

## NTE519 Silicon Rectifier Diode Ultra Fast Switch

**Absolute Maximum Ratings:**

Repetitive Peak Reverse Voltage, $V_{RRM}$ .....	100V
Reverse Voltage, $V_R$ .....	75V
Surge Forward Current ( $t_p = 1\mu s$ ), $I_{FSM}$ .....	2A
Repetitive Peak Forward Current, $I_{FRM}$ .....	500mA
Forward Current, $I_F$ .....	300mA
Average Forward Current ( $V_R = 0$ ), $I_{FAV}$ .....	150mA
Power Dissipation ( $l = 4mm$ ), $P_V$	
$T_L = +45^\circ C$ .....	440mW
$T_L \leq +25^\circ C$ .....	500mW
Junction Temperature, $T_J$ .....	+200°C
Storage Temperature Range, $T_{stg}$ .....	-65° to +200°C
Junction to Ambient ( $l = 4mm$ , $T_L = \text{constant}$ ), $R_{thJA}$ .....	350K/W

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage Drop	$V_F$	$I_F = 10mA$	-	-	1	V
Reverse Current	$I_R$	$V_R = 20V$	-	-	25	nA
		$V_R = 20V, T_J = +150^\circ C$	-	-	50	$\mu A$
		$V_R = 75V$	-	-	5	$\mu A$
Breakdown Voltage	$V_{(BR)}$	$I_R = 100\mu A$ , Note 1	100	-	-	V
Diode Capacitance	$C_D$	$V_R = 0, f = 1MHz, V_{HF} = 50mV$	-	-	4	pF
Rectification Efficiency	$\eta_r$	$V_{HF} = 2V, f = 100MHz$	45	-	-	%
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10mA, i_R = 1mA$	-	-	8	ns
		$I_F = 10mA, V_R = 6V, i_R = 0.1 \cdot I_R, R_L = 100\Omega$	-	-	4	nS

Note 1.  $\frac{t_p}{T} = 0.01, t_p = 0.3ms$

