ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089
http://www.nteinc.com

NTE5111A thru NTE5166A
Zener Diode, 5 Watt
±5% Tolerance

Features:

- Zener Voltage: 3.3V to 200V
- High Surge Current Capability

Absolute Maximum Ratings:

DC Power Dissipation (T_L = +75°C, Lead Length = 3/8”), P_D 5W
Derate Above 75°C . . . . . 40mW/°C
Forward Voltage (I_F = 1A), V_F 1.2V
Operating Junction Temperature Range, T_J . . . . . –65° to +200°C
Storage Temperature Range, T_{stg} . . . . . –65° to +200°C

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

	Nominal Zener Voltage V_Z @ I_{ZT} (Note 1)	Test Current I_{ZT}	Max Zener Impedance		Max Reverse Leakage Current		Max Surge Current i_r (Note 2)	Max Voltage Regulation ΔV_Z (Note 3)	Max Regulator Current I_{ZM}
			Z_{ZT} @ I_{ZT} (Note 1)	Z_{ZK} @ I_{ZK} = 1mA (Note 1)	I_R	@ V_R			
	Volts	mA	Ω	Ω	μA	Volts	Amps	Volt	mA
NTE5111A	3.3	380	3.0	400	300	1	20	0.85	1440
NTE5112A	3.6	350	2.5	500	150	1	18.7	0.8	1320
NTE5113A	3.9	320	2	500	50	1	17.6	0.54	1220
NTE5114A	4.3	290	2	500	10	1	16.4	0.49	1100
NTE5115A	4.7	260	2	450	5	1	15.3	0.44	1010
NTE5116A	5.1	240	1.5	400	1	1	14.4	0.39	930
NTE5117A	5.6	220	1	400	1	2	13.4	0.25	865
NTE5118A	6.0	200	1	300	1	3	12.7	0.19	790
NTE5119A	6.2	200	1	200	1	3	12.4	0.1	765
NTE5120A	6.8	175	1	200	10	5.2	11.5	0.15	700
NTE5121A	7.5	175	1.5	200	10	5.7	10.7	0.15	630
NTE5122A	8.2	150	1.5	200	10	6.2	10	0.2	580

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

	Nominal Zener Voltage V_Z @ I_{ZT} (Note 1)	Test Current I_{ZT}	Max Zener Impedance		Max Reverse Leakage Current		Max Surge Current i_r (Note 2)	Max Voltage Regulation ΔV_Z (Note 3)	Max Regulator Current I_{ZM}
			Z_{ZT} @ I_{ZT} (Note 1)	Z_{ZK} @ I_{ZK} = 1mA (Note 1)	I_R	@ V_R			
	Volts	mA	Ω	Ω	μA	Volts	Amps	Volt	mA
NTE5123A	8.7	150	2	200	10	6.6	9.5	0.2	545
NTE5124A	9.1	150	2	150	7.5	6.9	9.2	0.22	520
NTE5125A	10	125	2	125	5	7.6	8.6	0.22	475
NTE5126A	11	125	2.5	125	5	8.4	8	0.25	430
NTE5127A	12	100	2.5	125	2	9.1	7.5	0.25	395
NTE5128A	13	100	2.5	100	1	9.9	7	0.25	365
NTE5129A	14	100	2.5	75	1	10.6	6.7	0.25	340
NTE5130A	15	75	2.5	75	1	11.5	6.3	0.25	315
NTE5131A	16	75	2.5	75	1	12.2	6	0.3	295
NTE5132A	17	70	2.5	75	0.5	12.9	5.8	0.35	280
NTE5133A	18	65	2.5	75	0.5	13.7	5.5	0.4	265
NTE5134A	19	65	3	75	0.5	14.4	5.3	0.4	250
NTE5135A	20	65	3	75	0.5	15.2	5.1	0.4	237
NTE5136A	22	50	3.5	75	0.5	16.7	4.7	0.45	216
NTE5137A	24	50	3.5	100	0.5	18.2	4.4	0.55	198
NTE5138A	25	50	4	110	0.5	19	4.3	0.55	190
NTE5139A	27	50	5	120	0.5	20.6	4.1	0.6	176
NTE5140A	28	50	6	130	0.5	21.2	3.9	0.6	170
NTE5141A	30	40	8	140	0.5	22.8	3.7	0.6	158
NTE5142A	33	40	10	150	0.5	25.1	3.5	0.6	144
NTE5143A	36	30	11	160	0.5	27.4	3.3	0.65	132
NTE5144A	39	30	14	170	0.5	29.7	3.1	0.65	122
NTE5145A	43	30	20	190	0.5	32.7	2.8	0.7	110
NTE5146A	47	25	25	210	0.5	35.8	2.7	0.8	100
NTE5147A	51	25	27	230	0.5	38.8	2.5	0.9	93
NTE5148A	56	20	35	280	0.5	42.6	2.3	1	86
NTE5149A	60	20	40	350	0.5	42.5	2.2	1.2	79
NTE5150A	62	20	42	400	0.5	47.1	2.1	1.35	76
NTE5151A	68	20	44	500	0.5	51.7	2	1.5	70
NTE5152A	75	20	45	620	0.5	56	1.9	1.6	63
NTE5153A	82	15	65	720	0.5	62.2	1.8	1.8	58
NTE5154A	87	15	75	760	0.5	66	1.7	2	54.5
NTE5155A	91	15	75	760	0.5	69.2	1.6	2.2	52.5
NTE5156A	100	12	90	800	0.5	76	1.5	2.5	47.5
NTE5157A	110	12	125	1000	0.5	83.6	1.4	2.5	43
NTE5158A	120	10	170	1150	0.5	91.2	1.3	2.5	39.5

