

SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

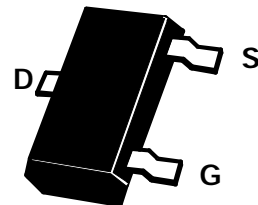
VN10LF

ISSUE 2 – JANUARY 1996

FEATURES

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

PARTMARKING DETAIL – MY



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	150	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}	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}\text{C}$

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

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 Breakdown Voltage	$V_{GS(th)}$	0.8		2.5	V	$I_D=1\text{mA}, V_{DS}=V_{GS}$
Gate Body Leakage	I_{GSS}			100	nA	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$
Zero Gate Voltage Drain Current (1)	I_{DSS}			10	μA	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$
On State Drain Current(1)	$I_{D(on)}$	750			mA	$V_{DS}=15\text{V}, V_{GS}=10\text{V}$
Static Drain Source On State Resistance (1)	$R_{DS(on)}$			5.0 7.5	Ω Ω	$V_{GS}=10\text{V}, I_D=500\text{mA}$ $V_{GS}=5\text{V}, I_D=200\text{mA}$
Forward Transconductance (1)(2)	g_{fs}	100			mS	$V_{DS}=15\text{V}, I_D=500\text{mA}$
Input Capacitance (2)	C_{iss}			60	pF	$V_{DS}=25\text{V}, V_{GS}=0\text{V}$ $f=1\text{MHz}$
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	$V_{DD}\approx 15\text{V}, I_D=600\text{mA}$
Turn-Off Time (2)(3)	$t_{(off)}$		4	10	ns	

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

(3) Switching times measured with 50 Ω 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.