

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	μA
		$V_R = 75V$	—	—	5	μA
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	η_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. $\frac{t_p}{T} = 0.01$, $t_p = 0.3ms$

