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ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

NTE3017
Infrared Emitting Diode
High Speed for Remote Control

Description:
The NTE3017 is an infrared emitting diode in standard GaAs on GaAs technology, molded in a clear, blue–grey tinted plastic package.

Features:
- Low Forward Voltage
- High Radiant Power and Radiant Intensity
- Suitable for DC and High Pulse Current Operation
- High Reliability
- Standard T–1 3/4 (5mm) Package

Applications:
Infrared remote control and free air transmission systems with low forward voltage and comfortable radiation and angle requirements in combination with PIN photodiodes or phototransistors.

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)

Reverse Voltage, V_R 5V
Forward Current, I_F
  Continuous 150mA
  Peak (Note 1) 300mA
Surge Forward Current (Note 2), I_{FSM} 2.5A
Power Dissipation, P_D 210mW
Junction Temperature, T_J . . . . +100°C
Operating Temperature Range, T_{opr} . . . . –55° to +100°C
Storage Temperature Range, T_{stg} . . . . –55° to +100°C
Lead Soldering Temperature (t ≤ 5sec, 2mm from case), T_L . . . . +260°C
Thermal Resistance, Junction–to–Ambient, R_{thJA} 375K/W

Note 1. t_p = 100µs, t_p/T = 0.5
Note 2. t_p = 100µs

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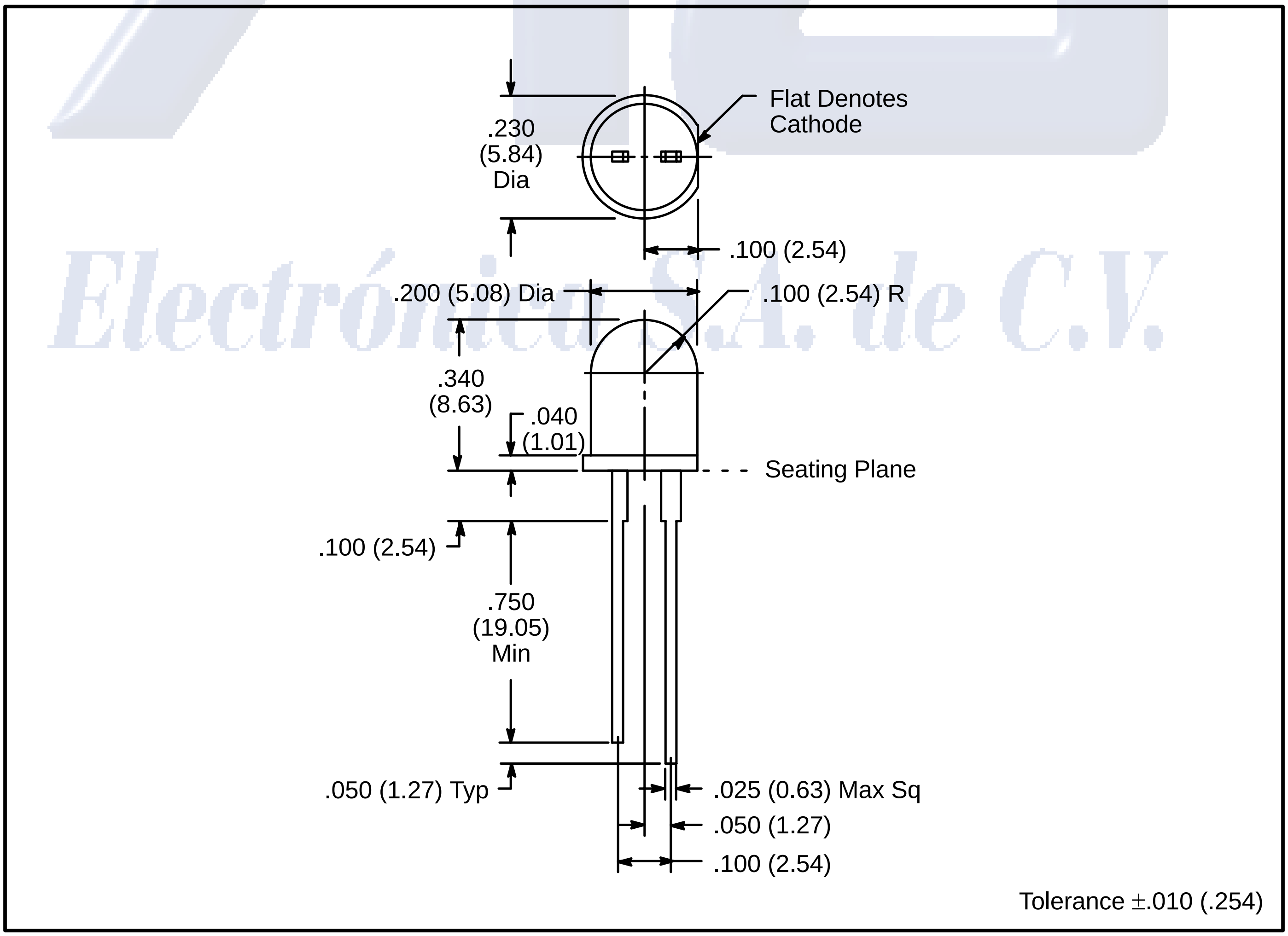
Electrical Characteristics: (T_A = +25°C unless otherwis specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F = 100mA, t_p = 20ms	–	1.3	1.7	V
		I_F = 1.5A, t_p = 100μs	–	2.2	3.4	V
Temperature Coefficient of Forward Voltage		I_F = 100mA	–	–1.3	–	mV/°C
Reverse Current	I_R	V_R = 5V	–	–	100	μA
Junction Capacitance	C_j	V_R = 0, f = 1MHz, E = 0	–	30	–	pF
Radient Intensity	I_e	I_F = 100mA, t_p = 20ms	7	14	–	mW/sr
		I_F = 1.5A, t_p = 100μs	60	140	–	mW/sr
Angle of Half Intensity	Φ		–	±22	–	deg
Radient Power	Φ_e	I_F = 100mA, t_p = 20ms	–	13	–	mW
Temperature Coefficient of Radient Intensity		I_F = 20mA	–	–0.8	–	%/°C
Peak Wavelength	λ_p	I_F = 100mA	–	950	–	nm
Temperature Coefficient of Peak Wavelength		I_F = 100mA	–	0.2	–	nm/°C
Spectral Bandwidth	$\Delta\lambda$	I_F = 100mA	–	50	–	nm
Rise Time	t_r	I_F = 100mA	–	800	–	ns
		I_F = 1.5A	–	400	–	ns
Fall Time	t_f	I_F = 100mA	–	800	–	ns
		I_F = 1.5A	–	400	–	ns



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