



**THE DATASHEET OF  
NTE5287A**





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

## NTE5240A thru NTE5296A 50 Watt Zener Diodes ±5% Tolerance

**Features:**

- Zener Voltage 3.9 to 200V
- Low Zener Impedance
- Highly Reliable and Rugged
- Also Available in Reverse Polarity (NTE5240AK thru NTE5296AK)

**Maximum Ratings:**

Operating Junction Temperature Range,  $T_{opr}$  ..... -65° to +175°C  
 Storage Temperature Range,  $T_{stg}$  ..... -65° to +175°C  
 DC Power Dissipation,  $P_D$  ..... 50W  
     Derate Above 75°C ..... 0.5W/°C  
 Forward Voltage ( $I_F = 10A$ ),  $V_F$  ..... 1.5V

Note 1. Suffix “A” denotes anode to case polarity, “AK” denotes cathode to case.

**Electrical Characteristics:** ( $T_C = +30°C$ , unless otherwise specified)

| NTE Type Number | Nominal Zener Voltage $V_z @ I_{zt}$ (Note 2) | Zener Test Current ( $I_{zt}$ ) | Maximum Dynamic Impedance (Note 3) |                         | Maximum DC Zener Current ( $I_{zm}$ ) | Typical Temperature Coefficient $\alpha_{vz}$ | Maximum Leakage Current $I_R @ V_R$ |       |
|-----------------|---|---------------------------------|------------------------------------|-------------------------|---------------------------------------|---|-------------------------------------|-------|
|                 |   |                                 | $Z_{zt} @ I_{zt}$                  | $Z_{zk} @ 1mA (I_{zk})$ |                                       |   | $\mu A$                             | Volts |
|                 |   |                                 | Ohms                               | Ohms                    |                                       |   | mA                                  | %/°C  |
| NTE5240A        | 3.9   | 3200                            | 0.16                               | 400                     | 11900                                 | -0.046  | 150                                 | 0.5   |
| NTE5241A        | 4.3   | 2900                            | 0.16                               | 500                     | 10650                                 | -0.033  | 150                                 | 0.5   |
| NTE5242A        | 4.7   | 2650                            | 0.12                               | 600                     | 9700                                  | -0.015  | 100                                 | 1.0   |
| NTE5243A        | 5.1   | 2450                            | 0.12                               | 650                     | 8900                                  | ±0.010  | 20                                  | 1.0   |
| NTE5244A        | 5.6   | 2250                            | 0.12                               | 900                     | 8100                                  | +0.030  | 29                                  | 1.0   |
| NTE5245A        | 6.0   | 2125                            | 0.13                               | 950                     | 7700                                  | +0.040  | 20                                  | 1.5   |
| NTE5246A        | 6.2   | 2000                            | 0.14                               | 1000                    | 7300                                  | +0.049  | 20                                  | 2.0   |
| NTE5247A        | 6.8   | 1850                            | 0.20                               | 70                      | 6600                                  | 0.040   | 300                                 | 4.5   |
| NTE5248A        | 7.5   | 1700                            | 0.30                               | 70                      | 5900                                  | 0.045   | 125                                 | 5.0   |
| NTE5249A        | 8.2   | 1500                            | 0.40                               | 70                      | 5200                                  | 0.048   | 50                                  | 5.4   |

