

## NTE507 Silicon Rectifier Diode

**Description:**

The NTE507 is a silicon rectifier diode designed for special applications such as DC power supplies, inverters, converters, ultrasonic systems, choppers, low RF interference and free wheeling diodes. This device has a typical recovery time of 150 nanoseconds providing high efficiency at frequencies to 250kHz.

**Absolute Maximum Ratings:**

Peak Repetitive Reverse Voltage, $V_{RRM}$ .....	50V
Working Peak Reverse Voltage, $V_{RWM}$ .....	50V
DC Blocking Voltage .....	50V
Non-Repetitive Peak Reverse Voltage, $V_{RSM}$ .....	75V
RMS Reverse Voltage, $V_{R(RMS)}$ .....	35V
Average Rectified Forward Current (Single Phase, Resistive Load, $T_A = +75^\circ\text{C}$ ), $I_O$ .....	1.0A
Nonrepetitive Peak Surge Current (Surge Applied at Rated Load Conditions), $I_{FSM}$ .....	30A
Operating Junction Temperature Range, $T_J$ .....	$-65^\circ$ to $+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-65^\circ$ to $+175^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient (Typical PC Board Mounting), $R_{thJA}$ .....	$65^\circ\text{C/W}$

**Electrical Characteristics:**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Instantaneous Forward Voltage	$V_F$	$I_F = 3.14\text{A}$ , $T_J = +150^\circ\text{C}$	–	1.0	1.2	V
Forward Voltage	$V_F$	$I_F = 1\text{A}$ , $T_A = +25^\circ\text{C}$	–	1.0	1.2	V
Reverse Current	$I_R$	$V_R = 50\text{V}$ , $T_A = +25^\circ\text{C}$	–	1.0	5.0	$\mu\text{A}$
		$V_R = 50\text{V}$ , $T_A = +100^\circ\text{C}$	–	50	100	$\mu\text{A}$
Reverse Recovery Time	$t_{rr}$	$I_F = 1\text{A}$ to $V_R = 30\text{V}$ , $I_{FM} = 15\text{A}$ , $di/dt = 10\text{A}/\mu\text{s}$	–	150	200	ns
Reverse Recovery Current	$I_{RM(REC)}$	$I_F = 1\text{A}$ to $V_R = 30\text{V}$	–	1.0	2.0	A

