

NTE30001 Infrared Emitting Diode Bi-Directional

Features:

- Bi-Directional Light Emission Type
- High Output: $\Phi_e = 1\text{mW Typ at } I_F = 20\text{mA}$

Applications:

- Light Source for Tape End Detector for VHS type VCR's

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

| | |
|--|---|
| Power Dissipation, P_D | 75mW |
| Forward Current, I_F | 50mA |
| Peak Forward Current (Note 1), I_{FM} | 1A |
| Reverse Voltage, V_R | 6V |
| Operating Junction Temperature Range, T_{opr} | $-25^\circ\text{C to } +85^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | $-40^\circ\text{C to } +85^\circ\text{C}$ |
| Lead Temperature (During Soldering, Note 2), T_L | $+260^\circ\text{C}$ |

Note 1. Pulse Width $\leq 100\mu\text{s}$, Duty Ratio = 0.01

Note 2. For 3 seconds at a distance of 2.5mm from the bottom face of the resin package.

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------------|-----------------|--------------------------|-----|-----|-----|---------------|
| Forward Voltage | V_F | $I_F = 20\text{mA}$ | – | 1.2 | 1.4 | V |
| Peak Forward Voltage | V_{FM} | $I_{FM} = 500\text{mA}$ | – | 3.0 | 4.0 | V |
| Reverse Current | I_R | $V_R = 3\text{V}$ | – | – | 10 | μA |
| Terminal Capacitance | C_t | $V = 0, f = 1\text{MHz}$ | – | 50 | 100 | pF |
| Radiant Flux | Φ_e | $I_F = 20\text{mA}$ | 0.7 | 1.0 | 2.0 | mW |
| Peak Emission Wavelength | λ_p | $I_F = 5\text{mA}$ | – | 950 | – | nm |
| Half Intensity Wavelength | $\Delta\lambda$ | $I_F = 5\text{mA}$ | – | 45 | – | nm |

