



LED Panel Dot Indicators

| | |
|-----------|------------|
| LTL-1214A | Bright Red |
| LTL-1234A | Green |
| LTL-1254A | Yellow |
| LTL-1294A | Red Orange |

Features

- Low power consumption.
- Suitable for pulsed operation.
- Most suitable for use like audio panel indicator.
- Fits 2mm hole in panels up to 4.5mm(0.177") thick.
- Long life solid state reliability.

Description

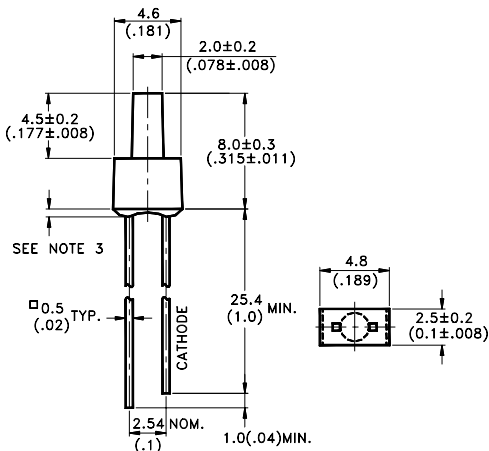
The Bright Red source color devices are made with Gallium Phosphide on Gallium Phosphide Red Light Emitting Diode.

The Red 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 on 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 $\pm 0.25\text{mm}$ ($.010''$) 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.
5. Specifications are subject to change without notice.

Devices

| Part No. LTL- | Lens | Source Color |
|------------------|-----------------|--------------|
| 1214A | Red Diffused | Bright Red |
| 1234A | Green Diffused | Green |
| 1254A | Yellow Diffused | Yellow |
| 1294A | Orange Diffused | Red Orange |

Absolute Maximum Ratings at Ta=25°C

| Parameter | Bright Red | Green | Yellow | Red Orange | Unit |
|--|---------------------|-------|--------|------------|-------|
| Power Dissipation | 40 | 100 | 60 | 100 | mW |
| Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width) | 60 | 120 | 80 | 120 | mA |
| Continuous Forward Current | 15 | 30 | 20 | 30 | mA |
| Derating Linear From 25°C | 0.2 | 0.4 | 0.25 | 0.4 | mA/°C |
| Reverse Voltage | 5 | 5 | 5 | 5 | V |
| Operating Temperature Range | -55°C to +100°C | | | | |
| Storage Temperature Range | -55°C to +100°C | | | | |
| Lead Soldering Temperature [1.6mm (0.063 in.) from body] | 260°C for 5 Seconds | | | | |

