



ELECTRONICS, INC.

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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)

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 $V_{\text{cont}}/10$. 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.

