



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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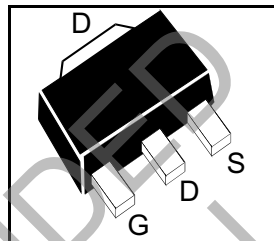


**SOT89 N-CHANNEL ENHANCEMENT  
MODE VERTICAL DMOS FET****ZVN4424Z****ISSUE 1 - NOVEMBER 1998****FEATURES**

- \* 240 Volt  $V_{DS}$
- \* Extremely low  $R_{DS(on)}=4.3\Omega$
- \* Low threshold and Fast switching

**APPLICATIONS**

- \* Earth recall and dialling switches
- \* Electronic hook switches
- \* Battery powered equipment
- \* Telecoms and high voltage dc-dc convertors



PARTMARKING DETAILS - N24  
 COMPLEMENTARY TYPE - ZVP4424Z

**ABSOLUTE MAXIMUM RATINGS.**

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	240	V
Continuous Drain Current at $T_{amb}=25^{\circ}C$	$I_D$	300	mA
Pulsed Drain Current	$I_{DM}$	1.0	A
Gate Source Voltage	$V_{GS}$	$\pm 40$	V
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	1 †	W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +150	$^{\circ}C$

† recommended  $P_{tot}$  calculated using FR4 measuring 15x15x0.6mm  
 Refer to the handling instructions for soldering surface mount components.

# ZVN4424Z

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

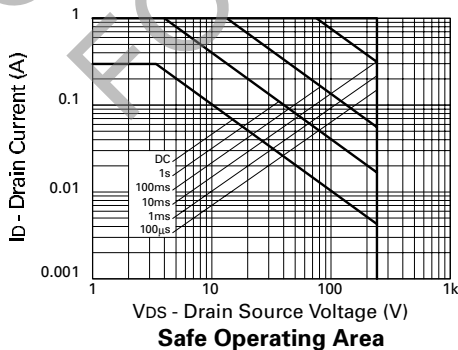
PARAMETER	SYMBOL	MIN.	TYP	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	240			V	$I_D=1\text{mA}, V_{GS}=0\text{V}$
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.8	1.3	1.8	V	$I_D=1\text{mA}, V_{DS}=V_{GS}$
Gate-Body Leakage	$I_{GSS}$			100	nA	$V_{GS}=\pm 40\text{V}, V_{DS}=0\text{V}$
On State Drain-Current	$I_{D(on)}$	0.8	1.4		A	$V_{DS}=10\text{V}, V_{GS}=10\text{V}$
Zero Gate Voltage Drain Current	$I_{DSS}$			10 100	$\mu\text{A}$ $\mu\text{A}$	$V_{DS}=240\text{V}, V_{GS}=0\text{V}$ $V_{DS}=190\text{V}, V_{GS}=0\text{V}, T=125^{\circ}\text{C}$
Static Drain-Source On-State Resistance	$R_{DS(on)}$		4 4.3	5.5 6	$\Omega$ $\Omega$	$V_{GS}=10\text{V}, I_D=500\text{mA}^*$ $V_{GS}=2.5\text{V}, I_D=100\text{mA}^*$
Forward Transconductance (1) (2)	$g_{fs}$	0.4	0.75		S	$V_{DS}=10\text{V}, I_D=0.5\text{A}$
Input Capacitance (2)	$C_{iss}$		110	200	pF	
Common Source Output Capacitance (2)	$C_{oss}$		15	25	pF	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$
Reverse Transfer Capacitance (2)	$C_{rss}$		3.5	15	pF	
Turn-On Delay Time (2)(3)	$t_{d(on)}$		2.5	5	ns	$V_{DD}\approx 50\text{V}, I_D=0.25\text{A}, V_{GEN}=10\text{V}$
Rise Time (2)(3)	$t_r$		5	8	ns	
Turn-Off Delay Time (2)(3)	$t_{d(off)}$		40	60	ns	
Fall Time (2)(3)	$t_f$		16	25	ns	

(1) Measured under pulsed conditions. Width=300 $\mu\text{s}$ . Duty cycle  $\leq 2\%$