**Electrical Characteristics (Cont'd):** ( $T_C = +30^\circ\text{C}$ , unless otherwise specified)

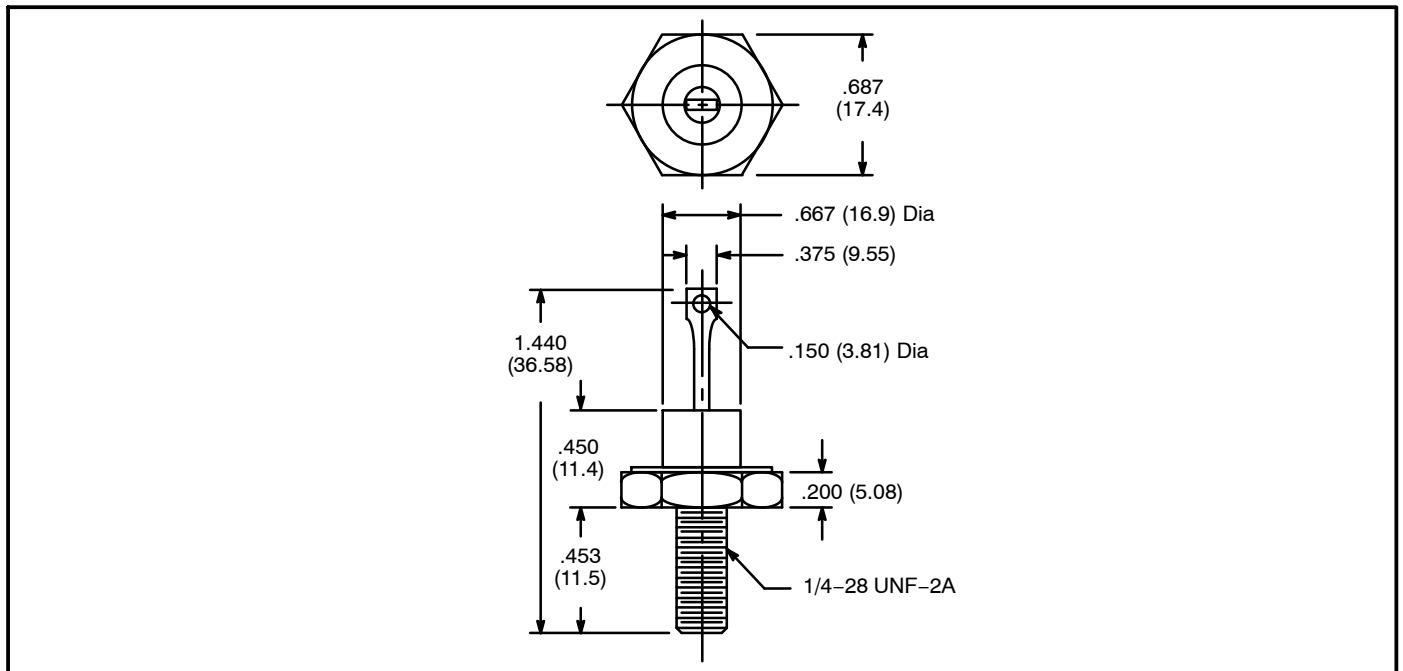
| NTE Type Number | Nominal Zener Voltage<br>$V_z @ I_{zt}$<br>(Note 2) | Zener Test Current<br>( $I_{zt}$ ) | Maximum Dynamic Impedance<br>(Note 3) |                                | Maximum DC Zener Current<br>( $I_{zm}$ ) | Typical Temperature Coefficient<br>$\alpha_{vz}$<br>%/°C | Maximum Leakage Current<br>$I_R @ V_R$ |       |
|-----------------|---|------------------------------------|---------------------------------------|--------------------------------|--|--|--|-------|
|                 |   |                                    | $Z_{zt} @ I_{zt}$                     | $Z_{zk} @ 1\text{mA} (I_{zk})$ |  |  | $\mu\text{A}$                          | Volts |
|                 |   |                                    | Ohms                                  | Ohms                           |  |  |  |       |
| NTE5250A        | 8.7   | 1435                               | 0.45                                  | 70                             | 5000                                     | 0.049  | 37                                     | 5.7   |
| NTE5251A        | 9.1   | 1370                               | 0.50                                  | 70                             | 4800                                     | 0.050  | 25                                     | 6.1   |
| NTE5252A        | 10.0  | 1200                               | 0.60                                  | 80                             | 4300                                     | 0.055  | 25                                     | 6.7   |
| NTE5253A        | 11.0  | 1100                               | 0.80                                  | 80                             | 3900                                     | 0.060  | 10                                     | 8.4   |
| NTE5254A        | 12.0  | 1000                               | 1.00                                  | 80                             | 3800                                     | 0.065  | 10                                     | 9.1   |
| NTE5255A        | 13.0  | 960                                | 1.10                                  | 80                             | 3300                                     | 0.065  | 10                                     | 9.9   |
| NTE5256A        | 14.0  | 890                                | 1.20                                  | 80                             | 3000                                     | 0.070  | 10                                     | 11.4  |
| NTE5257A        | 15.0  | 835                                | 1.40                                  | 80                             | 2825                                     | 0.070  | 10                                     | 11.8  |
| NTE5258A        | 16.0  | 780                                | 1.60                                  | 80                             | 2650                                     | 0.070  | 10                                     | 12.2  |
| NTE5259A        | 17.0  | 740                                | 1.80                                  | 80                             | 2500                                     | 0.075  | 10                                     | 13.0  |
| NTE5260A        | 18.0  | 700                                | 2.00                                  | 80                             | 2300                                     | 0.075  | 10                                     | 13.7  |
| NTE5261A        | 19.0  | 660                                | 2.20                                  | 80                             | 2200                                     | 0.075  | 10                                     | 13.7  |
| NTE5262A        | 20.0  | 630                                | 2.40                                  | 80                             | 2100                                     | 0.075  | 10                                     | 15.2  |
| NTE5263A        | 22.0  | 570                                | 2.50                                  | 80                             | 1900                                     | 0.080  | 10                                     | 16.7  |
