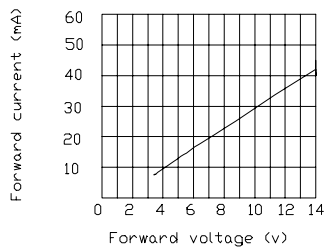
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



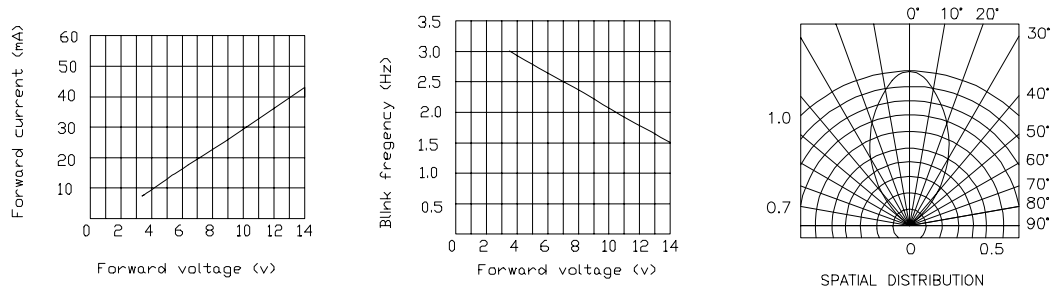
### High Efficiency Red E816BID



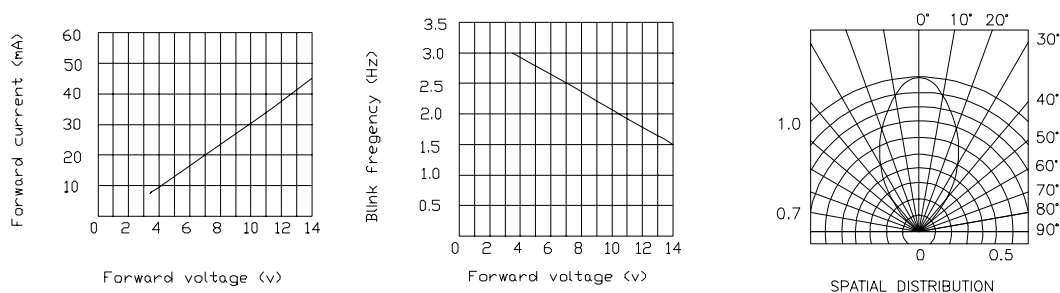
### Green E816BGD



## Yellow E816BYD



## Super Bright Red E816BSRD/B



## Super Bright Red E816SRC/B

