

L-813ID HIGH EFFICIENCY RED

L-813GD GREEN

L-813ED ORANGE

L-813YD YELLOW

### Features

- 10mm DIAMETER BIG LAMP.
- LOW POWER CONSUMPTION.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.

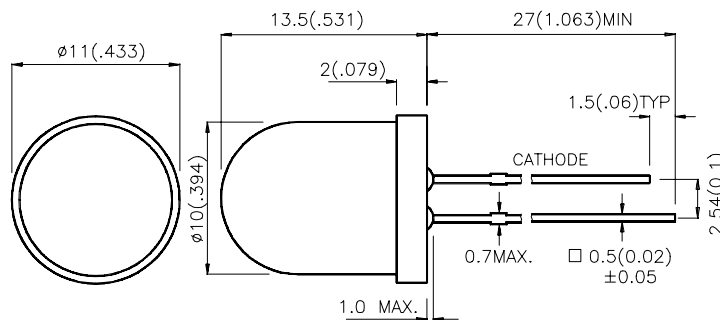
### Description

The High Efficiency Red and Orange 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.

### 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>@ 20 mA |      | Viewing<br>Angle |
|----------|---------------------------------|-----------------|---------------------|------|------------------|
|          |                                 |                 | Min.                | Typ. | 2θ1/2            |
| L-813ID  | HIGH EFFICIENCY RED (GaAsP/GaP) | RED DIFFUSED    | 40                  | 100  | 60°              |
| L-813ED  | ORANGE (GaAsP/GaP)              | ORANGE DIFFUSED | 40                  | 100  | 60°              |
| L-813GD  | GREEN (GaP)                     | GREEN DIFFUSED  | 20                  | 60   | 60°              |
| L-813YD  | YELLOW (GaAsP/GaP)              | YELLOW DIFFUSED | 20                  | 50   | 60°              |

Note:

1. θ1/2 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                                           | Typ.                     | Max.                     | Units | Test Conditions |
|-------------------|-------------------------|--------------------------------------------------|--------------------------|--------------------------|-------|-----------------|
| λ <sub>peak</sub> | Peak Wavelength         | High Efficiency Red<br>Orange<br>Green<br>Yellow | 627<br>627<br>565<br>590 |                          | nm    | IF=20mA         |
| λ <sub>D</sub>    | Dominate Wavelength     | High Efficiency Red<br>Orange<br>Green<br>Yellow | 625<br>625<br>568<br>588 |                          | nm    | IF=20mA         |
| Δλ <sub>1/2</sub> | Spectral Line Halfwidth | High Efficiency Red<br>Orange<br>Green<br>Yellow | 45<br>45<br>30<br>35     |                          | nm    | IF=20mA         |
| C                 | Capacitance             | High Efficiency Red<br>Orange<br>Green<br>Yellow | 15<br>15<br>15<br>20     |                          | pF    | VF=0V;f=1MHz    |
| V <sub>F</sub>    | Forward Voltage         | High Efficiency Red<br>Orange<br>Green<br>Yellow | 2.0<br>2.0<br>2.2<br>2.1 | 2.5<br>2.5<br>2.5<br>2.5 | V     | IF=20mA         |
| I <sub>R</sub>    | Reverse Current         | All                                              |                          | 10                       | μA    | VR = 5V         |

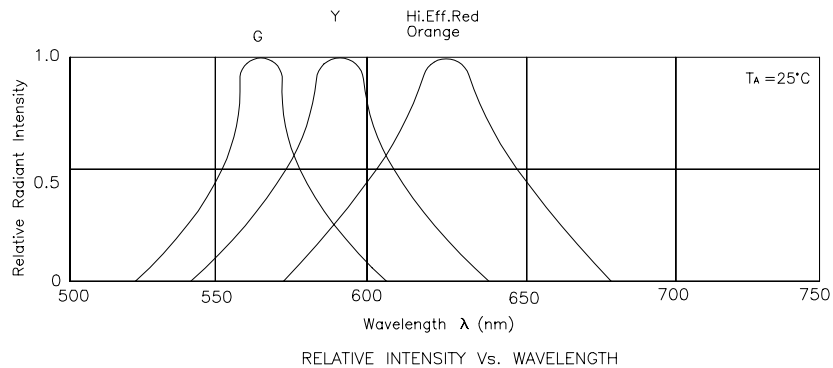
## Absolute Maximum Ratings at T<sub>A</sub>=25°C

