NTE2953
MOSFET
N–Channel, Enhancement Mode
High Speed Switch

Applications:

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

Absolute Maximum Ratings: (T_C = +25°C unless otherwise specified)

Drain–Source Voltage (V_{GS} = 0V), V_{DSS} 60V

Gate–Source Voltage (V_{DS} = 0V), V_{GS} . . . . ±20V

Drain Current, I_D
      Continuous 70A
      Pulsed 280A

Avalanche Drain Current (Pulsed, L = 100µH), I_{DA} 70A

Source Current, I_S
      Continuous 70A
      Pulsed 280A

Maximum Power Dissipation, P_D 35W

Channel Temperature Range, T_{ch} . . . . −55° to +150°C

Storage Temperature Range, T_{stg} . . . . −55° to +150°C

Thermal Resistance, Channel–to–Case, $R_{th(ch–c)}$ . . . . 3.57°C/W

Isolation Voltage, V_{ISO} 2000V

Electrical Characteristics: (T_{ch} = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{DS} = 0V, I_D = 1mA	60	–	–	V
Gate–Source Leakage	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V	–	–	±0.1	µA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 60V, V_{GS} = 0	–	–	0.1	mA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = 10V, I_D = 1mA	2.0	3.0	4.0	V
Static Drain–Source ON Resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 35A	–	5.7	7.5	mΩ
Drain–Source On–State Voltage	$V_{DS(on)}$	V_{GS} = 10V, I_D = 35A	–	0.200	0.263	V
Forward Transfer Admittance	$|y_{fs}|$	V_{GS} = 10V, I_D = 35A	50	70	–	S

Electrical Characteristics (Cont'd): $(T_{ch} = +25°C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	$V_{GS} = 0V$, $V_{DS} = 10V$, $f = 1MHz$	–	6540	–	pF
Output Capacitance	C_{oss}		–	1640	–	pF
Reverse Transfer Capacitance	C_{rss}		–	790	–	pF
Turn–On Delay Time	$t_{d(on)}$	$V_{DD} = 30V$, $I_D = 35A$, $V_{GS} = 10V$, $R_{GEN} = R_{GS} = 50\Omega$	–	95	–	ns
Rise Time	t_r		–	195	–	ns
Turn–Off Delay Time	$t_{d(off)}$		–	290	–	ns
Fall Time	t_f		–	210	–	ns
Diode Forward Voltage	V_{SD}	$I_S = 35A$, $V_{GS} = 0V$	–	1.0	1.5	V
Reverse Recovery Time	t_{rr}	$I_S = 70A$, $dI_F/dt = 100A/\mu s$	–	85	–	ns

.114 (2.9)

.181 (4.6) Max

.126 (3.2) Dia Max

.405 (10.3) Max

.252 (6.4)

.622 (15.0) Max

Isol

G D S

.118 (3.0) Max

.531 (13.5) Min

.098 (2.5)

.100 (2.54)