

## NTE589 Silicon Rectifier General Purpose, Fast Recovery

**Features:**

- High Surge Current Capability
- High Current Operation
- Fast Switching for High Efficiency

**Maximum Ratings and Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ , Note 1 unless otherwise specified)

Maximum Recurrent Peak Reverse Voltage, $V_{RRM}$ .....	400V
Maximum RMS Voltage, $V_{RMS}$ .....	280V
Maximum DC Blocking Voltage, $V_{DC}$ .....	400V
Maximum Average Forward Rectified Current ( $T_A = +55^\circ\text{C}$ , .375" lead length), $I_{F(AV)}$ .....	6A
Peak Forward Surge Current, $I_{FSM}$ (8.3ms single half sine-wave superimposed on rated load) .....	300A
Maximum Instantaneous Forward Voltage ( $I_F = 6\text{A}$ ), $V_F$ .....	1.3V
Maximum DC Reverse Current ( $V_{DC} = 400\text{V}$ ), $I_R$	
$T_A = +25^\circ\text{C}$ .....	10 $\mu\text{A}$
$T_A = +100^\circ\text{C}$ .....	1.0mA
Maximum Reverse Recovery Time ( $T_J = +25^\circ\text{C}$ , Note 2), $t_{rr}$ .....	150ns
Typical Junction Capacitance ( $T_J = +25^\circ\text{C}$ , Note 3), $C_J$ .....	300pF
Typical Thermal Resistance, Junction-to-Ambient (Note 4), $R_{thJA}$ .....	10 $^\circ\text{C/W}$
Operating Junction Temperature Range, $T_J$ .....	-50 $^\circ$ to +125 $^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	-50 $^\circ$ to +150 $^\circ\text{C}$

- Note 1. Resistive or inductive load. For capacitive load, derate current by 20%.  
 Note 2. Reverse Recovery Test Conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$ .  
 Note 3. Measured at 1MHz and applied reverse voltage of 4 volts.  
 Note 4. Thermal Resistance from Junction to Ambient at .375" (9.5mm) lead lengths, with both leads to heat sink.

