SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

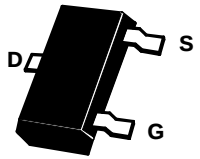
ISSUE 3 - JANUARY 1996

BS170F

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°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°C	P_{tot}	330	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	60	90		V	I_D=100µA, 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=300µs. Duty cycle ≤2% (2) Sample test.
(3) Switching times measured with 50Ω 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.

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BS170FTA