| NTE5264A        | 24.0  | 520                                | 2.60                                  | 80                             | 1750                                     | 0.080  | 10                                     | 18.2  |
| NTE5265A        | 25.0  | 500                                | 2.70                                  | 90                             | 1550                                     | 0.080  | 10                                     | 18.2  |
| NTE5266A        | 27.0  | 460                                | 2.80                                  | 90                             | 1500                                     | 0.085  | 10                                     | 20.6  |
| NTE5267A        | 28.0  | 440                                | 2.90                                  | 90                             | 1450                                     | 0.085  | 10                                     | 21.7  |
| NTE5268A        | 30.0  | 420                                | 3.00                                  | 90                             | 1400                                     | 0.085  | 10                                     | 22.8  |
| NTE5269A        | 33.0  | 380                                | 3.20                                  | 90                             | 1300                                     | 0.085  | 10                                     | 25.1  |
| NTE5270A        | 36.0  | 350                                | 3.50                                  | 90                             | 1150                                     | 0.085  | 10                                     | 27.4  |
| NTE5271A        | 39.0  | 320                                | 4.00                                  | 90                             | 1050                                     | 0.090  | 10                                     | 29.7  |
| NTE5272A        | 43.0  | 290                                | 4.50                                  | 90                             | 975                                      | 0.090  | 10                                     | 32.7  |
| NTE5273A        | 45.0  | 280                                | 4.50                                  | 100                            | 930                                      | 0.090  | 10                                     | 32.7  |
| NTE5274A        | 47.0  | 270                                | 5.00                                  | 100                            | 880                                      | 0.090  | 10                                     | 35.8  |
| NTE5275A        | 50.0  | 250                                | 5.00                                  | 100                            | 830                                      | 0.090  | 10                                     | 38.8  |
| NTE5276A        | 51.0  | 245                                | 5.20                                  | 100                            | 810                                      | 0.090  | 10                                     | 38.8  |
| NTE5277A        | 52.0  | 240                                | 5.50                                  | 100                            | 790                                      | 0.090  | 10                                     | 42.6  |
| NTE5278A        | 56.0  | 220                                | 6.00                                  | 110                            | 740                                      | 0.090  | 10                                     | 42.6  |
| NTE5279A        | 60.0  | 210                                | 6.50                                  | 115                            | 700                                      | 0.090  | 10                                     | 44.8  |
| NTE5280A        | 62.0  | 200                                | 7.00                                  | 120                            | 660                                      | 0.090  | 10                                     | 47.1  |
| NTE5281A        | 68.0  | 180                                | 8.00                                  | 140                            | 600                                      | 0.090  | 10                                     | 51.7  |

