



**ELECTRONICS, INC.**  
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## NTE3026 Light Emitting Diode (LED)

**Description:**

The Red/Green NTE3026 bicolor lamp is a white diffused, wide viewing angle, dual chips, utilizing Gallium Arsenide Phosphide on Gallium Phosphide red LED and Gallium Phosphide on Gallium Phosphide green LED. These dual chips operate independently of each other.

**Features:**

- Red and Green Chips are matched for Uniform Light Output
- T-1 3/4 Type Package
- Long Life Solid State Reliability
- Low Power Consumption
- IC Compatible

**Absolute Maximum Ratings:** ( $T_A = +25^{\circ}\text{C}$  unless otherwise specified)

|   |       |   |
|---|-------|---|
| Power Dissipation, $P_D$  |       |   |
| Red   | ..... | 80mW                                    |
| Green   | ..... | 100mW                                   |
| Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width), $I_F$  |       |   |
| Red   | ..... | 200mA                                   |
| Green   | ..... | 120mA                                   |
| Continuous Forward Current, $I_F$                                 |       |   |
| Red   | ..... | 40mW                                    |
| Derate Linearly Above $25^{\circ}\text{C}$                        | ..... | $0.5\text{mA}/^{\circ}\text{C}$         |
| Green   | ..... | 30mW                                    |
| Derate Linearly Above $25^{\circ}\text{C}$                        | ..... | $0.4\text{mA}/^{\circ}\text{C}$         |
| Reverse Voltage, $V_R$  |       | 5V                                      |
| Operating Temperature Range, $T_{opr}$                            |       | $-55^{\circ}$ to $+100^{\circ}\text{C}$ |
| Storage Temperature Range, $T_{stg}$                              |       | $-55^{\circ}$ to $+100^{\circ}\text{C}$ |
| Lead Temperature (During Soldering, 1.6mm from body, 5sec), $T_L$ |       | $+260^{\circ}\text{C}$                  |

**Electrical/Optical Characteristics:** ( $T_A = +25^{\circ}\text{C}$  unless otherwise specified)

| Parameter          | Symbol | Test Conditions              | Min | Typ | Max | Unit |
|--------------------|--------|------------------------------|-----|-----|-----|------|
| Luminous Intensity | $I_V$  | $I_F = 20\text{mA}$ , Note 1 | 0.4 | 1.2 | -   | mcd  |
| Red                |        |                              |     |     |     |      |
| Green              |        |                              | 2.5 | 8.7 | -   | mcd  |
| Viewing Angle      |        | Note 2                       | -   | 50  | -   | deg. |

- Note 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.
- Note 2. Viewing Angle is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

**Electrical/Optical Characteristics (Cont'd):** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

| Parameter                       | Symbol                  | Test Conditions            | Min | Typ | Max | Unit          |
|---------------------------------|-------------------------|----------------------------|-----|-----|-----|---------------|
| Peak Emission Wavelength<br>Red | $\lambda_{\text{PEAK}}$ | Measurement at Peak        | -   | 655 | -   | nm            |
| Green                           |                         |                            | -   | 565 | -   | nm            |
| Spectral Line Half Width<br>Red | $\Delta\lambda$         |                            | -   | 24  | -   | nm            |
| Green                           |                         |                            | -   | 30  | -   | nm            |
| Forward Voltage<br>Red          | $V_F$                   | $I_F = 20\text{mA}$        | -   | 1.7 | 2.0 | V             |
| Green                           |                         |                            | -   | 2.1 | 2.8 | V             |
| Reverse Current                 | $I_R$                   | $V_R = 5\text{V}$          | -   | -   | 100 | $\mu\text{A}$ |
| Capacitance<br>Red              | C                       | $V_F = 0, f = 1\text{MHz}$ | -   | 30  | -   | pF            |
| Green                           |                         |                            | -   | 35  | -   | pF            |

