



## NTE5061A thru NTE5105A (Includes NTE134A thru NTE151A) Zener Diode, 1 Watt ±5% Tolerance

**Features:**

- Zener Voltage 110V to 200V
- Low Cost
- Low Zener Impedance
- Excellent Clamping
- Easily Cleaned with Freon, Alcohol, Chloroethene, and Similar Solvents

**Maximum Ratings and Electrical Characteristics:** ( $T_C = +25^\circ\text{C}$ , unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load, for capacitive load, derate current by 20%)

| NTE Type Number | Nominal Zener Voltage $V_z @ I_{zt}$ | Zener Test Current ( $I_{zt}$ ) | Maximum Dynamic Impedance |                   |      | Maximum Leakage Current $I_R @ V_R$ |       | Max DC Zener Current ( $I_{zm}$ ) | Max Forward Voltage $V_F @ I_F$ |     |
|-----------------|--------------------------------------|---------------------------------|---------------------------|-------------------|------|-------------------------------------|-------|-----------------------------------|---------------------------------|-----|
|                 |                                      |                                 | $Z_{zt} @ I_{zt}$         | $Z_{zk} @ I_{zk}$ |      | $\mu\text{A}$                       | Volts |                                   | Volts                           | mA  |
|                 |                                      |                                 | $\Omega$                  | $\Omega$          | mA   | $\mu\text{A}$                       | Volts |                                   |                                 |     |
| NTE5061A        | 2.4                                  | 20.0                            | 30                        | 1200              | 0.25 | 100                                 | 1.0   | –                                 | 1.1                             | 200 |
| NTE5062A        | 2.5                                  | 20.0                            | 30                        | 1250              | 0.25 | 100                                 | 1.0   | –                                 | 1.1                             | 200 |
| NTE5063A        | 2.7                                  | 20.0                            | 30                        | 1300              | 0.25 | 75                                  | 1.0   | –                                 | 1.1                             | 200 |
| NTE5064A        | 2.8                                  | 20.0                            | 30                        | 1400              | 0.25 | 75                                  | 1.0   | –                                 | 1.1                             | 200 |
| NTE5065A        | 3.0                                  | 20.0                            | 30                        | 1600              | 0.25 | 50                                  | 1.0   | –                                 | 1.1                             | 200 |
| NTE5066A        | 3.3                                  | 76.0                            | 10                        | 400               | 1.0  | 100                                 | 1.0   | –                                 | 1.2                             | 200 |
| NTE134A         | 3.6                                  | 69.0                            | 10                        | 400               | 1.0  | 100                                 | 1.0   | –                                 | 1.2                             | 200 |
| NTE5067A        | 3.9                                  | 64.0                            | 9                         | 400               | 1.0  | 50                                  | 1.0   | –                                 | 1.2                             | 200 |
| NTE5068A        | 4.3                                  | 58.0                            | 9                         | 400               | 1.0  | 10                                  | 1.0   | –                                 | 1.2                             | 200 |
| NTE5069A        | 4.7                                  | 53.0                            | 8                         | 500               | 1.0  | 10                                  | 1.0   | –                                 | 1.2                             | 200 |
| NTE135A         | 5.1                                  | 49.0                            | 7                         | 550               | 1.0  | 10                                  | 1.0   | –                                 | 1.2                             | 200 |
| NTE136A         | 5.6                                  | 45.0                            | 5                         | 600               | 1.0  | 10                                  | 2.0   | –                                 | 1.2                             | 200 |
| NTE5070A        | 6.0                                  | 43.0                            | 3.5                       | 650               | 1.0  | 10                                  | 2.5   | –                                 | 1.2                             | 200 |
| NTE137A         | 6.2                                  | 41.0                            | 2                         | 700               | 1.0  | 10                                  | 3.0   | –                                 | 1.2                             | 200 |
| NTE5071A        | 6.8                                  | 37.0                            | 3.5                       | 700               | 1.0  | 10                                  | 4.0   | –                                 | 1.2                             | 200 |
| NTE138A         | 7.5                                  | 34.0                            | 4.0                       | 700               | 0.5  | 10                                  | 5.0   | –                                 | 1.2                             | 200 |
| NTE5072A        | 8.2                                  | 31.0                            | 4.5                       | 700               | 0.5  | 10                                  | 6.0   | –                                 | 1.2                             | 200 |

