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## NTE3027 Infrared Emitting Diode High Speed for Remote Control

**Description:**

The NTE3027 Infrared Emitting Diode is a high intensity diode using AlGaAs/GaAs technology molded in a blue transparent plastic standard T-1 3/4 (5mm) package. This device is spectrally matched for use with phototransistor, photodiode and infrared receiver modules.

**Features:**

- High Radiant Intensity
- Peak Wavelength =  $\lambda_P = 940\text{nm}$
- Low Forward Voltage
- High Reliability

**Applications:**

- Free Air Transmission System
- Infrared Remote Control Units with High Power Requirements
- Smoke Detector
- Infrared Applied System

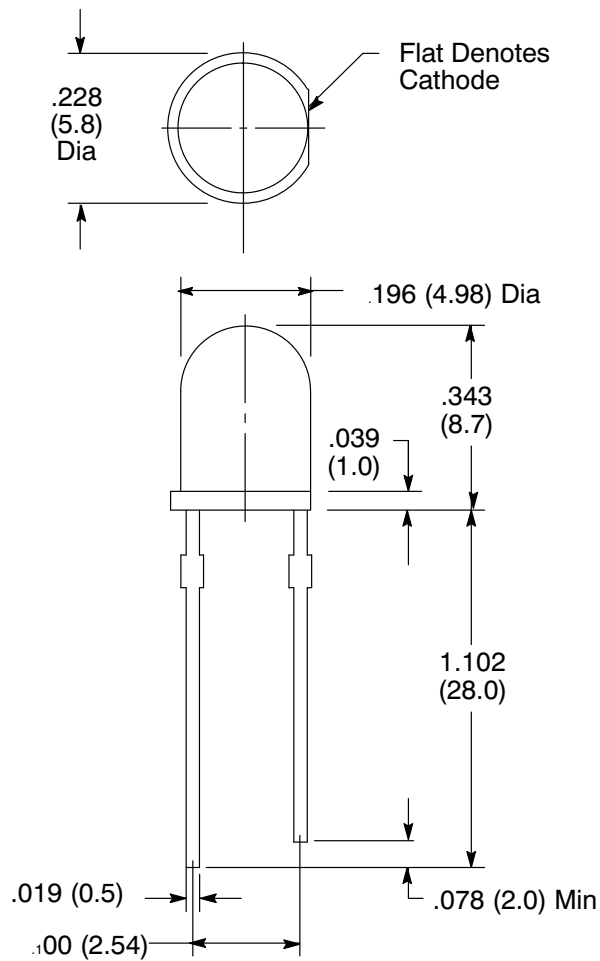
**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Reverse Voltage, $V_R$ .....	5V
Forward Current, $I_F$	
Continuous .....	150mA
Peak (Note 1) .....	1.0A
Power Dissipation ( $T_A \leq +25^\circ\text{C}$ ), $P_D$ .....	210mW
Soldering Temperature (Note 2), $T_{sol}$ .....	+260°C
Operating Temperature Range, $T_{opr}$ .....	-55° to +100°C
Storage Temperature Range, $T_{stg}$ .....	-55° to +100°C
Lead Temperature (During soldering, 4mm from mold body, 5sec Max.), $T_L$ .....	+260°C

Note 1. Pulse Width = 100 $\mu\text{s}$ , Duty Cycle = 1%

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Radiant Intensity	$I_e$	$I_F = 50\text{mA}$	50	60	-	mW/sr
		$I_F = 100\text{mA}$ , $t_p = 50\mu\text{s}$ , $t_p/T = 0.01$		130	-	mW/sr
		$I_F = 1\text{A}$ , $t_p = 100\mu\text{s}$ , $t_p/T = 0.01$			1400	-
Peak Wavelength	$\lambda_p$	$I_F = 20\text{mA}$	-	940	-	nm
Spectral Bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	50	-	nm
Forward Voltage	$V_F$	$I_F = 50\text{mA}$	1.30	1.35	1.50	V
		$I_F = 100\text{mA}$ , $t_p = 50\mu\text{s}$ , $t_p/T = 0.01$	-	1.55	1.85	V
		$I_F = 1\text{A}$ , $t_p = 100\mu\text{s}$ , $t_p/T = 0.01$	-	2.6	4.0	V
Reverse Current	$I_R$	$V_R = 5\text{V}$	-	-	10	$\mu\text{A}$
View Angle of Half Power	$2\Phi_{1/2}$	$I_F = 20\text{mA}$	-	45	-	deg



Tolerance  $\pm .010$  (.254)