

NTE492 MOSFET N–Ch, Enhancement Mode High Speed Switch

Absolute Maximum Ratings:

Drain–Source Voltage, V_{DS}	200V
Gate–Source Voltage, V_{GS}	$\pm 20V$
Drain Current, I_D	
Continuous (Note 1)	250mA
Pulsed (Note 2)	500mA
Total Device Dissipation ($T_A = +25^\circ C$), P_D	350mW
Derate above $25^\circ C$	2.8mW/ $^\circ C$
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.

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

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Zero–Gate–Voltage Drain Current	I _{DSS}	V _{DS} = 130V, V _{GS} = 0	–	–	30	nA
Drain–Source Breakdown Voltage	V _{(BR)DSX}	V _{GS} = 0, I _D = 100μA	200	–	–	V
Gate Reverse Current	I _{GSS}	V _{GS} = 15V, V _{DS} = 0	–	0.01	10.0	nA
ON Characteristics (Note 2)						
Gate Threshold Voltage	V _{GS(Th)}	I _D = 1mA, V _{DS} = V _{GS}	1.0	–	3.0	V
Static Drain–Source ON Resist- ance	r _{DS(on)}	V _{GS} = 10V, I _D = 100mA	–	4.5	6.0	Ω
		V _{GS} = 10V, I _D = 250mA	–	4.8	6.4	Ω
Small–Signal Characteristics						
Input Capacitance	C _{iss}	V _{DS} = 25V, V _{GS} = 0, f = 1MHz	–	60	–	pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} = 25V, V _{GS} = 0, f = 1MHz	–	6.0	–	pF
Output Capacitance	C _{oss}	V _{DS} = 25V, V _{GS} = 0, f = 1MHz	–	30	–	pF
Forward Transconductance	g _{fs}	V _{DS} = 25V, I _D = 250mA	200	400	–	mmhos

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

Electrical Characteristics (Cont'd): ($T_A = +25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Switching Characteristics						
Turn-On Time	t_{on}		–	6.0	15.0	ns
Turn-Off Time	t_{off}		–	12	15	ns

