



T-1³/₄ (5mm) Ultra Bright AlInGaP Yellow LED Lamps

- LTL2F3VYK 8degree
- LTL2H3VYK 15degree
- LTL2P3VYK 22degree
- LTL2R3VYK 30degree

Features

- Very high luminous intensity output.
- Low power consumption.
- High efficiency.
- Versatile mounting on P.C. board or panel.
- I.C. compatible/low current requirements.
- Popular T-1 ³/₄ diameter.

Description

The source color devices are made with Aluminum Indium Gallium Phosphide on Gallium Arsenide light emitting diode.

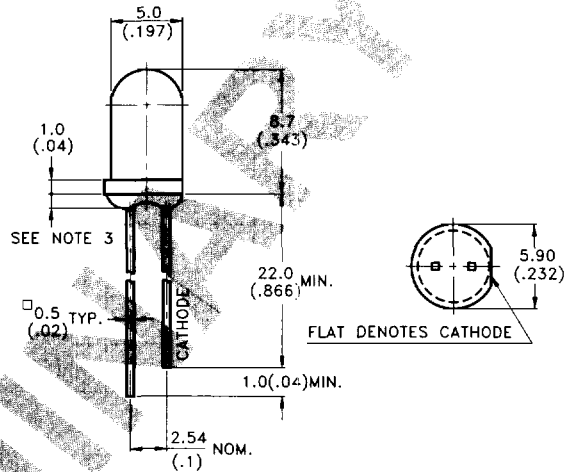
The devices are made with water clear epoxy package, and with 8, 15, 22 and 30 degrees of viewing angle.

Application

Available for outdoor application.

- Message sign.
- Traffic sign.
- Automotive exterior lights.

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ (.010") unless otherwise noted.
3. Protruded resin under flange is 1.0mm (.04") max.
4. Lead spacing is measured where the leads emerge from the package.

Devices

| Part No. LTL | Lens | | Source Color |
|-----------------|-------------|--------------|-----------------|
| | Color | Diffusion | |
| 2F3VYK | Water Clear | Non-diffused | AlInGaP Yellow |
| 2H3VYK | Water Clear | Non-diffused | AlInGaP Yellow |
| 2P3VYK | Water Clear | Non-diffused | AlInGaP Yellow |
| 2R3VYK | Water Clear | Non-diffused | AlInGaP Yellow |

Absolute Maximum Ratings at Ta=25 °C

| Parameter | Yellow | Unit |
|--|----------------------|------|
| Power Dissipation | 130 | mW |
| Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width) | 160 | mA |
| Continuous Forward Current | 50 | mA |
| Reverse Voltage | 4 | V |
| Operating Temperature Range | -40 °C to + 100 °C | |
| Storage Temperature Range | -55 °C to + 100 °C | |
| Lead Soldering Temperature [1.6mm(0.063")From Body] | 260 °C for 5 Seconds | |

