

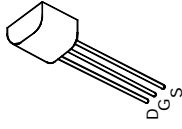
N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

BS170P

ISSUE 2 - SEPT 93

FEATURES

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



E-Line
TO92 Compatible

REFER TO ZVN3306A FOR GRAPHS

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current at $T_{amb}=25^{\circ}\text{C}$	I_D	270	mA
Pulsed Drain Current	I_{DM}	3	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	P_{tot}	625	mW
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150	$^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	60			V	$I_D=100\mu\text{A}, V_{GS}=0\text{V}$
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.8		3	V	$I_D=1\text{mA}, V_{DS}=V_{GS}$
Gate Body Leakage	I_{GSS}			10	nA	$V_{GS}=15\text{V}, V_{DS}=0\text{V}$
Zero Gate Voltage Drain Current	I_{DSS}			0.5	μA	$V_{GS}=0\text{V}, V_{DS}=25\text{V}$
Static Drain-Source on-State Resistance (1)	$R_{DS(on)}$			5	Ω	$V_{GS}=10\text{V}, I_D=200\text{mA}$
Forward Transconductance (1)(2)	g_{fs}		200		mS	$V_{DS}=10\text{V}, I_D=200\text{mA}$
Input Capacitance (2)	C_{iss}		60		pF	$V_{GS}=0\text{V}, V_{DS}=10\text{V}$ $f=1\text{MHz}$
Turn-On Time (2)(3)	$t_{(on)}$			10	ns	$V_{DD}=15\text{V}, I_D=600\text{mA}$
Turn-Off Time (2)(3)	$t_{(off)}$			10	ns	

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

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