



NTE592

Silicon Diode, General Purpose, High Voltage

Description:

The NTE592 is a silicon epitaxial high-speed diode in an SOT-23 type surface mount package. This device is intended for switching and general purposes applications.

Absolute Maximum Ratings:

Continuous Reverse Voltage, V_R	200V
Repetitive Peak Reverse Voltage, V_{RRM}	250V
Non-Repetitive Peak Forward Current ($t = 1s$), I_{FSM}	500mA
Average Rectified Forward Current (Average over any 20ms period, Note 1), $I_{F(AV)}$	200mA
DC Forward Current ($T_A \leq +25^\circ C$, Note 2), I_F	200mA
Repetitive Peak Forward Current, I_{FRM}	625mA
Total Power Dissipation ($T_A \leq +25^\circ C$), P_{tot}	200mW
Operating Junction Temperature, T_J	+150°C
Storage Temperature Range, T_{stg}	-65° to +150°C
Thermal Resistance, Junction-to-Ambient (Note 2), R_{thJA}	430K/W
Thermal Resistance, Tab-to-Soldering Points, R_{thTS}	280K/W
Thermal Resistance, Soldering Points-to-Ambient, R_{thSA}	90K/W

Note 1. Measured under pulse conditions: Pulse Time = $t_p \leq 0.3ms$.

Note 2. Mounted on a ceramic substrate of .314 (8mm) x .393 (10mm) x .027 (0.7mm).

Electrical Characteristics: ($T_J = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F = 100mA$	—	—	1.00	V
		$I_F = 200mA$	—	—	1.25	V
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu A$, Note 1 & 3	250	—	—	V
Reverse Current	I_R	$V_R = 200V$	—	—	100	nA
		$V_R = 200V$, $T_J = +150^\circ C$	—	—	100	μA
Differential Resistance	r_{diff}	$I_F = 10mA$	—	5	—	Ω
Diode Capacitance	C_d	$V_R = 0$, $f = 1MHz$	—	—	5	pF
Reverse Recovery Time (When switched from $I_F = 30mA$ to $I_R = 30mA$)	t_{rr}	measured at $I_R = 3mA$, $R_L = 100\Omega$	—	—	50	ns

Note 1. Measured under pulse conditions: Pulse Time = $t_p \leq 0.3ms$.

Note 3. At zero life time, measured under pulse conditions to avoid excessive dissipation and voltage limited to 275V.

