

L-153HDT BRIGHT RED

L-153GDT GREEN

L-153IDT HIGH EFFICIENCY RED

L-153EDT ORANGE

L-153SRDT SUPER BRIGHT RED

L-153YDT YELLOW

### 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.

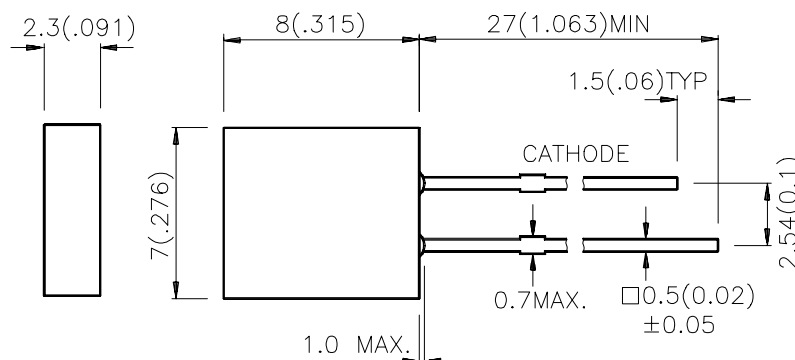
The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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.

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>@ 10 mA *20mA |      | Viewing<br>Angle |
|-----------|---------------------------------|-----------------|---------------------------|------|------------------|
|           |                                 |                 | Min.                      | Typ. | 2θ1/2            |
| L-153HDT  | BRIGHT RED (GaP)                | RED DIFFUSED    | 0.3                       | 0.6  | 110°             |
| L-153IDT  | HIGH EFFICIENCY RED (GaAsP/GaP) | RED DIFFUSED    | 3                         | 5    | 110°             |
| L-153EDT  | ORANGE (GaAsP/GaP)              | ORANGE DIFFUSED | 3                         | 5    | 110°             |
| L-153GDT  | GREEN (GaP)                     | GREEN DIFFUSED  | 1                         | 3    | 110°             |
| L-153YDT  | YELLOW (GaAsP/GaP)              | YELLOW DIFFUSED | 1                         | 3    | 110°             |
| L-153SRDT | SUPER BRIGHT RED (GaAlAs)       | RED DIFFUSED    | *40                       | *60  | 110°             |

### Notes:

1. θ1/2 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

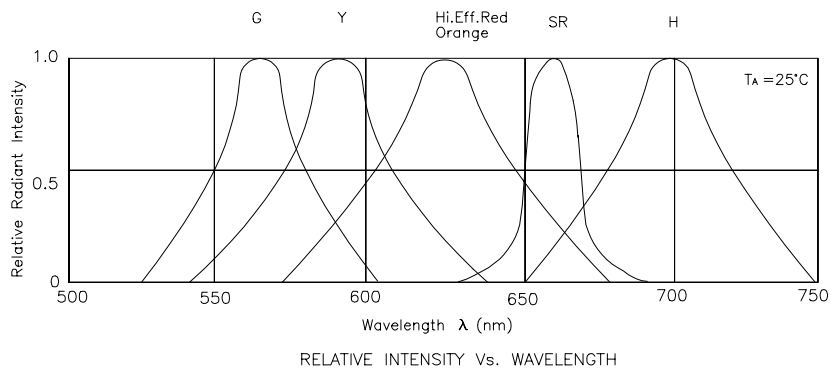
| Symbol            | Parameter               | Device   | Typ.                                     | Max.                                   | Units | Test Conditions |
|-------------------|-------------------------|--|--|--|-------|-----------------|
| λ <sub>peak</sub> | Peak Wavelength         | Bright Red<br>High Efficiency Red<br>Orange<br>Green<br>Yellow<br>Super Bright Red | 700<br>627<br>627<br>565<br>590<br>660   |  | nm    | IF=20mA         |
| λ <sub>D</sub>    | Dominate Wavelength     | Bright Red<br>High Efficiency Red<br>Orange<br>Green<br>Yellow<br>Super Bright Red | 660<br>625<br>625<br>568<br>588<br>640   |  | nm    | IF=20mA         |
| Δλ <sub>1/2</sub> | Spectral Line Halfwidth | Bright Red<br>High Efficiency Red<br>Orange<br>Green<br>Yellow<br>Super Bright Red | 45<br>45<br>45<br>30<br>35<br>20         |  | nm    | IF=20mA         |
| C                 | Capacitance             | Bright Red<br>High Efficiency Red<br>Orange<br>Green<br>Yellow<br>Super Bright Red | 40<br>15<br>15<br>15<br>20<br>45         |  | pF    | VF=0V;f=1MHz    |
| V <sub>F</sub>    | Forward Voltage         | Bright Red<br>High Efficiency Red<br>Orange<br>Green<br>Yellow<br>Super Bright Red | 2.25<br>2.0<br>2.0<br>2.2<br>2.1<br>1.85 | 2.5<br>2.5<br>2.5<br>2.5<br>2.5<br>2.5 | V     | IF=20mA         |
| I <sub>R</sub>    | Reverse Current         | All  |  | 10                                     | uA    | VR = 5V         |

