

SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

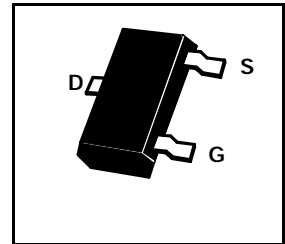
VN10LF

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FEATURES

- * 60 Volt V_{DS}
- * $R_{DS(on)}=5\Omega$

PARTMARKING DETAIL – MY



ABSOLUTE MAXIMUM RATINGS.

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|-------------|
| Drain-Source Voltage | V_{DS} | 60 | V |
| Continuous Drain Current at $T_{amb} = 25^{\circ}C$ | I_D | 150 | mA |
| Pulsed Drain Current | I_{DM} | 3 | A |
| Gate Source Voltage | V_{GS} | ± 20 | V |
| Power Dissipation at $T_{amb} = 25^{\circ}C$ | P_{tot} | 330 | mW |
| Operating and Storage Temperature Range | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated).

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS. |
|---|--------------|------|------|------------|----------|---|
| Drain-Source Breakdown Voltage | BV_{DSS} | 60 | | | V | $I_D=100\mu A, V_{GS}=0V$ |
| Gate-Source Breakdown Voltage | $V_{GS(th)}$ | 0.8 | | 2.5 | V | $I_D=1mA, V_{DS}=V_{GS}$ |
| Gate Body Leakage | I_{GSS} | | | 100 | nA | $V_{GS}=\pm 20V, V_{DS}=0V$ |
| Zero Gate Voltage Drain Current (1) | I_{DSS} | | | 10 | μA | $V_{DS}=60V, V_{GS}=0V$ |
| On State Drain Current(1) | $I_{D(on)}$ | 750 | | | mA | $V_{DS}=15V, V_{GS}=10V$ |
| Static Drain Source On State Resistance (1) | $R_{DS(on)}$ | | | 5.0 7.5 | Ω | $V_{GS}=10V, I_D=500mA$ $V_{GS}=5V, I_D=200mA$ |
| Forward Transconductance (1)(2) | g_{fs} | 100 | | | mS | $V_{DS}=15V, I_D=500mA$ |
| Input Capacitance (2) | C_{iss} | | | 60 | pF | $V_{DS}=25V, V_{GS}=0V$ $f=1MHz$ |
| Common Source Output Capacitance (2) | C_{oss} | | | 25 | pF | |
| Reverse Transfer Capacitance (2) | C_{rss} | | | 5 | pF | |
| Turn-On Time (2)(3) | $t_{(on)}$ | | 3 | 10 | ns | $V_{DD}\approx 15V, I_D=600mA$ |
| Turn-Off Time (2)(3) | $t_{(off)}$ | | 4 | 10 | ns | |

(1) Measured under pulsed conditions. Width=300 μs . Duty cycle $\leq 2\%$ (2) Sample test.

(3) Switching times measured with 50 Ω source impedance and <5ns rise time on a pulse generator

Spice parameter data is available upon request for this device

For typical characteristics graphs see ZVN3306F datasheet.