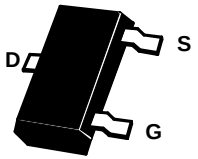
SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

ISSUE 2 – DECEMBER 1995

ZVN4106F

PARMARKING DETAIL - MZ



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current at T_{amb}=25℃	I_D	0.2	A
Pulsed Drain Current	I_{DM}	3	A
Gate-Source Voltage	V_{GS}	± 20	V
Max Power Dissipation at T_{amb}=25℃	P_{tot}	330	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	℃

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25℃ unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	60		V	I_D=1mA, V_{GS}=0V
Gate-Source Threshold Voltage	$V_{GS(th)}$	1.3	3	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	I_{DSS}		10 50	µA µA	V_{DS}=60V, V_{GS}=0 V_{DS}=48V, V_{GS}=0V, T=125℃ (2)
On-State Drain Current(1)	$I_{D(on)}$	1		A	V_{DS}=25V, V_{GS}=10V
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		2.5 5	Ω Ω	V_{GS}=10V, I_D=500mA V_{GS}=5V, I_D=200mA
Forward Transconductance(1)(2)	g_{fs}	150		mS	V_{DS}=25V, I_D=250mA
Input Capacitance (2)	C_{iss}		35	pF	V_{DS}=25V, V_{GS}=0V, f=1MHz
Common Source Output Capacitance (2)	C_{oss}		25	pF	
Reverse Transfer Capacitance (2)	C_{rss}		8	pF	
Turn-On Delay Time (2)(3)	$T_{d(on)}$		5	ns	V_{DD}≈25V, I_D=150mA
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		8	ns	

(1) Measured under pulsed conditions. Width=300µs. Duty cycle ≤2% (2) Sample test.
(3) Switching times measured with 500Ω source impedance and <5ns rise time on a pulse generator
Spice parameter data is available upon request for this device

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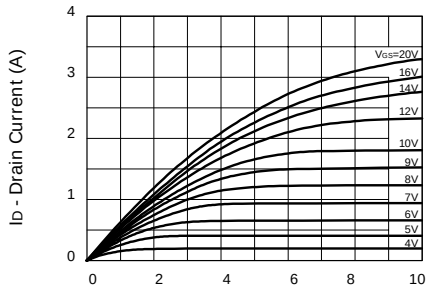
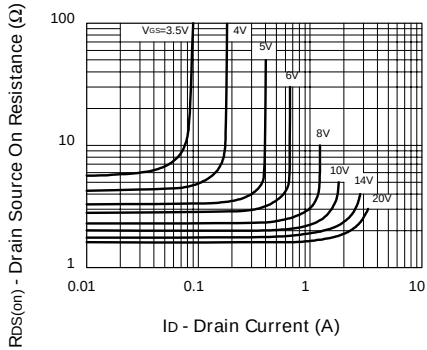
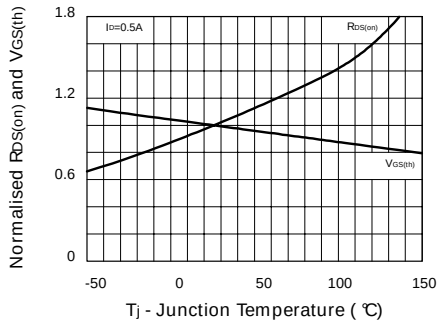


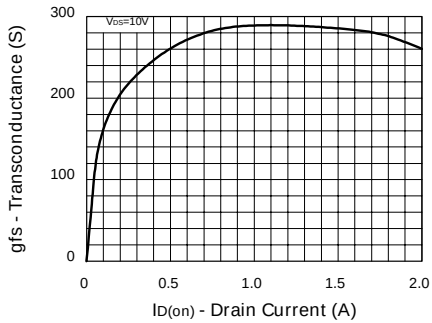
Saturation Characteristics



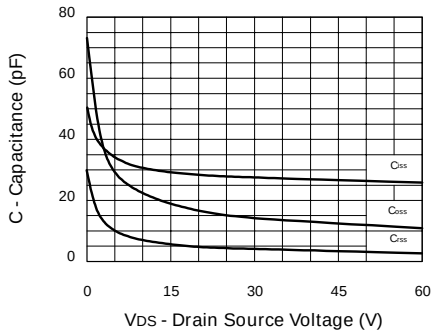
On-Resistance v Drain Current



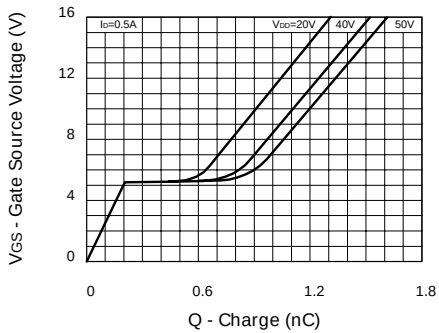
Normalised RDS(on) & VGS(th) v Temperature



Transconductance v Drain Current



Capacitance v Drain Source Voltage



Gate Source Voltage v Gate Charge