

# SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

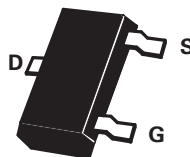
## ZVN3320F

ISSUE 3 – DECEMBER 1995

### FEATURES

- \* 200 Volt  $V_{DS}$
- \*  $R_{DS(on)} = 25\Omega$

PARTMARKING DETAIL – MU



SOT23

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	200	V
Continuous Drain Current at $T_{amb}=25^{\circ}C$	$I_D$	60	mA
Pulsed Drain Current	$I_{DM}$	1	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.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	200		V	$I_D=1mA, V_{GS}=0V$
Gate-Source Threshold Voltage	$V_{GS(th)}$	1.0	3.0	V	$I_D=1mA, V_{DS}=V_{GS}$
Gate-Body Leakage	$I_{GSS}$		100	nA	$V_{GS}=\pm 20V, V_{DS}=0V$
Zero Gate Voltage Drain Current	$I_{DSS}$		10 50	$\mu A$ $\mu A$	$V_{DS}=200V, V_{GS}=0V$ $V_{DS}=160V, V_{GS}=0V,$ $T=125^{\circ}C(2)$
On-State Drain Current(1)	$I_{D(on)}$	250		mA	$V_{DS}=25V, V_{GS}=10V$
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		25	$\Omega$	$V_{GS}=10V, I_D=100mA$
Forward Transconductance(1) (2)	$g_{fs}$	75		mS	$V_{DS}=25V, I_D=100mA$
Input Capacitance (2)	$C_{iss}$		45	pF	$V_{DS}=25V, V_{GS}=0V, f=1MHz$
Common Source Output Capacitance (2)	$C_{oss}$		18	pF	
Reverse Transfer Capacitance (2)	$C_{rss}$		5	pF	
Turn-On Delay Time (2)(3)	$t_{d(on)}$		5	ns	$V_{DD} \approx 25V, I_D=100mA$
Rise Time (2)(3)	$t_r$		7	ns	
Turn-Off Delay Time (2)(3)	$t_{d(off)}$		6	ns	
Fall Time (2)(3)	$t_f$		6	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