



ELECTRONICS, INC.
 44 FARRAND STREET
 BLOOMFIELD, NJ 07003
 (973) 748-5089
<http://www.nteinc.com>

NTE2387 MOSFET N-Channel Enhancement Mode, High Speed Switch TO220 Type Package

Absolute Maximum Ratings:

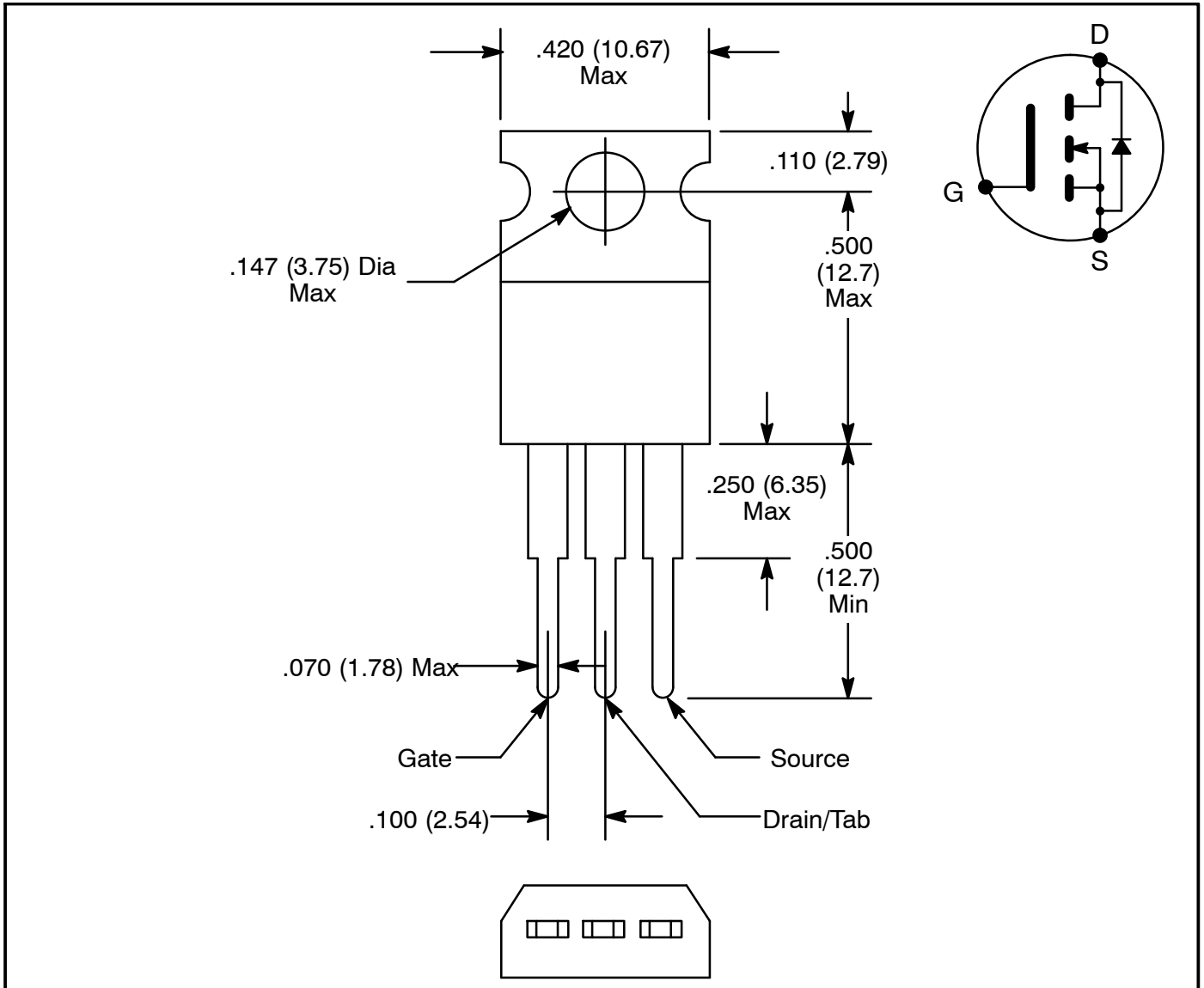
Drain-Source Voltage, V_{DS}	800V
Drain-Gate Voltage ($R_{GS} = 20k\pm$), V_{DGR}	800V
Gate-Source Voltage, V_{GS}	$\pm 30V$
Pulsed Drain Current, I_{DM}	16A
Continuous Drain Current, I_D	
$T_C = +25^\circ C$	4.0A
$T_C = +100^\circ C$	2.5A
Total Dissipation ($T_C = +25^\circ C$), P_{tot}	125W
Operating Junction Temperature, T_J	$+150^\circ C$
Storage Temperature Range, T_{stg}	-55° to $+150^\circ C$
Maximum Thermal Resistance, Junction-to-Case, R_{thJC}	$1.0^\circ C/W$
Typical Thermal Resistance, Junction-to-Ambient, R_{thJA}	$60^\circ C/W$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 250^\circ A, V_{GS} = 0$	800	-	-	V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{GS} = 0, V_{DS} = 800V, T_C = +25^\circ C$	-	2	20	$^\circ A$
		$V_{GS} = 0, V_{DS} = 800V, T_C = +125^\circ C$	-	0.1	1.0	mA
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0, V_{GS} = \pm 30V$	-	10	100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 1mA$	2.1	3.0	4.0	V
Static Drain-Source On Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 1.5A$	-	2.7	3.0	\pm
Dynamic Characteristics						
Forward Transconductance	g_{fs}	$V_{DS} = 25V, I_D = 1.5A$	3.0	4.3	-	mho
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0, f = 1MHz$	-	1000	1250	pf
Output Capacitance	C_{oss}		-	80	120	pf
Reverse Transfer Capacitance	C_{rss}		-	30	50	pf
Turn-On Time	$t_{d(on)}$		$V_{DD} = 30V, I_D = 2.3A, V_{GS} = 10V,$ $R_{GS} = 50\pm, R_{gen} = 50\pm$	-	10	25
Rise Time	t_r	-		25	40	ns
Turn-Off Delay Time	$t_{d(off)}$	-		130	150	ns
Fall Time	t_f	-		40	60	ns

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Dynamic Characteristics (Cont'd)						
Internal Drain Inductance	L_D	Measured from contact screw on tab to center of die	-	3.5	-	nH
		Measured from drain lead 6mm from package to center of die	-	4.5	-	nH
Internal Source Inductance	L_S	Measured from the source lead 6mm from package to source bonding pad	-	7.5	-	nH
Source-Drain Diode Ratings and Characteristics						
Continuous Reverse Drain Current	I_{DR}		-	-	4	A
Pulsed Reverse Drain Current	I_{DRM}		-	-	16	A
Diode Forward Voltage	V_{SD}	$I_F = 4\text{A}, V_{GS} = 0$	-	1.0	1.3	V
Reverse Recovery Time	t_{rr}	$I_F = 4\text{A}, di_F/dt = 100\text{A}/^\circ\text{s}, V_{GS} = 0,$	-	1800	-	ns
Reverse Recovered Charge	Q_{rr}	$V_R = 100\text{V}$	-	12	-	$^\circ\text{C}$



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