



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089

## NTE2967 MOSFET N-Channel, Enhancement Mode High Speed Switch

### Applications:

- Motor Control
- Lamp Control
- Solenoid Control
- DC-DC Converter

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

Drain-Source Voltage ( $V_{GS} = 0\text{V}$ ), $V_{DSS}$ .....	100V
Gate-Source Voltage ( $V_{DS} = 0\text{V}$ ), $V_{GS}$ .....	$\pm 20\text{V}$
Drain Current, $I_D$	
Continuous .....	70A
Pulsed .....	280A
Avalanche Drain Current (Pulsed, $L = 100\mu\text{H}$ ), $I_{DA}$ .....	70A
Source Current, $I_S$	
Continuous .....	70A
Pulsed .....	280A
Maximum Power Dissipation, $P_D$ .....	150W
Channel Temperature Range, $T_{ch}$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Thermal Resistance, Channel-to-Case, $R_{th(ch-c)}$ .....	$0.83^\circ\text{C/W}$

### Electrical Characteristics: ( $T_{ch} = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{DS} = 0\text{V}$ , $I_D = 1\text{mA}$	100	-	-	V
Gate-Source Leakage	$I_{GSS}$	$V_{GS} = \pm 20\text{V}$ , $V_{DS} = 0\text{V}$	-	-	$\pm 0.1$	$\mu\text{A}$
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 100\text{V}$ , $V_{GS} = 0$	-	-	0.1	mA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = 10\text{V}$ , $I_D = 1\text{mA}$	2.0	3.0	4.0	V
Static Drain-Source ON Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}$ , $I_D = 35\text{A}$	-	14	20	$\text{m}\Omega$
Drain-Source On-State Voltage	$V_{DS(on)}$	$V_{GS} = 10\text{V}$ , $I_D = 35\text{A}$	-	0.49	0.70	V
Forward Transfer Admittance	$ y_{fs} $	$V_{GS} = 10\text{V}$ , $I_D = 35\text{A}$	-	53	-	S

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	$C_{iss}$	$V_{GS} = 0\text{V}, V_{DS} = 10\text{V}, f = 1\text{MHz}$	–	6540	–	pF
Output Capacitance	$C_{oss}$		–	1150	–	pF
Reverse Transfer Capacitance	$C_{rss}$		–	500	–	pF
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 50\text{V}, I_D = 35\text{A}, V_{GS} = 10\text{V}, R_{GEN} = R_{GS} = 50\Omega$	–	95	–	ns
Rise Time	$t_r$		–	175	–	ns
Turn-Off Delay Time	$t_{d(off)}$		–	330	–	ns
Fall Time	$t_f$		–	190	–	ns
Diode Forward Voltage	$V_{SD}$	$I_S = 35\text{A}, V_{GS} = 0\text{V}$	–	1.0	1.5	V
Reverse Recovery Time	$t_{rr}$	$I_S = 70\text{A}, di_F/dt = 100\text{A}/\mu\text{s}$	–	120	–	ns

