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

NTE2377
MOSFET
N–Channel,
Enhancement Mode, High Speed

Description:

The NTE2377 is an N–Channel Enhancement Mode Power MOS Field Effect Transistor. Easy drive and very fast switching times make this device ideal for high speed switching applications. Typical applications include switching mode power supplies, uninterruptible power supplies, and motor speed control.

Features:

- Low ON–State Resistance
- Very High–Speed Switching
- Converters

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

Drain–Source Voltage, V_{DSS} 900V
Gate–Source Voltage, V_{GSS} . . . . . ±30V
DC Drain Current, I_D 8A
Pulsed Drain Current (Note 1), I_{DP} 36A
Allowable Power Dissipation (T_C = +25°C), P_D 150W
Maximum Channel Temperature, T_{ch} . . . . . +150°C
Storage Temperature Range, T_{stg} . . . . . –55° to +150°C

Note 1. Pulse Width ≤ 10µs, Duty Cycle ≤ 1%.

Note 2. Be careful in handling the NTE2377 because it has no protection diode between gate and source.

Electrical Characteristics: (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	I_D = 1mA, V_{GS} = 0	900	–	–	V
Zero–Gate Voltage Drain Current	I_{DSS}	V_{GS} = 0, V_{DS} = Max Rating	–	–	1.0	mA
Gate–Source Leakage Current	I_{GSS}	V_{DS} = 0, V_{GS} = ±30V	–	–	±100	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS} = 10V, I_D = 1mA	2	–	3	V
Static Drain–Source On Resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 4A	–	1.2	1.6	Ω
Forward Transconductance	g_{fs}	V_{DS} = 20V, I_D = 4A	2.5	5.0	–	mho

Electrical Characteristics (Cont'd): (T_A = +25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capactiance	C_{iss}	V_{DS} = 20V, f = 1MHz	–	1600	–	pf
Output Capacitance	C_{oss}		–	500	–	pf
Reverse Transfer Capactiance	C_{rss}		–	350	–	pf
Turn–On Time	$t_{d(on)}$	V_{DD} = 200V, I_D = 4A, V_{GS} = 10V, R_{GS} = 50Ω	–	20	–	ns
Rise Time	t_r		–	80	–	ns
Turn–Off Delay Time	$t_{d(off)}$		–	350	–	ns
Fall Time	t_f		–	150	–	ns
Diode Forward Voltage	V_{SD}	I_S = 8A, V_{GS} = 0	–	–	1.8	V