**Maximum Ratings and Electrical Characteristics (Cont'd):** ( $T_C = +25^\circ\text{C}$ , unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load, for capacitive load, derate current by 20%)

| NTE Type Number | Nominal Zener Voltage $V_z @ I_{zt}$ | Zener Test Current ( $I_{zt}$ ) | Maximum Dynamic Impedance |                   |      | Maximum Leakage Current $I_R @ V_R$ |       | Max DC Zener Current ( $I_{zm}$ ) | Max Forward Voltage $V_F @ I_F$ |     |
|-----------------|--------------------------------------|---------------------------------|---------------------------|-------------------|------|-------------------------------------|-------|-----------------------------------|---------------------------------|-----|
|                 |                                      |                                 | $Z_{zt} @ I_{zt}$         | $Z_{zk} @ I_{zk}$ |      | $\mu\text{A}$                       | Volts |                                   | Volts                           | mA  |
|                 | Volts                                | mA                              | $\Omega$                  | $\Omega$          | mA   | $\mu\text{A}$                       | Volts | mA                                | Volts                           | mA  |
| NTE5073A        | 8.7                                  | 29.5                            | 4.75                      | 700               | 0.5  | 10                                  | 6.5   | –                                 | 1.2                             | 200 |
| NTE139A         | 9.1                                  | 28.0                            | 5.0                       | 700               | 0.5  | 10                                  | 7.0   | –                                 | 1.2                             | 200 |
| NTE140A         | 10.0                                 | 25.0                            | 7.0                       | 700               | 0.25 | 10                                  | 7.6   | –                                 | 1.2                             | 200 |
| NTE5074A        | 11.0                                 | 23.0                            | 8.0                       | 700               | 0.25 | 5                                   | 8.4   | –                                 | 1.2                             | 200 |
| NTE141A         | 11.5                                 | 22.0                            | 8.5                       | 700               | 0.25 | 5                                   | 8.7   | –                                 | 1.2                             | 200 |
| NTE142A         | 12.0                                 | 21.0                            | 9.0                       | 700               | 0.25 | 5                                   | 9.1   | –                                 | 1.2                             | 200 |
| NTE143A         | 13                                   | 19.0                            | 10                        | 700               | 0.25 | 5                                   | 9.9   | –                                 | 1.2                             | 200 |
| NTE144A         | 14                                   | 18.0                            | 12                        | 700               | 0.25 | 5                                   | 10.7  | –                                 | 1.2                             | 200 |
| NTE145A         | 15                                   | 17.0                            | 14                        | 700               | 0.25 | 5                                   | 11.4  | –                                 | 1.2                             | 200 |
| NTE5075A        | 16                                   | 15.5                            | 16                        | 700               | 0.25 | 5                                   | 12.2  | –                                 | 1.2                             | 200 |
| NTE5076A        | 17                                   | 14.75                           | 18                        | 725               | 0.25 | 5                                   | 13.0  | –                                 | 1.2                             | 200 |
| NTE5077A        | 18                                   | 14.0                            | 20                        | 750               | 0.25 | 5                                   | 13.7  | –                                 | 1.2                             | 200 |
| NTE5078A        | 19                                   | 13.25                           | 21                        | 750               | 0.25 | 5                                   | 14.5  | –                                 | 1.2                             | 200 |
| NTE5079A        | 20                                   | 12.5                            | 22                        | 750               | 0.25 | 5                                   | 15.2  | –                                 | 1.2                             | 200 |
| NTE5080A        | 22                                   | 11.5                            | 23                        | 750               | 0.25 | 5                                   | 16.7  | –                                 | 1.2                             | 200 |
| NTE5081A        | 24                                   | 10.5                            | 25                        | 750               | 0.25 | 5                                   | 18.2  | –                                 | 1.2                             | 200 |
| NTE5082A        | 25                                   | 10.0                            | 30                        | 750               | 0.25 | 5                                   | 19.4  | –                                 | 1.2                             | 200 |
| NTE146A         | 27                                   | 9.5                             | 35                        | 750               | 0.25 | 5                                   | 20.6  | –                                 | 1.2                             | 200 |
| NTE5083A        | 28                                   | 9.0                             | 37                        | 775               | 0.25 | 5                                   | 21.7  | –                                 | 1.2                             | 200 |
| NTE5084A        | 30                                   | 8.5                             | 40                        | 1000              | 0.25 | 5                                   | 22.8  | –                                 | 1.2                             | 200 |
| NTE147A         | 33                                   | 7.5                             | 45                        | 1000              | 0.25 | 5                                   | 25.1  | –                                 | 1.2                             | 200 |
| NTE5085A        | 36                                   | 7.0                             | 50                        | 1000              | 0.25 | 5                                   | 27.4  | –                                 | 1.2                             | 200 |
| NTE5086A        | 39                                   | 6.5                             | 60                        | 1000              | 0.25 | 5                                   | 29.7  | –                                 | 1.2                             | 200 |
| NTE5087A        | 43                                   | 6.0                             | 70                        | 1500              | 0.25 | 5                                   | 32.7  | –                                 | 1.2                             | 200 |
| NTE5088A        | 47                                   | 5.5                             | 80                        | 1500              | 0.25 | 5                                   | 35.8  | –                                 | 1.2                             | 200 |
| NTE5089A        | 51                                   | 5.0                             | 95                        | 1500              | 0.25 | 5                                   | 38.8  | –                                 | 1.2                             | 200 |
| NTE148A         | 55                                   | 4.75                            | 103                       | 1750              | 0.25 | 5                                   | 40.7  | –                                 | 1.2                             | 200 |
| NTE5090A        | 56                                   | 4.5                             | 110                       | 2000              | 0.25 | 5                                   | 42.6  | –                                 | 1.2                             | 200 |
| NTE5091A        | 60                                   | 4.75                            | 118                       | 2000              | 0.25 | 5                                   | 44.9  | –                                 | 1.2                             | 200 |
| NTE149A         | 62                                   | 4.0                             | 125                       | 2000              | 0.25 | 5                                   | 47.1  | –                                 | 1.2                             | 200 |
| NTE5092A        | 68                                   | 3.7                             | 150                       | 2000              | 0.25 | 5                                   | 51.7  | –                                 | 1.2                             | 200 |
| NTE5093A        | 75                                   | 3.3                             | 175                       | 2000              | 0.25 | 5                                   | 56.0  | –                                 | 1.2                             | 200 |
| NTE150A         | 82                                   | 3.0                             | 200                       | 3000              | 0.25 | 5                                   | 62.2  | –                                 | 1.2                             | 200 |

