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

NTE5010T1 thru NTE5021T1
Zener Diode, 500mW
±1% Tolerance

Features:

- Zener Voltage 5.1V to 12V
- Constructed with an Oxide Passivated All Diffused Die
- DO35 Type Axial Lead Package

Absolute Maximum Ratings:

Forward Voltage (I_F = 100mA, T_L = +30°C, Lead Length = 3/8”), V_F 1.5V
DC Power Dissipation ($T_L \le$ +50°C, Lead length = 3/8”), P_D 500mW
Derate Above 50°C . . . . . 3.33mW/°C
Operating Temperature Range, T_{opr} . . . . . –65°C to +200°C
Storage Temperature Range, T_{stg} . . . . . –65°C to +200°C

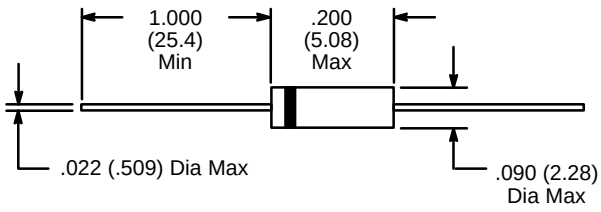
Electrical Characteristics: (T_L = +30°C, Lead Length = 3/8” unless otherwise specified)

NTE Type Number	Nom Zener Voltage (Note 1) V_z @ I_{zt}	Zener Test Current (I_{zt})	Max DC Zener Current (Note 2) (I_{zm})	Max Zener Impedance (Note 3)		Typical Temperature Coefficient α_{vz}	Max Leakage Current I_R @ V_R	
				Z_{zt} @ I_{zt}	Z_{zk} @ 0.25mA (I_{zk})			
	Volts	mA	mA	Ohms	Ohms	%/°C	µA	Volts
5010T1	5.1	5	98	50	2050	+0.025	2.0	2.0
5011T1	5.6	5	89	25	1800	+0.035	2.0	3.0
5013T1	6.2	5	81	10	1300	+0.040	1.0	4.0
5019T1	10.0	5	50	15	600	+0.065	0.1	8.0
5021T1	12.0	5	42	22	600	+0.073	0.1	9.1

Note 1. Voltage measurement to be performed 20 seconds after application of the DC test current.
Note 2. The maximum zener current (I_{zm}) shown is for the nominal voltages. The following formula can be used to determine th worst case current for any tolerance device:

$$I_{zm} = \frac{P}{V_{zm}}$$

Where V_{zm} is the high end of the tolerance specified and P is the rated power of the device.
Note 3. Zener impedance is derived from the 1kHz AC voltage which results when an AC current having an RMS value equal to 10% of DC zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}.



Color Band Denotes Cathode