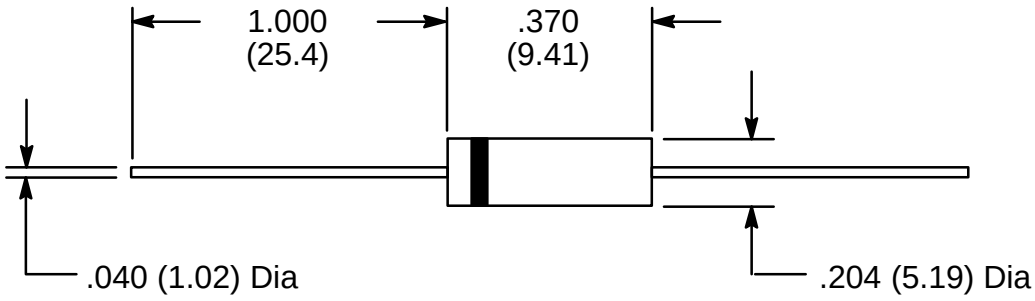
Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

	Nominal Zener Voltage V_Z @ I_{ZT} (Note 1)	Test Current I_{ZT}	Max Zener Impedance		Max Reverse Leakage Current		Max Surge Current i_r (Note 2)	Max Voltage Regulation ΔV_Z (Note 3)	Max Regulator Current I_{ZM}
			Z_{ZT} @ I_{ZT} (Note1)	Z_{ZK} @ I_{ZK} = 1mA (Note 1)	I_R	@ V_R			
	Volts	mA	Ω	Ω	μA	Volts	Amps	Volt	mA
NTE5159A	130	10	190	1250	0.5	98.8	1.2	2.5	36.6
NTE5160A	140	8	230	1500	0.5	106	1.2	2.5	34
NTE5161A	150	8	330	1500	0.5	114	1.1	3	31.6
NTE5162A	160	8	350	1650	0.5	122	1.1	3	29.4
NTE5163A	170	8	380	1750	0.5	129	1	3	28
NTE5164A	180	5	430	1750	0.5	137	1	4	26.4
NTE5165A	190	5	450	1850	0.5	144	0.9	5	25
NTE5166A	200	5	480	1850	0.5	152	0.9	5	23.6

Note 1 Test conditions for zener voltage and impedance are as follows: I_Z is applied 40 ±10ms prior to reading. Mounting contacts are located 3/8" to 1/2" from the inside edge of mounting clips to the body of the diode (T_A = +25°C +8°, –2°C).

Note 2 Surge current is specified as the maximum allowable peak, non–recurrent square–wave current with a pulse width, PW, of 8.3ms. Mounting contact located as specified in Note 1.

Note 3 Test conditions for voltage regulation are as follows: V_Z measurements are made at 10% and then at 50% of the I_Z max value listed in the "Electrical Characteristic" table. The test current time duration for each V_Z measurement is 40 ±10ms (T_A = +25°C +8°, –2°C). Mounting contact located as specified in Note 1.



Color Band Denotes Cathode