

SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

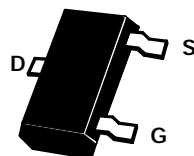
BS170F

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FEATURES

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

PARTMARKING DETAIL – MV



SOT23

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 | 0.15 | 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 | 90 | | V | $I_D=100\mu A, V_{GS}=0V$ |
| Gate-Source Threshold Voltage | $V_{GS(th)}$ | 0.8 | | 3 | V | $I_D=1mA, V_{DS}=V_{GS}$ |
| Gate-Body Leakage | I_{GSS} | | | 10 | nA | $V_{GS}=15V, V_{DS}=0V$ |
| Zero Gate Voltage Drain Current | I_{DSS} | | | 0.5 | μA | $V_{DS}=25V, V_{GS}=0V$ |
| Static Drain-Source On-State Resistance (1) | $R_{DS(on)}$ | | | 5 | Ω | $V_{GS}=10V, I_D=200mA$ |
| Forward Transconductance (1)(2) | g_{fs} | | 200 | | mS | $V_{DS}=10V, I_D=200mA$ |
| Input Capacitance (2) | C_{iss} | | 60 | | pF | $V_{DS}=10V, V_{GS}=0V, f=1MHz$ |
| Turn-On Delay Time (2)(3) | $t_{d(on)}$ | | | 10 | ns | $V_{DD}=-15V, I_D=600mA$ |
| Turn-Off Delay Time (2)(3) | $t_{d(off)}$ | | | 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 refer to ZVN3306F datasheet.