

NTE109 Germanium Diode Fast Switching General Purpose

Description:

The NTE109 is a high conductance device with good switching characteristics for low impedance circuits, high resistance-high conductance for efficient coupling, clamping and matrix service, and forward and inverse pulse recovery for critical pulse applications.

Absolute Maximum Ratings: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

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|---|-------|
| Continuous Inverse Operating Voltage (Note 1), V_{cont} | 80V |
| Continuous Average Forward Current, I_F | 60mA |
| Peak Recurrent Forward Current (Note 2) | 325mA |
| Forward Surge Current (1 sec), I_{FSM} | 500mA |

Electrical Characteristics:

| | |
|---|-------------------|
| Peak Reverse Voltage, P_{RV} | 100V |
| Forward Voltage Drop ($I_F = 200\text{mA}$), V_F | 1.0V |
| Maximum Reverse Leakage ($V_R = 50\text{V}$), I_R | 100 μA |

Additional Specifications:

| | |
|--|-------------------------------------|
| Ambient Temperature Range, T_A | -78° to $+90^\circ\text{C}$ |
| Absolute Maximum Storage Temperature Range, T_{stg} | -78° to $+100^\circ\text{C}$ |
| Average Power Dissipation ($T_A = +25^\circ\text{C}$), P_D | 80mW |
| Derate Above 25°C | 10mW/ 10°C |
| Average Shunt Capacitance | 0.5 μfd |
| Average 100mc Rect. Efficient | 55% |

Note 1 The continuous inverse operating voltage rating, V_{cont} must be reduced when the diode is operated at elevated junction temperature. The percent derating of V_{cont} for each 10°C temperature increment above 25°C is equal to $V_{cont}/10$. For critical high temperature-high voltage applications, is recommended that diodes be 100% tested and specified at the elevated temperature.

Note 2 The peak operating current is generally the controlling factor in AC rectifier service and may be exceeded for pulses of less than 200 μs duration.

