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## NTE2914 MOSFET N-Channel, Enhancement Mode High Speed Switch TO220FM Type Package

**Features:**

- Low On-Resistance:  $R_{DS} = 0.026\Omega$  Typ.
- High Speed Switching
- 4V Gate Drive Device can be Driven from 5V Source

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Drain-to-Source Voltage, $V_{DSS}$ .....	60V
Gate-to-Source Voltage, $V_{GSS}$ .....	$\pm 20\text{V}$
Continuous Drain Current, $I_D$ .....	25A
Peak Drain Current (Note 1), $I_{D(\text{pulse})}$ .....	100A
Body-Drain Diode Reverse Drain Current, $I_{DR}$ .....	25A
Avalanche Current (Note 2), $I_{AP}$ .....	20A
Avalanche Energy (Note 2), $E_{AR}$ .....	34mJ
Channel Dissipation ( $T_C = +25^\circ\text{C}$ ), $P_{CH}$ .....	25W
Channel Temperature, $T_{CH}$ .....	$+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$

Note 1. Pulse width  $\leq 10\mu\text{s}$ ; duty cycle  $\leq 1\%$ .

Note 2.  $T_{CH} = +25^\circ\text{C}$ ,  $R_g = 50\Omega$

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

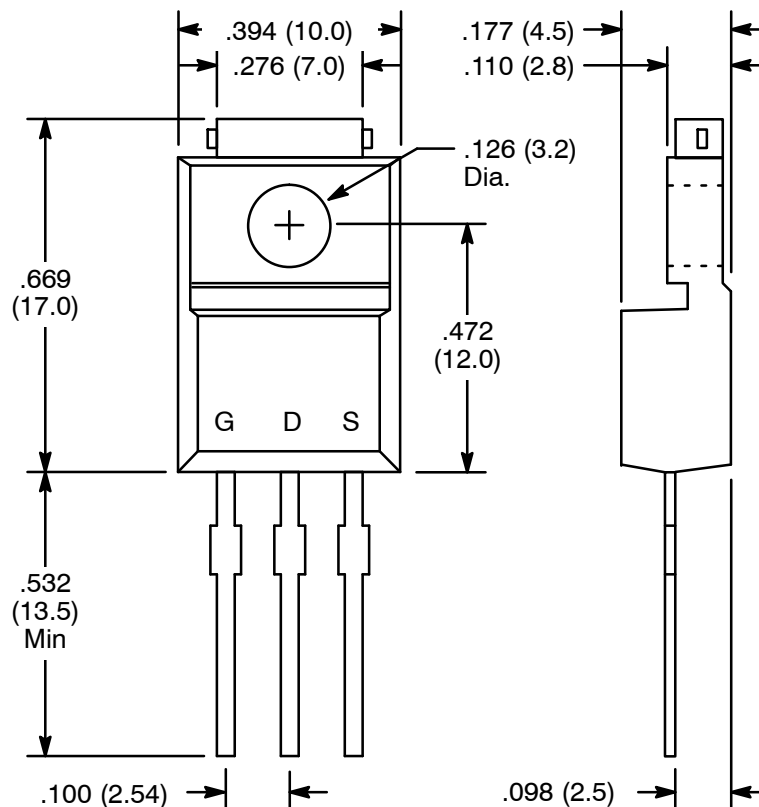
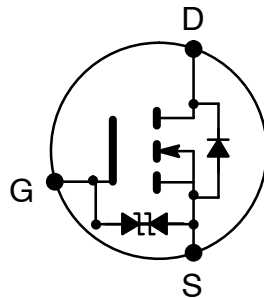
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}$ , $I_D = 10\text{mA}$	60	-	-	V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$V_{DS} = 0\text{V}$ , $I_G = \pm 100\mu\text{A}$	$\pm 20$	-	-	V
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 16\text{V}$ , $V_{DS} = 0$	-	-	$\pm 10$	$\mu\text{A}$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 60\text{V}$ , $V_{GS} = 0\text{V}$	-	-	10	$\mu\text{A}$
Gate-to-Source Cutoff Voltage	$V_{GS(\text{off})}$	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$	1.5	-	2.5	V
Static Drain-to-Source On-Resistance	$R_{DS(\text{on})}$	$V_{GS} = 10\text{V}$ , $I_D = 15\text{A}$ , Note 3	-	0.026	0.034	$\Omega$
		$V_{GS} = 4\text{V}$ , $I_D = 15\text{A}$ , Note 3	-	0.045	0.070	$\Omega$

Note 3. Pulse Test.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10\text{V}, I_D = 15\text{A}$ , Note 3	11	17	–	S
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}, V_{DS} = 10\text{V}, f = 1\text{MHz}$	–	740	–	pF
Output Capacitance	$C_{oss}$		–	380	–	pF
Reverse Transfer Capacitance	$C_{rss}$		–	140	–	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{GS} = 10\text{V}, I_D = 15\text{A}, R_L = 2\Omega$	–	10	–	ns
Rise Time	$t_r$		–	160	–	ns
Turn-Off Delay Time	$t_{d(off)}$		–	100	–	ns
Fall Time	$t_f$		–	150	–	ns
Body-Drain Diode Forward Voltage	$V_{DF}$	$V_{GS} = 0, I_F = 25\text{A}$	–	0.95	–	V
Body-Drain Diode Reverse Recovery Time	$t_{rr}$	$V_{GS} = 0, I_F = 25\text{A}, diF/dt = 50\text{A}\mu\text{s}$	–	40	–	ns

Note 3. Pulse Test.



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