



ELECTRONICS, INC.
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NTE490 MOSFET N-Ch, Enhancement Mode High Speed Switch

Absolute Maximum Ratings:

Drain-Source Voltage, V_{DS}	60V
Gate-Source Voltage, V_{GS}	$\pm 20V$
Drain Current (Note 1), I_D	500mA
Total Device Dissipation ($T_A = +25^\circ C$), P_D	350mW
Operating Junction Temperature Range, T_J	-55° to $+150^\circ C$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ C$

Note 1. The Power Dissipation of the package may result in a lower continuous drain current.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0, I_D = 100\mu A$	60	90	—	V
Gate Reverse Current	I_{GSS}	$V_{GS} = 15V, V_{DS} = 0$	—	0.01	10	nA
ON Characteristics (Note 2)						
Gate Threshold Voltage	$V_{GS(Th)}$	$V_{DS} = V_{GS}, I_D = 1mA$	0.8	2.0	3.0	V
Static Drain-Source ON Resistance	$r_{DS(on)}$	$V_{GS} = 10V, I_D = 200mA$	—	1.8	5.0	Ω
Drain Cutoff Current	$I_{D(off)}$	$V_{DS} = 25V, V_{GS} = 0$	—	—	0.5	μA
Forward Transconductance	g_{fs}	$V_{DS} = 10V, I_D = 250mA$	—	200	—	mmhos
Small-Signal Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$	—	—	60	pF
Switching Characteristics						
Turn-On Time	t_{on}	$I_D = 200mA$	—	4	10	ns
Turn-Off Time	t_{off}	$I_D = 200mA$	—	4	10	ns

Note 2. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.