| Parameter                     | High Efficiency Red | Orange | Green | Yellow | Units |
|-------------------------------|---------------------|--------|-------|--------|-------|
| Power dissipation             | 105                 | 105    | 105   | 105    | mW    |
| DC Forward Current            | 30                  | 30     | 25    | 30     | mA    |
| Peak Forward Current [1]      | 160                 | 160    | 140   | 140    | mA    |
| Reverse Voltage               | 5                   | 5      | 5     | 5      | V     |
| Operating/Storage Temperature | -40°C To +85°C      |        |       |        |       |
| Lead Solder Temperature [2]   | 260°C For 5 Seconds |        |       |        |       |

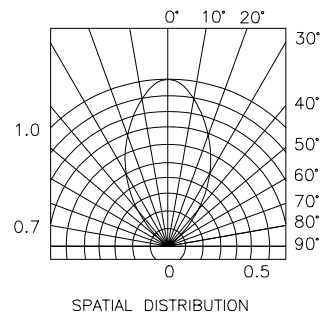
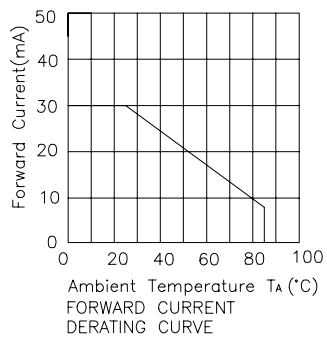
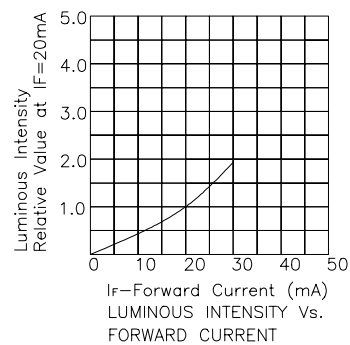
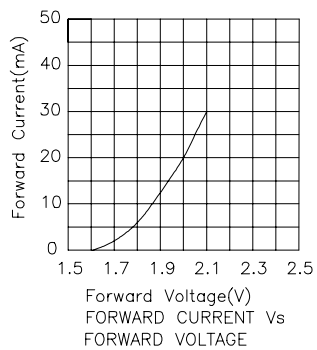
Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.

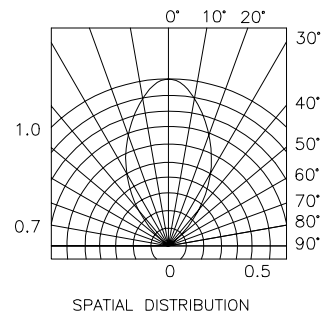
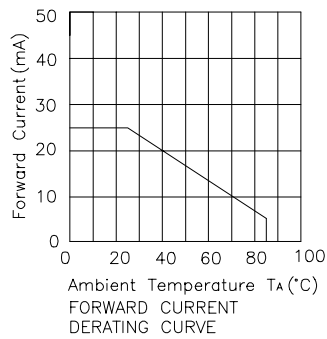
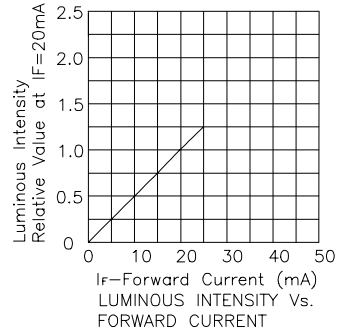
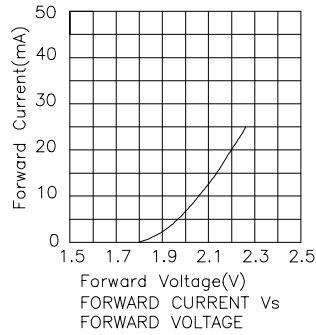
2. 4mm below package base.



## High Efficiency Red L-813ID Orange L-813ED



## Green L-813GD



## Yellow L-813YD

