



ELECTRONICS, INC.

44 FARRAND STREET  
BLOOMFIELD, NJ 07003  
(973) 748-5089

http://www.nteinc.com

## 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), $V_{\text{cont}}$ .....	80V
Continuous Average Forward Current, $I_F$ .....	60mA
Peak Recurrent Forward Current (Note 2) .....	325mA
Forward Surge Current (1 sec), $I_{\text{FSM}}$ .....	500mA

### Electrical Characteristics:

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

### Additional Specifications:

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

Note 1 The continuous inverse operating voltage rating,  $V_{\text{cont}}$  must be reduced when the diode is operated at elevated junction temperature. The percent derating of  $V_{\text{cont}}$  for each  $10^\circ\text{C}$  temperature increment above  $25^\circ\text{C}$  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 $\mu\text{s}$  duration.

