

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° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+175^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient (Typical PC Board Mounting), R_{thJA}	65°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	μA
		$V_R = 50\text{V}$, $T_A = +100^\circ\text{C}$	–	50	100	μA
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

