

## 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	$\mu\text{A}$
Terminal Capacitance	$C_t$	$V = 0, f = 1\text{MHz}$	-	50	100	pF
Radiant Flux	$\Phi_e$	$I_F = 20\text{mA}$	0.7	1.0	2.0	mW
Peak Emission Wavelength	$\lambda_p$	$I_F = 5\text{mA}$	-	950	-	nm
Half Intensity Wavelength	$\Delta\lambda$	$I_F = 5\text{mA}$	-	45	-	nm

