

W513HDT BRIGHT RED

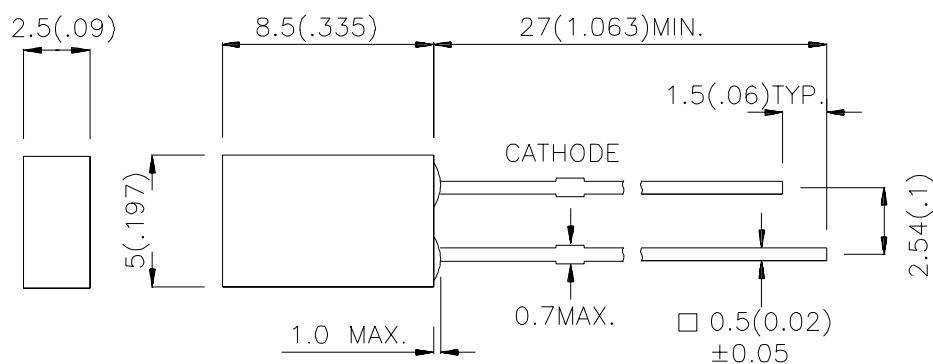
### Features

- LOW POWER CONSUMPTION.
- RELIABLE AND RUGGED.
- EXCELLENT UNIFORMITY OF LIGHT OUTPUT.
- SUITABLE FOR LEVEL INDICATOR.
- I.C. COMPATIBLE.
- LONG LIFE - SOLID STATE RELIABILITY.

### Description

The Bright Red source color devices are made with Gallium Phosphide 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>@ 10 mA |      | Viewing<br>Angle |
|----------|------------------|--------------|---------------------|------|------------------|
|          |                  |              | Min.                | Typ. | 2θ1/2            |
| W513HDT  | BRIGHT RED (GaP) | RED DIFFUSED | 0.4                 | 1    | 110°             |

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          | Bright Red | 700  |      | nm    | I <sub>F</sub> =20mA      |
| λ <sub>D</sub>    | Dominate Wavelength      | Bright Red | 660  |      | nm    | I <sub>F</sub> =20mA      |
| Δλ <sub>1/2</sub> | Spectral Line Half-width | Bright Red | 45   |      | nm    | I <sub>F</sub> =20mA      |
| C                 | Capacitance              | Bright Red | 40   |      | pF    | V <sub>F</sub> =0V;f=1MHz |
| V <sub>F</sub>    | Forward Voltage          | Bright Red | 2.25 | 2.5  | V     | I <sub>F</sub> =20mA      |
| I <sub>R</sub>    | Reverse Current          | Bright Red |      | 10   | uA    | V <sub>R</sub> = 5V       |

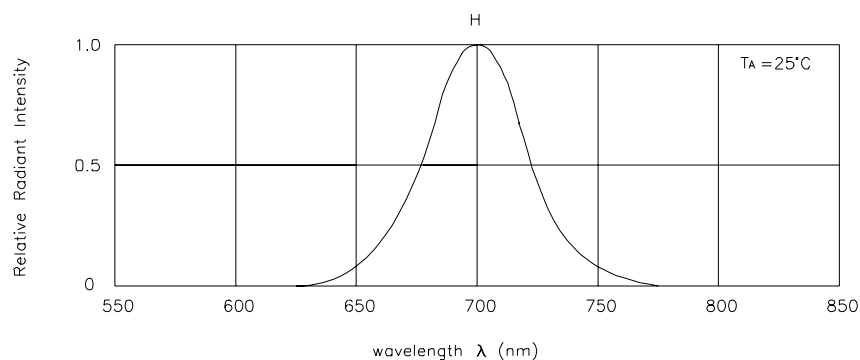
## Absolute Maximum Ratings at T<sub>A</sub>=25°C

| Parameter                     | Bright Red          | Units |
|-------------------------------|---------------------|-------|
| Power dissipation             | 120                 | mW    |
| DC Forward Current            | 25                  | mA    |
| Peak Forward Current [1]      | 130                 | mA    |
| Reverse Voltage               | 5                   | V     |
| Operating/Storage Temperature | -40°C To +85°C      |       |
| Lead Solder Temperature [2]   | 260°C For 5 Seconds |       |

Notes:

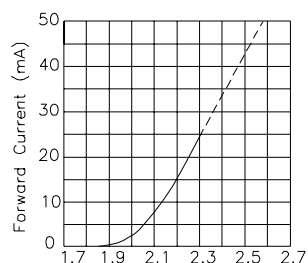
1. 1/10 Duty Cycle, 0.1ms Pulse Width.

2. 2mm below package base.

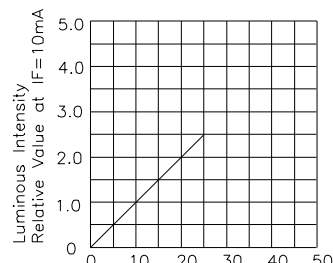


RELATIVE INTENSITY Vs. WAVELENGTH

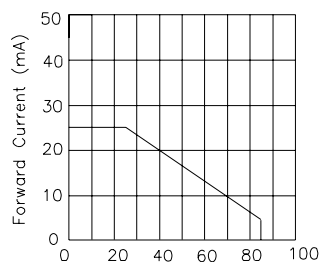
## Bright Red W513HDT



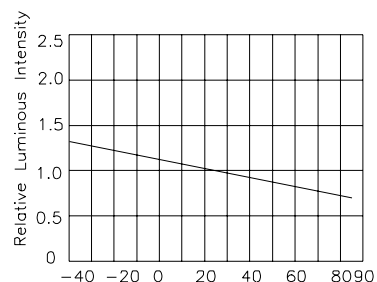
FORWARD CURRENT Vs. FORWARD VOLTAGE



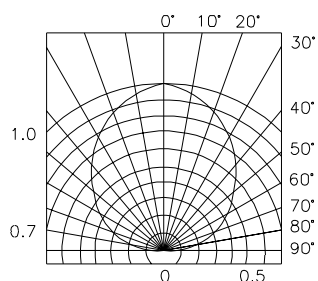
LUMINOUS INTENSITY Vs. FORWARD CURRENT



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. AMBIENT TEMPERATURE



SPATIAL DISTRIBUTION