SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

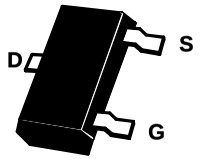
VN10LF

ISSUE 2 – JANUARY 1996

FEATURES

* 60 Volt V_{DS}
* $R_{DS(on)}$=5Ω

PARTMARKING DETAIL – MY



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current at T_{amb} = 25°C	I_D	150	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			V	I_D=100μA, V_{GS}=0V
Gate-Source Breakdown Voltage	$V_{GS(th)}$	0.8		2.5	V	I_D=1mA, V_{DS}= V_{GS}
Gate Body Leakage	I_{GSS}			100	nA	V_{GS}=± 20V, V_{DS}=0V
Zero Gate Voltage Drain Current (1)	I_{DSS}			10	μA	V_{DS}=60 V, V_{GS}=0V
On State Drain Current(1)	$I_{D(on)}$	750			mA	V_{DS}=15 V, V_{GS}=10V
Static Drain Source On State Resistance (1)	$R_{DS(on)}$			5.0 7.5	Ω Ω	V_{GS}=10V, I_D=500mA V_{GS}=5V, I_D=200mA
Forward Transconductance (1)(2)	g_{fs}	100			mS	V_{DS}=15V, I_D=500mA
Input Capacitance (2)	C_{iss}			60	pF	V_{DS}=25 V, V_{GS}=0V f=1MHz
Common Source Output Capacitance (2)	C_{oss}			25	pF	
Reverse Transfer Capacitance (2)	C_{rss}			5	pF	
Turn-On Time (2)(3)	$t_{(on)}$		3	10	ns	V_{DD}≈15V, I_D=600mA
Turn-Off Time (2)(3)	$t_{(off)}$		4	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 see ZVN3306F datasheet.