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

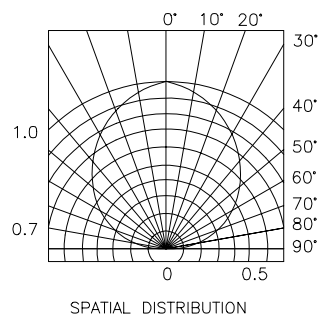
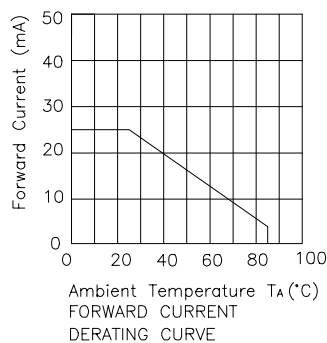
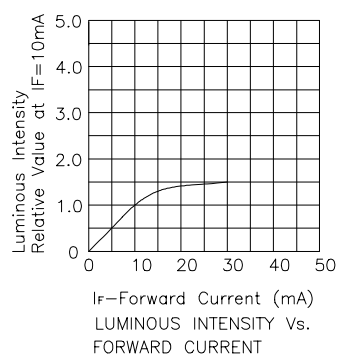
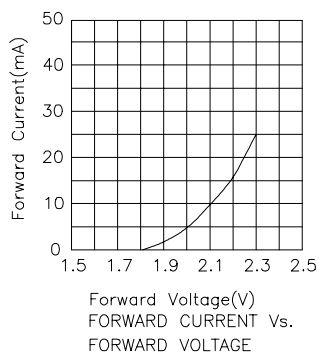
| Parameter                     | Bright Red                                 | High Efficiency Red | Orange | Green | Yellow | Super Bright Red | Units |
|-------------------------------|--|---------------------|--------|-------|--------|------------------|-------|
| Power dissipation             | 120  | 105                 | 105    | 105   | 105    | 100              | mW    |
| DC Forward Current            | 25   | 30                  | 30     | 25    | 30     | 30               | mA    |
| Peak Forward Current [1]      | 120  | 160                 | 160    | 140   | 140    | 155              | mA    |
| Reverse Voltage               | 5  | 5                   | 5      | 5     | 5      | 5                | V     |
| Operating/Storage Temperature | $-40^\circ\text{C}$ To $+85^\circ\text{C}$ |                     |        |       |        |                  |       |
| Lead Solder Temperature [2]   | 260°C For 5 Seconds                        |                     |        |       |        |                  |       |

Notes:

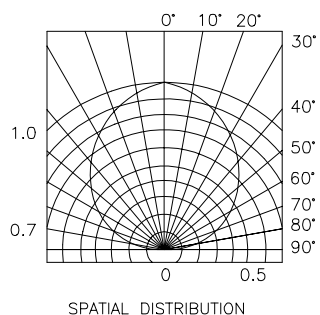
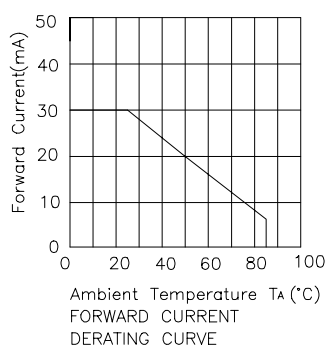
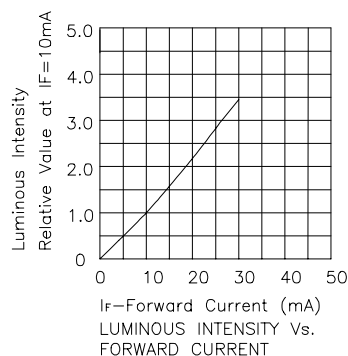
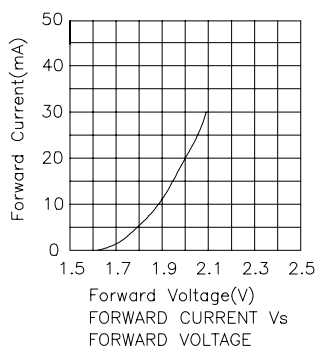
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



