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## NTE4900 Surge Clamping, Overvoltage Transient Suppressor, Unidirectional

**Description:**

The NTE4900 is a zener overvoltage transient suppressor in an axial lead type package designed to protect voltage sensitive components from high voltage, high energy transients. This device has excellent clamping capability, high surge capability, low zener impedance, and fast response time making the NTE4900 ideal for use in communication systems, numerical controls, process controls, medical equipment, business machines, power supplies and many other industrial/consumer applications, to protect CMOS, MOS and Bipolar integrated circuits.

**Features:**

- Peak Power: 1500W @ 1.0ms
- Maximum Clamp Voltage @ Peak Pulse Current
- Low Leakage: < 5.0µA Above 10V

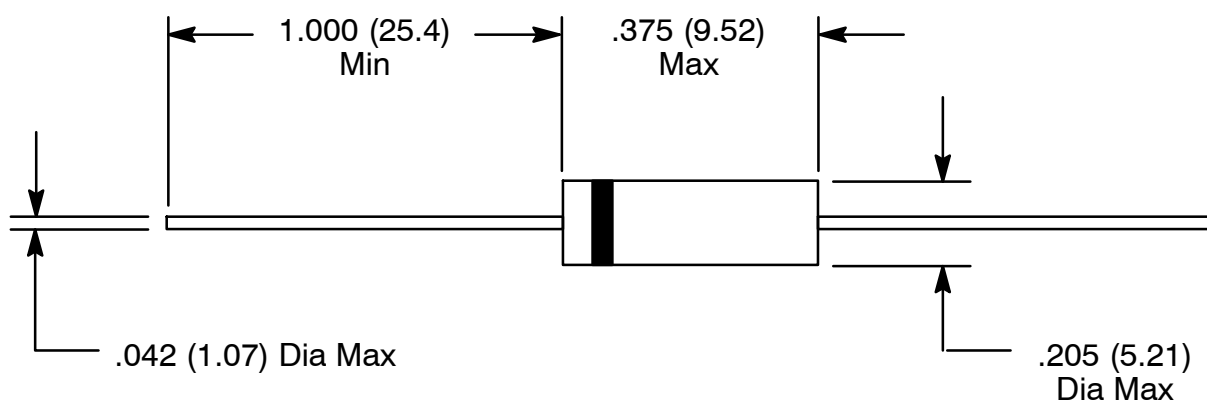
**Absolute Maximum Ratings:**

Peak Power Dissipation (Non-Repetitive Current Pulse,  $T_L \leq +25^\circ\text{C}$ ),  $P_{PK}$  ..... 1500W  
 Steady State Power Dissipation ( $T_L \leq +75^\circ\text{C}$ , Lead length = 3/8"),  $P_D$  ..... 5W  
 Derate Above  $T_L = +75^\circ\text{C}$  ..... 50mW/ $^\circ\text{C}$   
 Forward Current ( $T_A = +25^\circ\text{C}$ , Note 1),  $I_{FSM}$  ..... 200A  
 Operating Junction Temperature Range,  $T_J$  .....  $-65^\circ$  to  $+175^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-65^\circ$  to  $+175^\circ\text{C}$   
 Lead Temperature (During Soldering, 1/16" from case, 10sec),  $T_L$  .....  $+230^\circ\text{C}$   
 Note 1. 1/2 Square Wave (or equivalent), PW = 8.3ms, Duty Cycle = 4 Pulses per minute maximum.

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_F = 3.5\text{V Max}$ ,  $I_F(\text{Note 1}) = 100\text{A}$  unless otherwise specified)

| Parameter                          | Symbol    | Test Conditions         | Min | Typ | Max | Unit          |
|------------------------------------|-----------|-------------------------|-----|-----|-----|---------------|
| Breakdown Voltage                  | $V_{BR}$  | $I_T = 1\text{mA}$      | 6   | -   | -   | V             |
| Reverse Stand-Off Voltage          | $V_{RWM}$ | Note 2                  | -   | -   | 5   | V             |
| Reverse Leakage Current            | $I_R$     | $V_{RWM} = 5\text{V}$   | -   | -   | 300 | $\mu\text{A}$ |
| Reverse Voltage (Clamping Voltage) | $V_{RSM}$ | $I_{RSM} = 120\text{A}$ | -   | -   | 8.5 | V             |
| Clamping Voltage                   | $V_C$     | $I_{PP} = 30\text{A}$   | -   | -   | 7.6 | V             |
|                                    |           | $I_{PP} = 60\text{A}$   | -   | -   | 8.0 | V             |

Note 1. 1/2 Square Wave (or equivalent), PW = 8.3ms, Duty Cycle = 4 Pulses per minute maximum.  
 Note 2. A Transient Suppressor is normally selected according to the maximum reverse stand-off voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



Color Band Denotes Cathode  
**(Unidirectional ONLY. Bidirectional devices  
have NO band.)**