



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

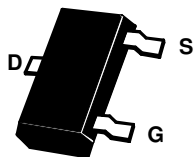
## BS170F

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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	$V_{GS}$	$\pm 20$	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	$\mu A$	$V_{DS}=25V, V_{GS}=0V$
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$			5	$\Omega$	$V_{GS}=10V, I_D=200mA$
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 $\mu s$ . Duty cycle  $\leq 2\%$  (2) Sample test.

(3) Switching times measured with 50 $\Omega$  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.