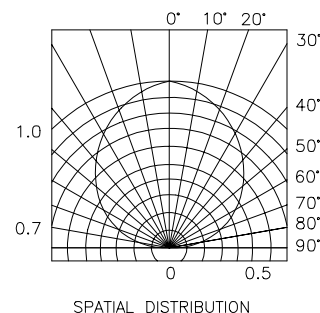
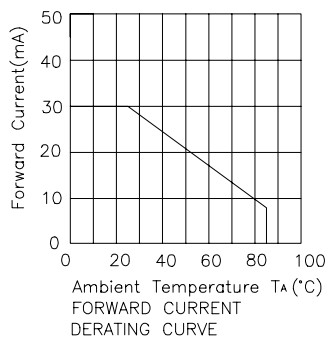
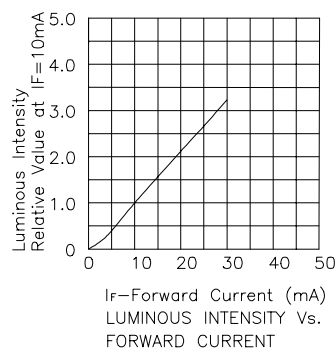
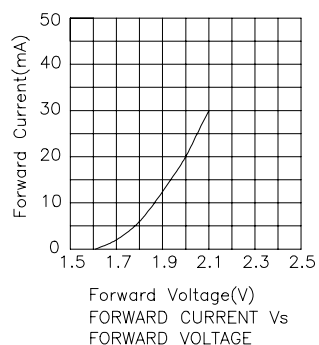
## Bright Red L-153HDT



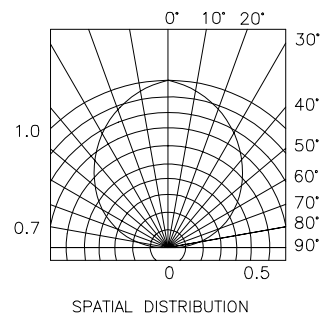
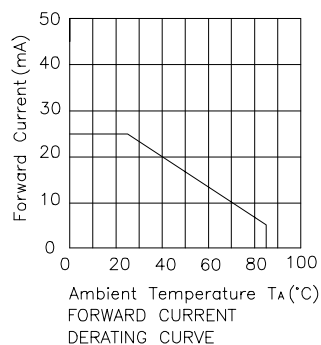
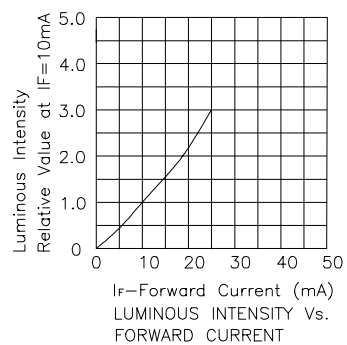
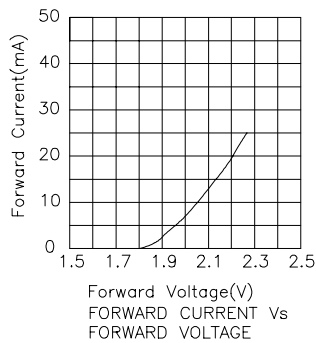
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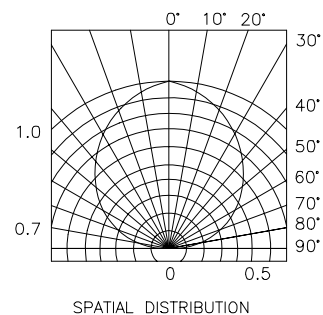
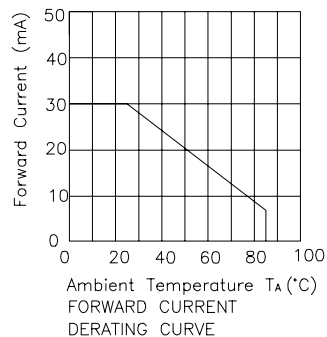
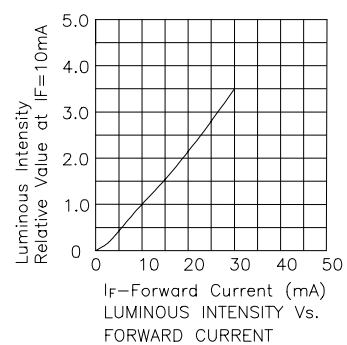
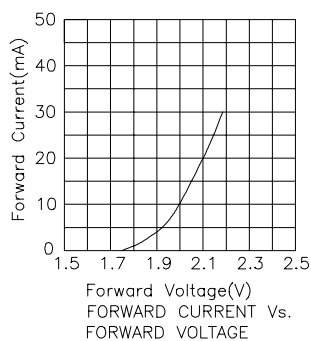
## Orange L-153EDT



## Green L-153GDT



## Yellow L-153YDT



Super Bright Red L-153SRDT

