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## NTE492 MOSFET N-Ch, Enhancement Mode High Speed Switch TO92 Type Package

**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, $T_J$ .....	$-55^\circ$ to $+150^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ 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  $\leq 2\%$ .

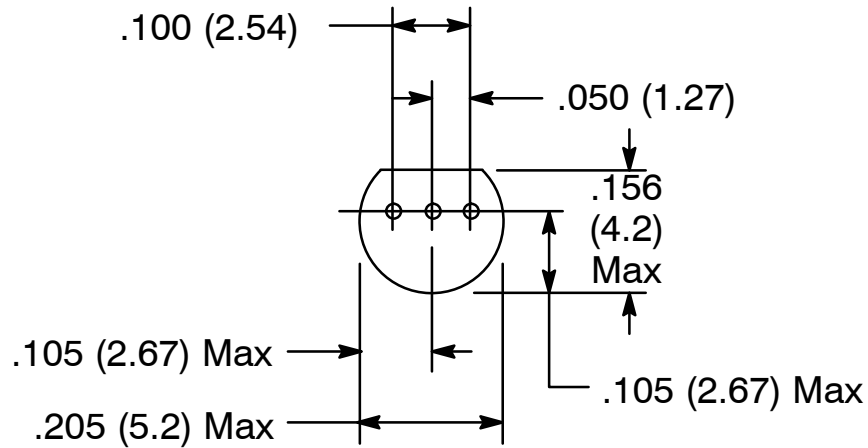
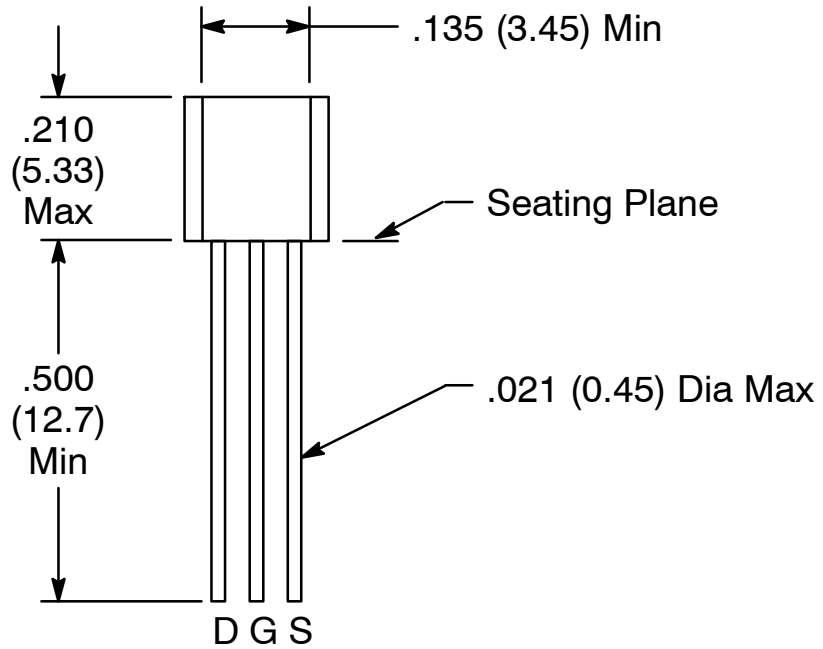
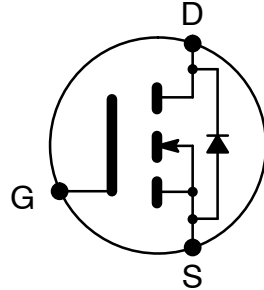
**Electrical Characteristics:** ( $T_A = +25^\circ C$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF Characteristics</b>						
Zero-Gate-Voltage Drain Current	$I_{DSS}$	$V_{DS} = 130V, V_{GS} = 0$	-	-	30	nA
Drain-Source Breakdown Voltage	$V_{(BR)DSX}$	$V_{GS} = 0, I_D = 100\mu A$	200	-	-	V
Gate Reverse Current	$I_{GSS}$	$V_{GS} = 15V, V_{DS} = 0$	-	0.01	10.0	nA
<b>ON Characteristics (Note 2)</b>						
Gate Threshold Voltage	$V_{GS(Th)}$	$I_D = 1mA, V_{DS} = V_{GS}$	1.0	-	3.0	V
Static Drain-Source ON Resistance	$r_{DS(on)}$	$V_{GS} = 10V, I_D = 100mA$	-	4.5	6.0	$\pm$
		$V_{GS} = 10V, I_D = 250mA$	-	4.8	6.4	$\pm$
<b>Small-Signal Characteristics</b>						
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
<b>Switching Characteristics</b>						
Turn-On Time	$t_{on}$		-	6.0	15.0	ns
Turn-Off Time	$t_{off}$		-	12	15	ns



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