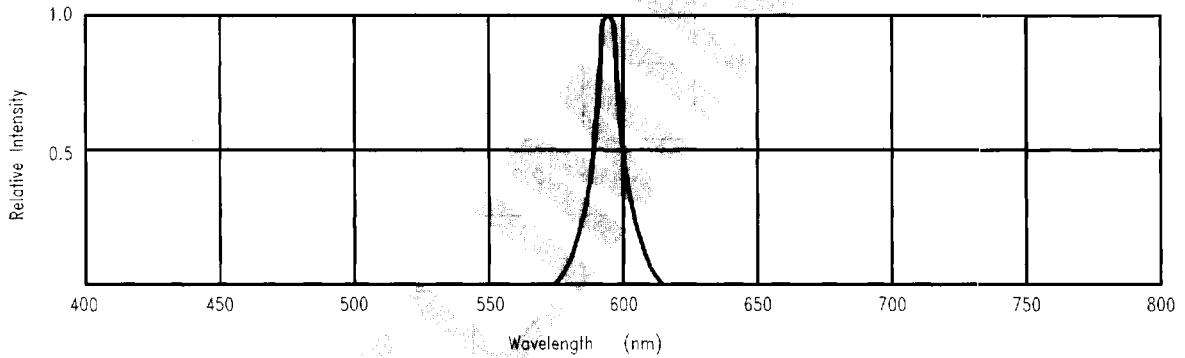


Fig.1 RELATIVE INTENSITY, VS. WAVELENGTH

Electrical/Optical Characteristics and Curves at Ta=25 °C

| Parameter | Symbol | Part No. LTL | Min. | Typ. | Max. | Unit | Test Condition |
|-----------------------------|------------------|--------------------------------------|------|---------------------|-------|---------|-------------------------------|
| Luminous Intensity | Iv | 2F3VYK | 1800 | 7000 | | mcd | If=20mA Note 1 Note 2 |
| | | 2F3VYK-TU | 1800 | | 6400 | | |
| | | 2F3VYK-UV | 3200 | | 11200 | | |
| | | 2H3VYK | 1000 | 3600 | | | |
| | | 2H3VYK-ST | 1000 | | 3600 | | |
| | | 2H3VYK-TU | 1800 | | 6400 | | |
| | | 2P3VYK | 560 | 2300 | | | |
| 2P3VYK-RS | 560 | | 2000 | | | | |
| 2P3VYK-ST | 1000 | | 3600 | | | | |
| | | 2R3VYK | 320 | 1500 | | | |
| | | 2R3VYK-QR | 320 | | 1120 | | |
| | | 2R3VYK-RS | 560 | | 2000 | | |
| Viewing Angle | 2 θ 1/2 | 2F3VYK 2H3VYK 2P3VYK 2R3VYK | | 8 15 22 30 | | deg | Note 3 (Fig.6) |
| Peak Emission Wavelength | λ P | | | 595 | | nm | Measurement @ peak (Fig.1) |
| Dominant Wavelength | λ d | | | 592 | | nm | Note 6 |
| Spectral Line Half-Width | $\Delta \lambda$ | | | 15 | | nm | |
| Forward Voltage | V _F | | | 2.2 | 2.6 | V | If = 20mA |
| Reverse Current | I _R | | | | 100 | μ A | V _R = 4V |
| Capacitance | C | | | 40 | | PF | V _F =0, f=1MHZ |

Notes:

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- Luminous intensity rank classified products support two ranks.
- θ 1/2 is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- Iv classification code is marked on each packing bag.
- The Iv guarantee should be added $\pm 15\%$.
- The dominant wavelength, λ d is derived from the CIE Chromaticity Diagram and represents the single wavelength which defines the color of the device.

Typical Electrical/Optical Characteristic Curves (25 °C Ambient Temperature Unless Otherwise Noted)

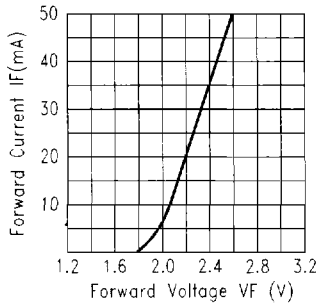


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

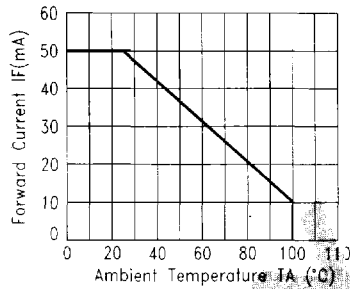


Fig.3 FORWARD CURRENT DERATING CURVE

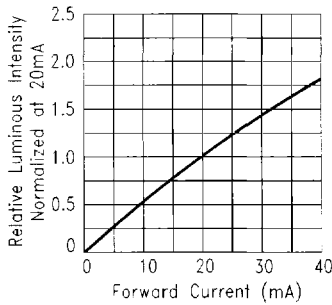


Fig.4 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

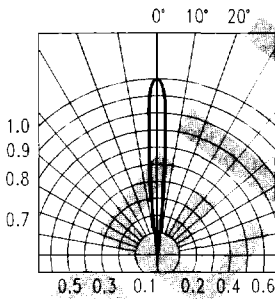


Fig.5-1 SPATIAL DISTRIBUTION

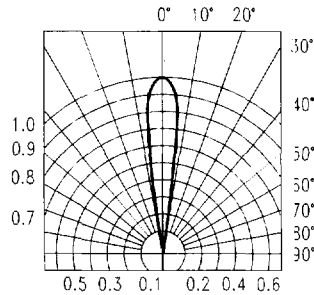


Fig.5-2 SPATIAL DISTRIBUTION

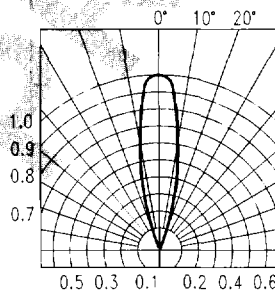


Fig.5-3 SPATIAL DISTRIBUTION

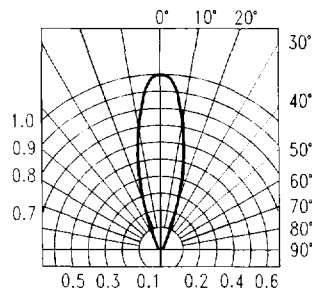


Fig.5-4 SPATIAL DISTRIBUTION

ULTRA BRIGHT LAMPS
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