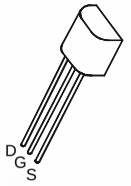
N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

BS170P

ISSUE 2 – SEPT 93

FEATURES

* 60 Volt V_{DS}
* $R_{DS(on)}$=5Ω



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°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°C	P_{tot}	625	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	60			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	VGS=15V, V_{DS}=0V
Zero Gate Voltage Drain Current	I_{DSS}			0.5	µA	V_{GS}=0V, V_{DS}=25V
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_{GS}=0V, V_{DS}=10V f=1MHz
Turn-On Time (2)(3)	$t_{(on)}$			10	ns	V_{DD}≈15V, I_D=600mA
Turn-Off Time (2)(3)	$t_{(off)}$			10	ns	

(1) Measured under pulsed conditions. Pulse width=300µs. Duty cycle ≤ 2% (2) Sample test
(3) Switching times measured with a 50Ω source impedance and <5ns rise time on a pulse generator