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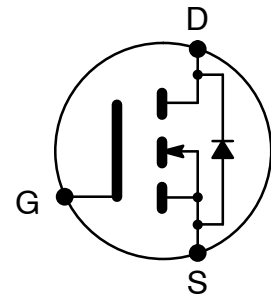
NTE2976
MOSFET
N-Channel, Enhancement Mode
High Speed Switch
TO220 Full Pack Type Package

Features:

- Low Input Capacitance
- Low Static $R_{DS(on)}$
- Fast Switching Time
- Guaranteed Avalanche Resistance

Applications:

- Switching Power Supply of AC 240V Input
- High Voltage Power Supply
- Inverter



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

| | |
|--|-------------------------------------|
| Drain-Source Voltage, V_{DSS} | 700V |
| Gate-Source Voltage, V_{GSS} | $\pm 30\text{V}$ |
| Drain Current, I_D | |
| Continuous DC | 6A |
| Peak (Pulse Width $\leq 10\mu\text{s}$, Duty Cycle $\leq 1/100$) | 18A |
| Continuous DC Source Current, I_S | 6A |
| Total Power Dissipation, P_T | 50W |
| Repetitive Avalanche Current ($T_{ch} = +150^\circ\text{C}$), I_{AR} | 6A |
| Single Avalanche Energy ($T_{ch} = +25^\circ\text{C}$), E_{AS} | 190mJ |
| Repetitive Avalanche Energy ($T_{ch} = +25^\circ\text{C}$), E_{AR} | 19mJ |
| Operating Channel Temperature, T_{ch} | $+150^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -55° to $+150^\circ\text{C}$ |
| Thermal Resistance, Junction-to-Case, R_{thJC} | 2.5°C/W |
| Dielectric Strength (Terminals-to-Case, AC, 1 minute), V_{dis} | 2kV |
| Mounting Torque, TOR | |
| Maximum | 0.5N•m |
| Recommended | 0.3N•m |

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

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---------------|--|-----|------|-----------|----------------|
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D = 1\text{mA}, V_{GS} = 0\text{V}$ | 700 | - | - | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS} = 700\text{V}, V_{GS} = 0\text{V}$ | - | - | 250 | $\leq\text{A}$ |
| Gate-Source Leakage Current | I_{GSS} | $V_{GS} = \pm 30\text{V}, V_{DS} = 0\text{V}$ | - | - | ± 0.1 | $\leq\text{A}$ |
| Forward Transconductance | g_{fs} | $I_D = 3\text{A}, V_{DS} = 10\text{V}$ | 3 | 5 | - | S |
| Static Drain-Source On-State Resistance | $R_{DS(on)}$ | $I_D = 3\text{A}, V_{GS} = 10\text{V}$ | - | 1.5 | 2.0 | \pm |
| Gate Threshold Voltage | V_{TH} | $I_D = 1\text{mA}, V_{DS} = 10\text{V}$ | 2.5 | 3.0 | 3.5 | V |
| Source-Drain Diode Forward Voltage | V_{SD} | $I_S = 3\text{A}, V_{GS} = 0\text{V}$ | - | - | 1.5 | V |
| Total Gate Charge | Q_g | $V_{DD} = 400\text{V}, V_{GS} = 10\text{V}, I_D = 6\text{A}$ | - | 35 | - | nC |
| Input Capacitance | C_{iss} | $V_{DS} = 10\text{V}, V_{GS} = 0\text{V}, f = 1\text{MHz}$ | - | 1250 | - | pF |
| Reverse Transfer Capacitance | C_{rss} | | - | 250 | - | pF |
| Output Capacitance | C_{oss} | | - | 530 | - | pF |
| Turn-On Time | t_{on} | $I_D = 3\text{A}, R_L = 50\pm, V_{GS} = 10\text{V}$ | - | 60 | 110 | ns |
| Turn-Off Time | t_{off} | | - | 160 | 250 | ns |

