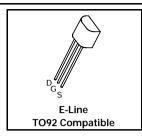
# N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

**ZVN2110A** 

#### ISSUE 2 - MARCH 94

#### **FEATURES**

- \* 100 Volt V<sub>DS</sub>
- \*  $R_{DS(on)} = 4\Omega$



#### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V <sub>DS</sub>	100	V
Continuous Drain Current at T <sub>amb</sub> =25°C	I <sub>D</sub>	320	mA
Pulsed Drain Current	I <sub>DM</sub>	6	А
Gate Source Voltage	$V_{GS}$	± 20	V
Power Dissipation at T <sub>amb</sub> =25°C	P <sub>tot</sub>	700	mW
Operating and Storage Temperature Range	T <sub>j</sub> :T <sub>stg</sub>	-55 to +150	°C

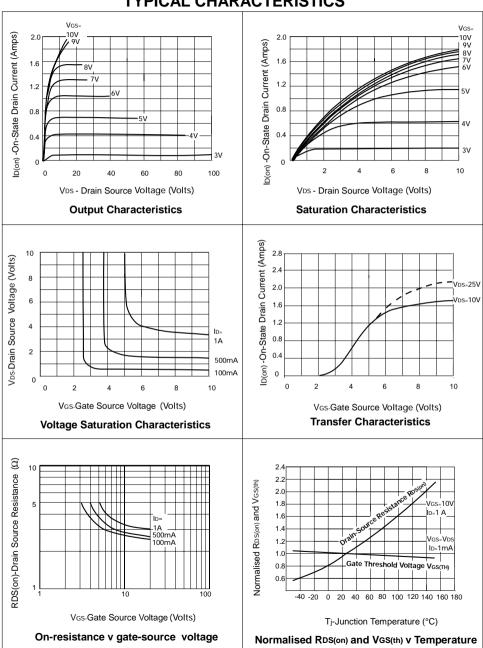
## ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.	
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	100		V	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V	
Gate-Source Threshold Voltage	V <sub>GS(th)</sub>	0.8	2.4	V	ID=1mA, V <sub>DS</sub> = V <sub>GS</sub>	
Gate-Body Leakage	I <sub>GSS</sub>		20	nA	V <sub>GS</sub> =± 20V, V <sub>DS</sub> =0V	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>		1 100	μ <b>Α</b> μ <b>Α</b>	V <sub>DS</sub> =100V, V <sub>GS</sub> =0 V <sub>DS</sub> =80V, V <sub>GS</sub> =0V, T=125°C(2)	
On-State Drain Current(1)	I <sub>D(on)</sub>	1.5		Α	V <sub>DS</sub> =25V, V <sub>GS</sub> =10V	
Static Drain-Source On-State Resistance (1)	R <sub>DS(on)</sub>		4	Ω	$V_{GS}=10V,I_D=1A$	
Forward Transconductance (1)(2)	$g_{fs}$	250		mS	$V_{DS}=25V,I_{D}=1A$	
Input Capacitance (2)	C <sub>iss</sub>		75	pF	V <sub>DS</sub> =25 V, V <sub>GS</sub> =0V, f=1MHz	
Common Source Output Capacitance (2)	C <sub>oss</sub>		25	pF		
Reverse Transfer Capacitance (2)	C <sub>rss</sub>		8	pF		
Turn-On Delay Time (2)(3)	t <sub>d(on)</sub>		7	ns	V <sub>DD</sub> ≈25V, I <sub>D</sub> =1A	
Rise Time (2)(3)	t <sub>r</sub>		8	ns		
Turn-Off Delay Time (2)(3)	t <sub>d(off)</sub>		13	ns		
Fall Time (2)(3)	t <sub>f</sub>		13	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

# **ZVN2110A**

#### TYPICAL CHARACTERISTICS



# **ZVN2110A**

## **TYPICAL CHARACTERISTICS**