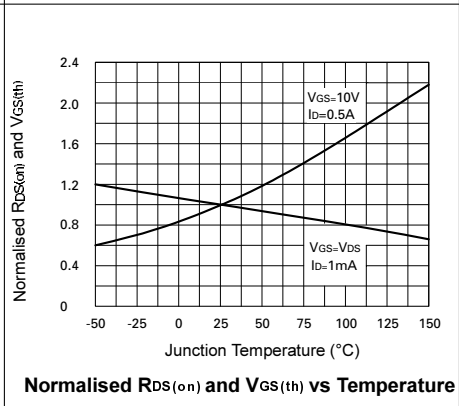
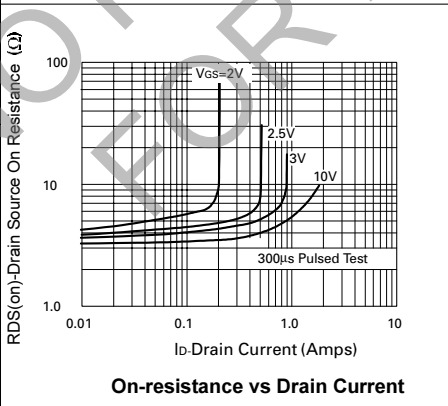
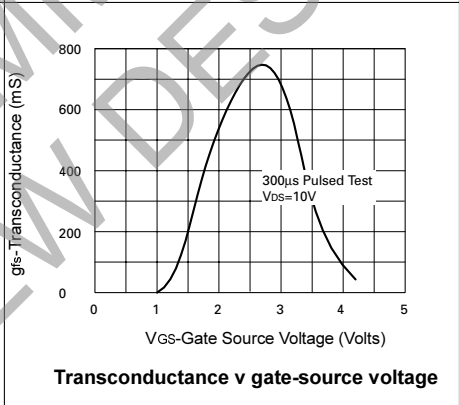
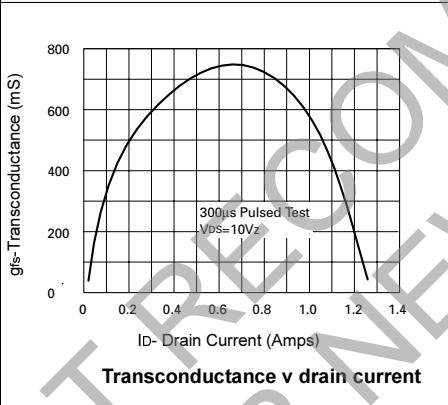
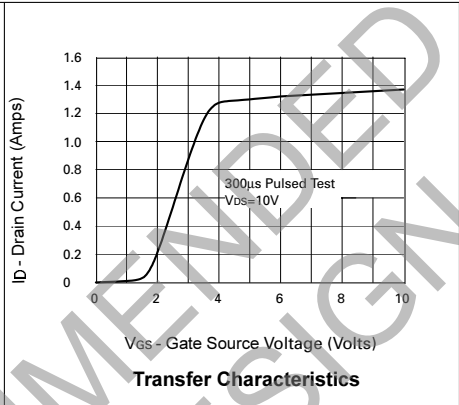
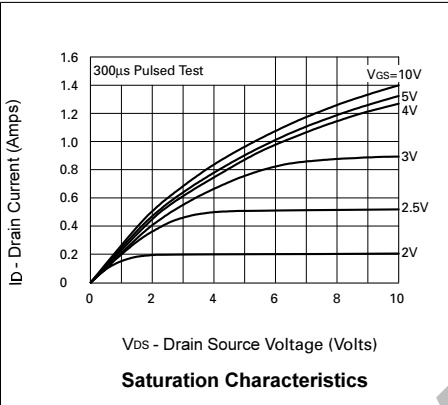
(2) Sample test.

(3) Switching times measured with 50 $\Omega$  source impedance and <5ns rise time on a pulse generator  
Spice parameter data is available upon request for this device

## TYPICAL CHARACTERISTICS



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# ZVN4424Z

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