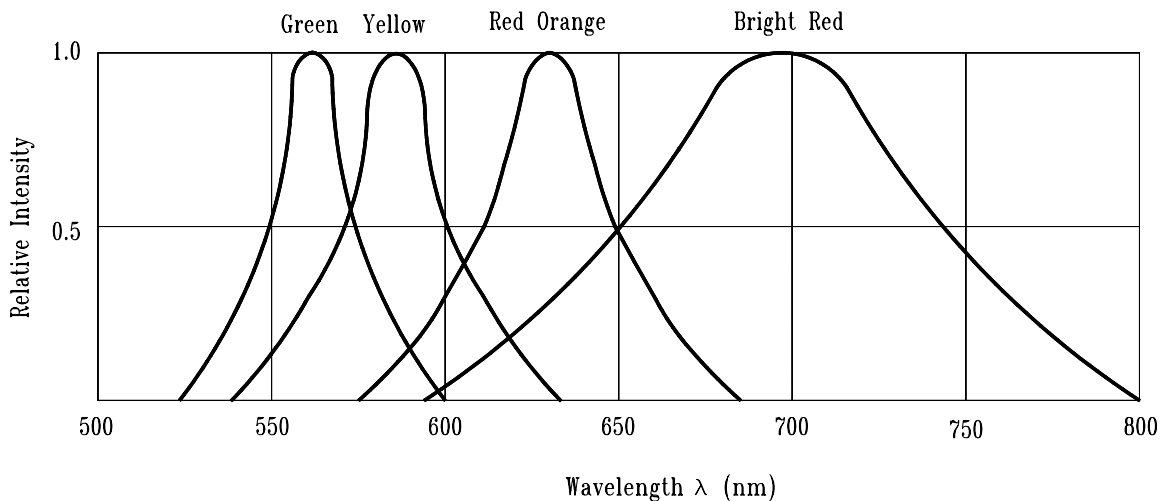


Fig.1 Relative Intensity vs. Wavelength

Electrical/Optical Characteristics at Ta=25°C

| Parameter | Symbol | Part No. LTL- | Min. | Typ. | Max. | Unit. | Test Condition. |
|--------------------------|-----------------|----------------------------------|--------------------------|--------------------------|--------------------------|---------|------------------------------|
| Luminous Intensity | I_v | 1214A 1234A 1254A 1294A | 0.4 0.7 1.1 0.7 | 1.1 1.7 3.7 2.5 | | mcd | $I_F=10$ mA Note 1,4 |
| Viewing Angle | $2\theta_{1/2}$ | 12x4A | | 120 | | deg | Note 2 (Fig.6) |
| Peak Emission Wavelength | λ_P | 1214A 1234A 1254A 1294A | | 697 565 585 630 | | nm | Measurement @Peak (Fig.1) |
| Dominant Wavelength | λ_d | 1214A 1234A 1254A 1294A | | 657 569 588 621 | | nm | Note 3 |
| Spectral Line Half Width | $\Delta\lambda$ | 1214A 1234A 1254A 1294A | | 90 30 35 40 | | nm | |
| Forward Voltage | V_F | 1214A 1234A 1254A 1294A | | 2.1 2.1 2.1 2.0 | 2.6 2.6 2.6 2.6 | V | $I_F=20$ mA |
| Reverse Current | I_R | 12x4A | | | 100 | μ A | $V_R=5$ V |
| Capacitance | C | 1214A 1234A 1254A 1294A | | 55 35 15 20 | | pF | $V_F=0$, $f=1$ MHz |

Notes:1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

3.The dominant wavelength, λ_d is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

4. I_v needs $\pm 15\%$ additional for guaranteed limits.

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

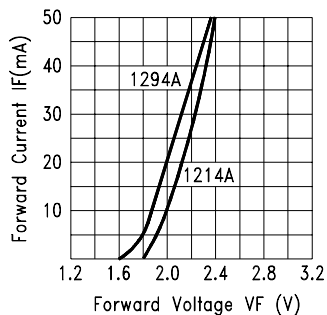


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

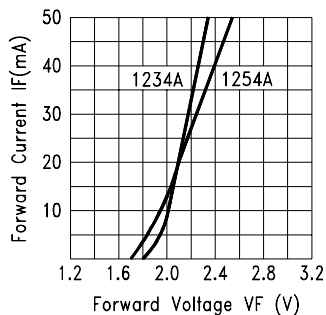


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

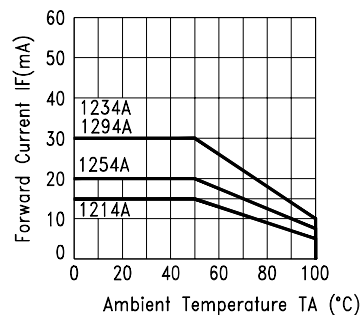


Fig.4 FORWARD CURRENT DERATING CURVE

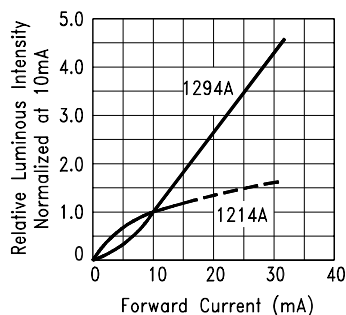


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

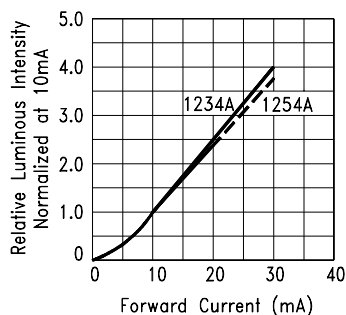


Fig.6 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

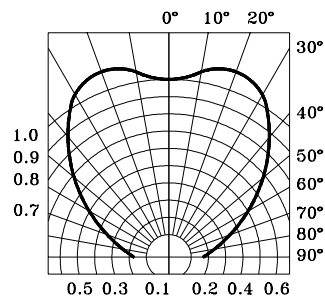


Fig.7 SPATIAL DISTRIBUTION

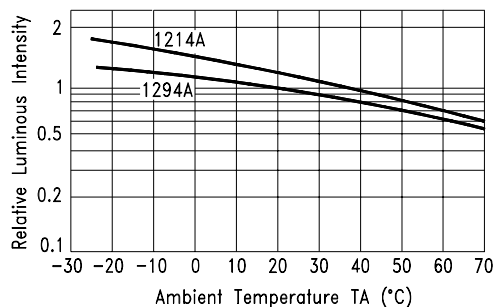


Fig.8 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

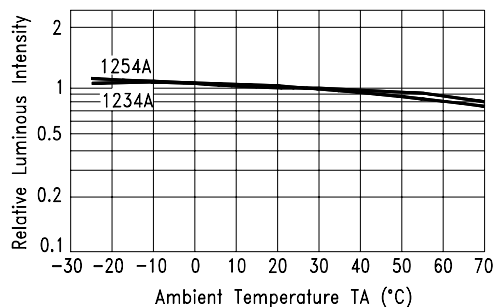


Fig.9 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE