

Kingbright®

T-1 (3mm) CYLINDRICAL LED LAMPS

L-483 BRIGHT RED
L-483I HIGH EFFICIENCY RED
L-483E ORANGE
L-483SRSG SUPER BRIGHT RED / SUPER BRIGHT GREEN

L-483G GREEN
L-483Y YELLOW

Features

- CYLINDRICAL TYPE, TOP DIFFUSED.
- LOW POWER CONSUMPTION.
- SUPER BRIGHT RED AND SUPER GREEN BI-COLOR VERSION IS AVAILABLE.
- I.C. COMPATIBLE.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.

Description

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

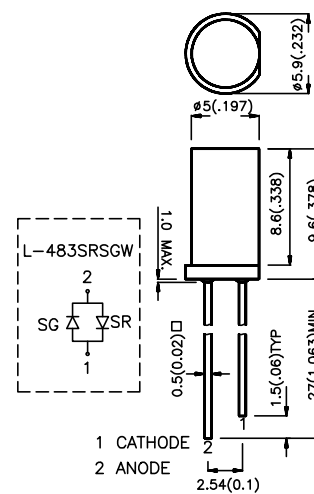
The Green and Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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

The 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 subjected to change without notice.

Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) @ 10 mA | | Viewing Angle |
|------------|---------------------------------|-----------------|------------------|------|---------------|
| | | | Min. | Max. | |
| L-483HDT | BRIGHT RED (GaP) | RED DIFFUSED | 0.5 | 3.2 | 100° |
| L-483IDT | HIGH EFFICIENCY RED (GaAsP/GaP) | RED DIFFUSED | 3.2 | 12.5 | 100° |
| L-483EDT | ORANGE (GaAsP/GaP) | ORANGE DIFFUSED | 3.2 | 12.5 | 100° |
| L-483GDT | GREEN (GaP) | GREEN DIFFUSED | 1.3 | 8 | 100° |
| L-483YDT | YELLOW (GaAsP/GaP) | YELLOW DIFFUSED | 1.3 | 8 | 100° |
| L-483SRSGW | SUPER BRIGHT RED (GaAlAs) | WHITE DIFFUSED | *12.5 | *60 | 80° |
| | SUPER BRIGHT GREEN (GaP) | | *5 | *20 | |

- 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 is 20mA.

Electrical / Optical Characteristics at T_A=25°C

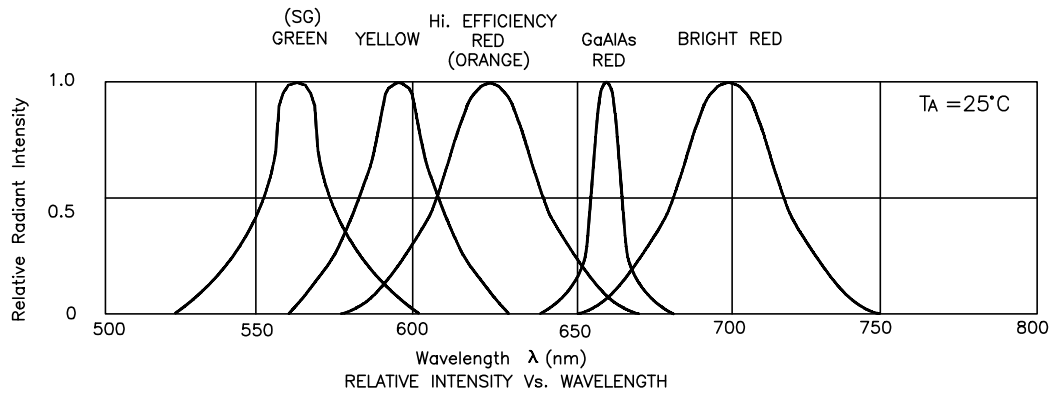
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|-----------------------|-------------------------|--|--|---|-------|-----------------|
| λ_{peak} | Peak Wavelength | Bright Red High Efficiency Red Orange Green Yellow Super Bright Red Super Bright Green | 700 625 625 565 590 660 565 | | nm | IF=20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Halfwidth | Bright Red High Efficiency Red Orange Green Yellow Super Bright Red Super Bright Green | 45 45 45 30 35 20 30 | | nm | IF=20mA |
| C | Capacitance | Bright Red High Efficiency Red Orange Green Yellow Super Bright Red Super Bright Green | 40 12 12 45 10 95 45 | | pF | VF=0V;f=1MHz |
| V _F | Forward Voltage | Bright Red High Efficiency Red Orange Green Yellow Super Bright Red Super Bright Green | 2.0 2.0 2.0 2.2 2.1 1.85 2.0 | 2.5 2.5 2.5 2.5 2.5 2.5 2.5 | V | IF=20mA |
| I _R | Reverse Current | All | 10 | | uA | VR = 5V |

