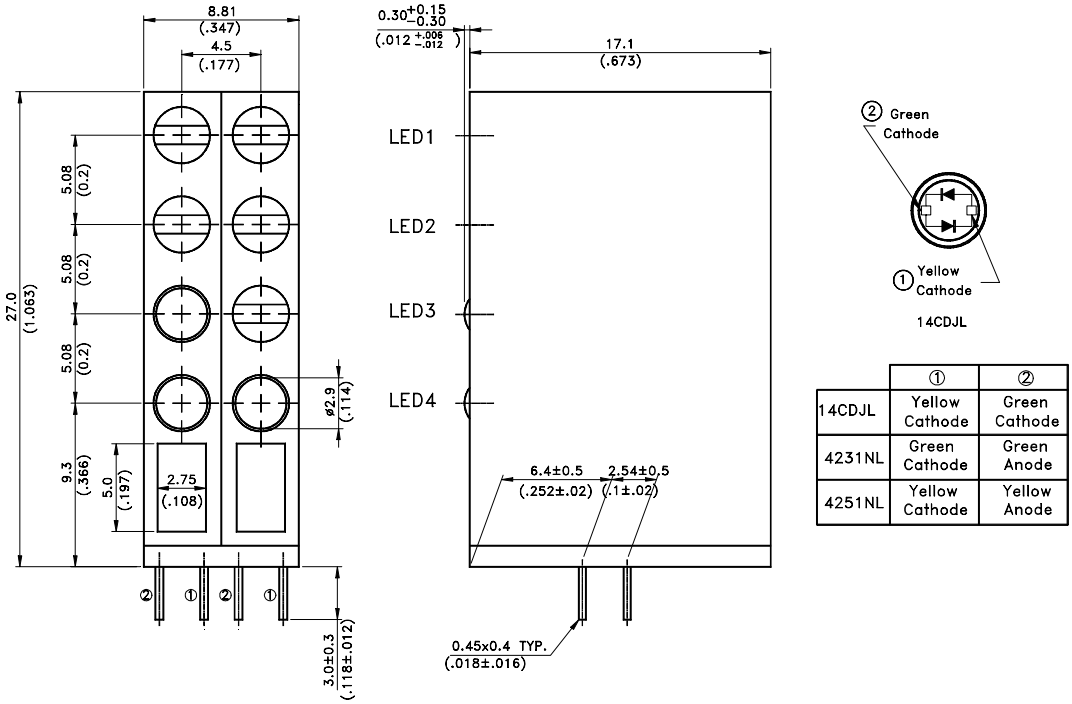
## Features

* Designed for ease in circuit board assembly.
* Black case enhance contrast ratio.
* Solid state light source.
* Reliable and rugged.

## Package Dimensions




| | ① | ② |
|---|---|---|
| 14CDJL | Yellow Cathode | Green Cathode |
| 4231NL | Green Cathode | Green Anode |
| 4251NL | Yellow Cathode | Yellow Anode |

| Part No. LTL- | Lens | Source Color |
|---|---|---|
| 14CDJL | White Diffused | Green/Yellow |
| 4251NL | Yellow Diffused | Yellow |
| 4231NL | Green Diffused | Green |

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm(.010") unless otherwise noted.
3. The holder color is black.
4. The LED1 & LED2 are empty
   The LED3 is LTL-4251NL (left)
   The LED3 is empty (right)
   The LED4 is LTL-4231NL (left)
   The LED4 is LTL-14CDJL (right).

## Absolute Maximum Ratings at $T_a$=25℃

| Parameter | Yellow | Green | Unit |
|---|---|---|---|
| Power Dissipation | 60 | 100 | mW |
| Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width) | 80 | 120 | mA |
| Continuous Forward Current | 20 | 30 | mA |
| Derating Linear From 50℃ | 0.25 | 0.4 | mA/℃ |
| Reverse Voltage (Note 1) | 5 | 5 | V |
| Operating Temperature Range | -55℃ to + 100℃ | | |
| Storage Temperature Range | -55℃ to + 100℃ | | |
| Lead Soldering Temperature [1.6mm(.063") From Body] | 260℃ for 5 Seconds | | |

Note : 1. Reverse voltage for LTL-4231NL & LTL-4251NL only.

## Electrical Optical Characteristics at Ta=25℃

| Parameter | Symbol | LTL-42M2NH71<br>4231NL<br>4251NL | Min. | Typ. | Max. | Unit | Test Condition |
|---|---|---|---|---|---|---|---|
| Luminous Intensity | $I_V$ | Green<br>Yellow | 3.7<br>1.7 | 12.6<br>5.6 | | mcd | $I_F$ = 10mA<br>Note 1,4 |
| Viewing Angle | $2\theta_{1/2}$ | Green<br>Yellow | | 60 | | deg | Note 2 (Fig.6) |
| Peak Emission Wavelength | $\lambda p$ | Green<br>Yellow | | 565<br>585 | | nm | Measurement<br>@Peak (Fig.1) |
| Dominant Wavelength | $\lambda d$ | Green<br>Yellow | | 569<br>588 | | nm | Note 3 |
| Spectral Line Half-Width | $\Delta \lambda$ | Green<br>Yellow | | 30<br>35 | | nm | |
| Forward Voltage | $V_F$ | Green<br>Yellow | | 2.1<br>2.1 | 2.6<br>2.6 | V | $I_F$ = 20mA |
| Reverse Current | $I_R$ | Green<br>Yellow | | | 100 | $\mu$A | $V_R$ = 5V |
| Capacitance | C | Green<br>Yellow | | 35<br>15 | | pF | $V_F$ = 0 , f = 1MHz |

