

SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

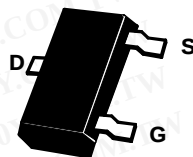
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FEATURES

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

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BS170F



SOT23

PARTMARKING DETAIL – MV

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	$V_{DD} \approx -15V$, $I_D=600mA$
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.