



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



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), $I_{D(pulse)}$	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° 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	$V_{(BR)GSS}$	$V_{DS} = 0\text{V}$, $I_G = \pm 100\mu\text{A}$	± 20	–	–	V
Gate-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 16\text{V}$, $V_{DS} = 0$	–	–	± 10	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60\text{V}$, $V_{GS} = 0\text{V}$	–	–	10	μA
Gate-to-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10\text{V}$, $I_D = 1\text{mA}$	1.5	–	2.5	V
Static Drain-to-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 15\text{A}$, Note 3	–	0.026	0.034	Ω
		$V_{GS} = 4\text{V}$, $I_D = 15\text{A}$, Note 3	–	0.045	0.070	Ω

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.