**Electrical Characteristics (Cont'd):** ( $T_C = +30^\circ\text{C}$ , unless otherwise specified)

| NTE Type Number | Nominal Zener Voltage<br>$V_Z @ I_{ZT}$<br>(Note 2) | Zener Test Current<br>( $I_{ZT}$ ) | Maximum Dynamic Impedance<br>(Note 3) |                                | Maximum DC Zener Current<br>( $I_{ZM}$ ) | Typical Temperature Coefficient<br>$\alpha_{VZ}$ | Maximum Leakage Current<br>$I_R @ V_R$ |       |
|-----------------|---|------------------------------------|---------------------------------------|--------------------------------|--|--|--|-------|
|                 |   |                                    | $Z_{ZT} @ I_{ZT}$                     | $Z_{ZK} @ 1\text{mA} (I_{ZK})$ |  |  | $\mu\text{A}$                          | Volts |
|                 | Volts   | mA                                 | Ohms                                  | Ohms                           | mA                                       | %/ $^\circ\text{C}$                              | $\mu\text{A}$                          | Volts |
| NTE5282A        | 75.0  | 170                                | 9.00                                  | 150                            | 540                                      | 0.090  | 10                                     | 56.0  |
| NTE5283A        | 82.0  | 150                                | 11.00                                 | 160                            | 490                                      | 0.090  | 10                                     | 62.2  |
| NTE5284A        | 91.0  | 140                                | 15.00                                 | 180                            | 420                                      | 0.090  | 10                                     | 69.2  |
| NTE5285A        | 100.0   | 120                                | 20.00                                 | 200                            | 400                                      | 0.090  | 10                                     | 76.0  |
| NTE5286A        | 105.0   | 120                                | 25.00                                 | 210                            | 380                                      | 0.095  | 10                                     | 83.0  |
| NTE5287A        | 110.0   | 110                                | 30.00                                 | 220                            | 365                                      | 0.095  | 10                                     | 83.0  |
| NTE5288A        | 120.0   | 100                                | 40.00                                 | 240                            | 335                                      | 0.095  | 10                                     | 91.2  |
| NTE5289A        | 130.0   | 95                                 | 50.00                                 | 275                            | 310                                      | 0.095  | 10                                     | 99.8  |
| NTE5290A        | 140.0   | 90                                 | 60.00                                 | 325                            | 290                                      | 0.095  | 10                                     | 114.0 |
| NTE5291A        | 150.0   | 85                                 | 75.00                                 | 400                            | 270                                      | 0.095  | 10                                     | 114.0 |
| NTE5292A        | 160.0   | 80                                 | 80.00                                 | 450                            | 250                                      | 0.095  | 10                                     | 121.6 |
| NTE5293A        | 175.0   | 70                                 | 85.00                                 | 500                            | 230                                      | 0.095  | 10                                     | 121.6 |
| NTE5294A        | 180.0   | 68                                 | 90.00                                 | 525                            | 220                                      | 0.095  | 10                                     | 136.8 |
| NTE5295A        | 190.0   | 66                                 | 95.00                                 | 561                            | 210                                      | 0.098  | 10                                     | 144.4 |
| NTE5296A        | 200.0   | 65                                 | 100.00                                | 600                            | 200                                      | 0.100  | 10                                     | 152.0 |

Note 2. Zener Voltage ( $V_Z$ ) is measured with junction in thermal equilibrium with  $30^\circ\text{C}$  stud temperature.

Note 3. The zener impedance is derived from the 60 cycle A.C. voltage, which results when an AC current having an RMS value equal to 10% of the DC zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ . Zener impedance is measured at 2 points to insure a sharp knee on the breakdown curve and to eliminate unstable units.



## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View NTE5287A on WIN SOURCE](#)

 [NTE Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management