**Maximum Ratings and Electrical Characteristics (Cont'd):** ( $T_C = +25^\circ\text{C}$ , unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load, for capacitive load, derate current by 20%)

| NTE Type Number | Nominal Zener Voltage $V_Z @ I_{ZT}$ | Zener Test Current ( $I_{ZT}$ ) | Maximum Dynamic Impedance |                   |      | Maximum Leakage Current $I_R @ V_R$ |       | Max DC Zener Current ( $I_{ZM}$ ) | Max Forward Voltage $V_F @ I_F$ |     |
|-----------------|--------------------------------------|---------------------------------|---------------------------|-------------------|------|-------------------------------------|-------|-----------------------------------|---------------------------------|-----|
|                 |                                      |                                 | $Z_{ZT} @ I_{ZT}$         | $Z_{ZK} @ I_{ZK}$ |      | $\mu\text{A}$                       | Volts |                                   | Volts                           | mA  |
|                 | Volts                                | mA                              | $\Omega$                  | $\Omega$          | mA   | $\mu\text{A}$                       | Volts | mA                                | Volts                           | mA  |
| NTE5094A        | 87                                   | 2.9                             | 225                       | 3000              | 0.25 | 5                                   | 65.7  | –                                 | 1.2                             | 200 |
| NTE5095A        | 91                                   | 2.8                             | 250                       | 3000              | 0.25 | 5                                   | 69.2  | –                                 | 1.2                             | 200 |
| NTE5096A        | 100                                  | 2.5                             | 350                       | 3000              | 0.25 | 5                                   | 76.0  | –                                 | 1.2                             | 200 |
| NTE151A         | 110                                  | 2.3                             | 600                       | 5000              | 0.25 | 0.5                                 | 80    | 9.1                               | 1.0                             | 1A  |
| NTE5097A        | 120                                  | 2.1                             | 700                       | 5000              | 0.25 | 0.5                                 | 90    | 8.3                               | 1.0                             | 1A  |
| NTE5098A        | 130                                  | 1.9                             | 800                       | 5000              | 0.25 | 0.5                                 | 95    | 7.7                               | 1.0                             | 1A  |
| NTE5099A        | 140                                  | 1.8                             | 900                       | 5000              | 0.25 | 0.5                                 | 105   | 7.1                               | 1.0                             | 1A  |
| NTE5100A        | 150                                  | 1.7                             | 1000                      | 5000              | 0.25 | 0.5                                 | 110   | 6.6                               | 1.0                             | 1A  |
| NTE5101A        | 160                                  | 1.6                             | 1100                      | 5000              | 0.25 | 0.5                                 | 120   | 6.3                               | 1.0                             | 1A  |
| NTE5102A        | 170                                  | 1.5                             | 1200                      | 5000              | 0.25 | 0.5                                 | 130   | 5.9                               | 1.0                             | 1A  |
| NTE5103A        | 180                                  | 1.4                             | 1300                      | 5000              | 0.25 | 0.5                                 | 140   | 5.6                               | 1.0                             | 1A  |
| NTE5104A        | 190                                  | 1.3                             | 1400                      | 5000              | 0.25 | 0.5                                 | 150   | 5.3                               | 1.0                             | 1A  |
| NTE5105A        | 200                                  | 1.3                             | 1500                      | 5000              | 0.25 | 0.5                                 | 160   | 5.0                               | 1.0                             | 1A  |