Note: 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, $\lambda d$ is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

4. Iv needs ±15% additionary for guaranteed limits.

## Electrical Optical Characteristics at Ta=25℃

| Parameter | Symbol | LTL-42M2NH7114CDJL | Min. | Typ. | Max. | Unit | Test Condition |
|---|---|---|---|---|---|---|---|
| Luminous Intensity | $I_V$ | Green<br>Yellow | 3.7<br>2.5 | 12.6<br>8.7 | | mcd | $I_F$ = 20mA<br>Note 1,4 |
| Viewing Angle | $2\theta_{1/2}$ | Green<br>Yellow | | 80 | | deg | Note 2 (Fig.6) |
| Peak Emission Wavelength | $\lambda p$ | Green<br>Yellow | | 565<br>585 | | nm | Measurement @Peak (Fig.1) |
| Dominant Wavelength | $\lambda d$ | Green<br>Yellow | | 569<br>588 | | nm | Note 3 |
| Spectral Line Half-Width | $\Delta \lambda$ | Green<br>Yellow | | 30<br>35 | | nm | |
| Forward Voltage | $V_F$ | Green<br>Yellow | | 2.1<br>2.1 | 2.6<br>2.6 | V | $I_F$ = 20mA |
| Reverse Current | $I_R$ | Green<br>Yellow | | | 100 | $\mu$A | $V_R$ = 5V , Note 5 |
| Capacitance | C | Green<br>Yellow | | 35<br>15 | | pF | $V_F$ = 0 , f = 1MHz |

Note: 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, $\lambda d$ is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

4. Iv needs ±15% additionary for guaranteed limits.

5. Reverse current is controlled by dice source.

## Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

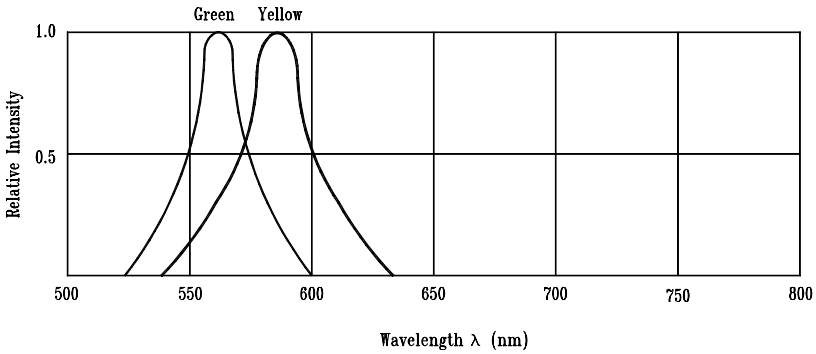



Fig.1 Relative Intensity vs. Wavelength

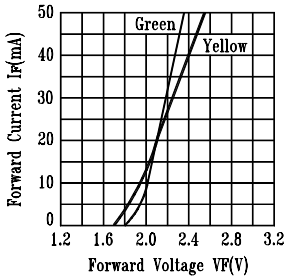



Fig.2 Forward Current vs. Forward Voltage

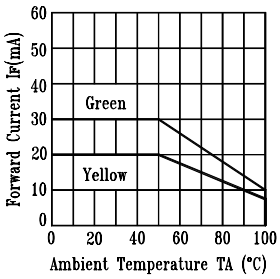



Fig.3 Forward Current Derating Curve

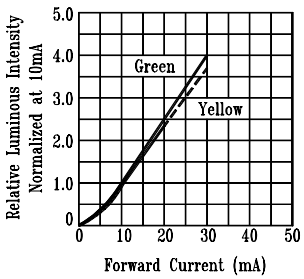



Fig.4 Relative Luminous Intensity vs. Forward Current

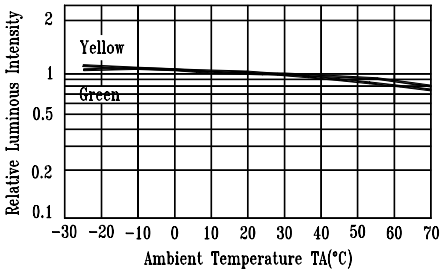



Fig.5 Luminous Intensity vs. Ambient Temperature

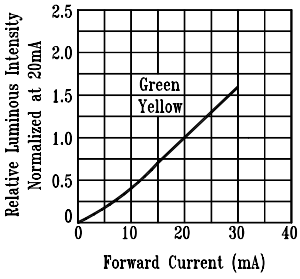



Fig.4 Relative Luminous Intensity vs. Forward Current

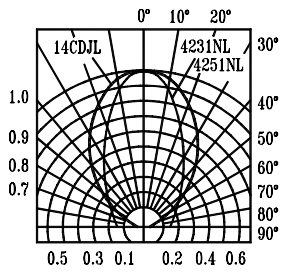



Fig.6 Spatial Distribution