Absolute Maximum Ratings at T_A=25°C

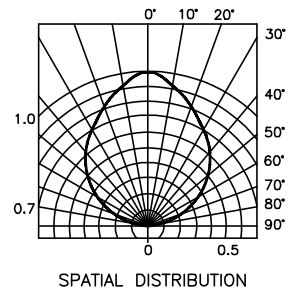
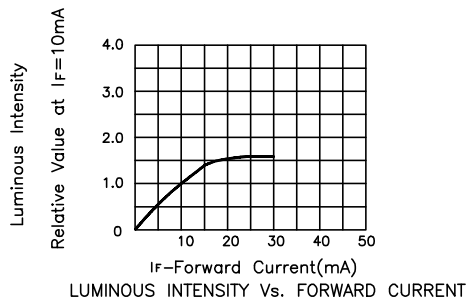
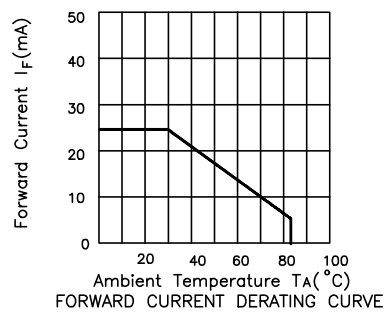
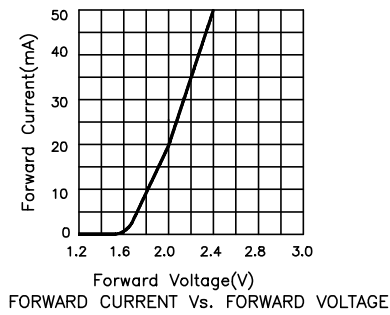
| Parameter | Bright Red | High Efficiency Red | Orange | Green | Yellow | Super Bright Red | Super Bright Green | Units |
|--------------------------------|----------------------|---------------------|--------|-------|--------|------------------|--------------------|-------|
| Power dissipation | 105 | 105 | 105 | 105 | 105 | 100 | 105 | mW |
| DC Forward Current | 25 | 30 | 30 | 25 | 30 | 30 | 25 | mA |
| Peak Forward Current [1] | 150 | 150 | 150 | 150 | 150 | 150 | 150 | mA |
| Reverse Voltage | 5 | 5 | 5 | 5 | 5 | 5 | 5 | V |
| Operating/Storage Temperature | -40 °C To +85 °C | | | | | | | |
| Lead Soldering Temperature [2] | 260 °C For 5 Seconds | | | | | | | |

Notes:

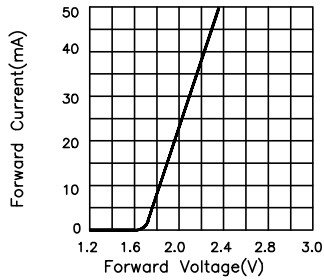
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



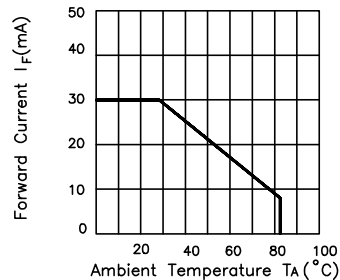
Bright Red L-483HDT



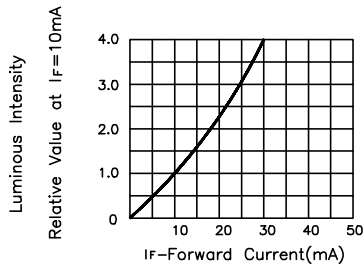
High Efficiency Red L-483IDT
Orange L-483EDT



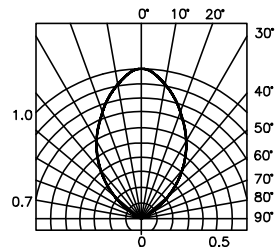
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

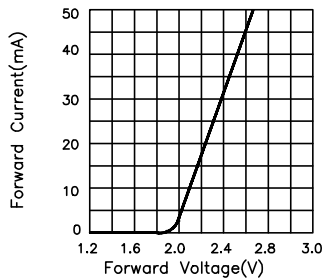


LUMINOUS INTENSITY Vs. FORWARD CURRENT

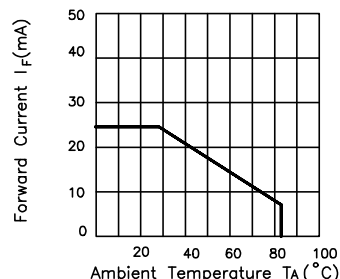


SPATIAL DISTRIBUTION

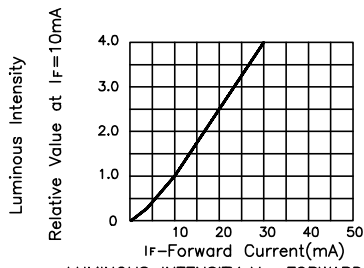
Green L-483GDT



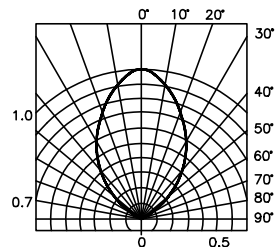
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

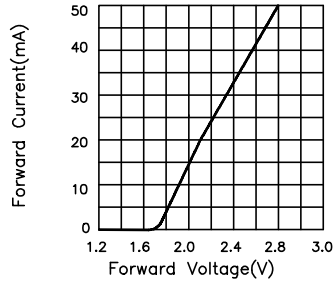


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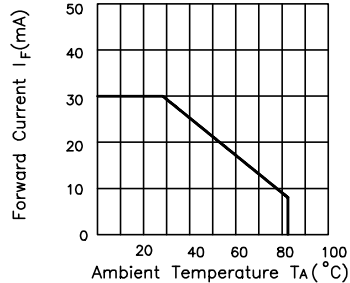


SPATIAL DISTRIBUTION

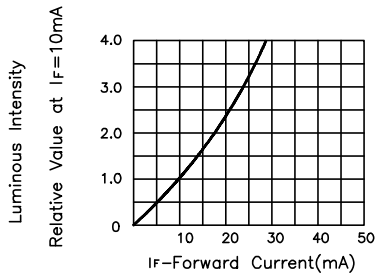
Yellow L-483YDT



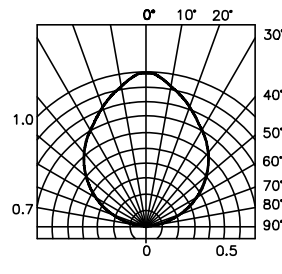
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

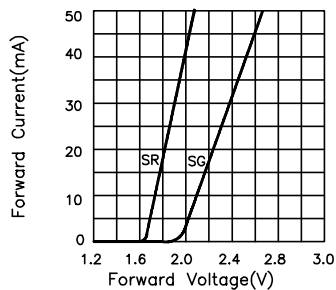


LUMINOUS INTENSITY Vs. FORWARD CURRENT

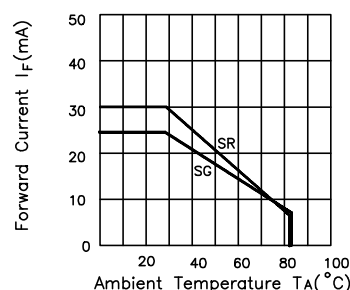


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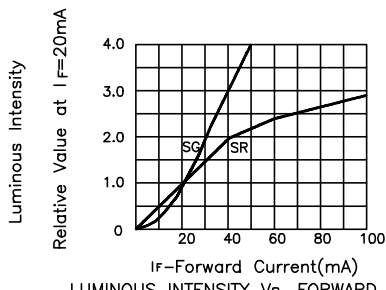
Super Bright Red / Super Bright Green L-483SRSGW



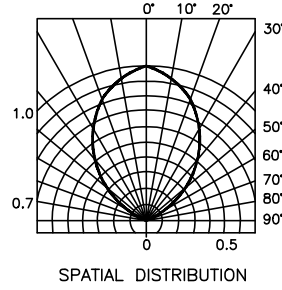
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION