N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

ZVN4306AV

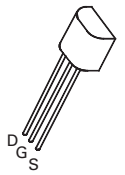
ISSUE 1 – FEBRUARY 95

FEATURES

* 60 Volt V_{DS}
* $R_{DS(on)}$= 0.33Ω
* Repetitive Avalanche Rating

APPLICATIONS

* Solenoids / relay drivers for automotive
* Stepper Motor Drivers
* DC-DC convertors



E-Line
TO92 Compatible

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current at T_{amb}=25°C	I_D	1.1	A
Practical Continuous Drain Current at T_{amb}=25°C	I_{DP}	1.3	A
Pulsed Drain Current	I_{DM}	15	A
Gate Source Voltage	V_{GS}	± 20	V
Power Dissipation at T_{amb}=25°C	P_{tot}	850	mW
Practical Power Dissipation at T_{amb}=25°C*	P_{totp}	1.13	W
Avalanche Current-Repetitive	I_{AR}	1	A
Avalanche Energy-Repetitive	E_{AR}	25	mJ
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 1 inch square minimum

ZETEX

ZVN4306AV

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

PARAMETER	SYMBOL	MIN.	TYP.	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}			10 100	µA µA	V_{DS}=60V, V_{GS}=0 V_{DS}=48V, V_{GS}=0V, T=125°C(2)
On-State Drain Current(1)	$I_{D(on)}$	12			A	V_{DS}=10V, V_{GS}=10V
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		0.22 0.32	0.33 0.45	Ω Ω	V_{GS}=10V,I_D=3A V_{GS}=5V, I_D=1.5A
Forward Transconductance (1)(2)	g_{fs}	700			mS	V_{DS}=25V,I_D=3A
Input Capacitance (2)	C_{iss}			350	pF	V_{DS}=25 V, V_{GS}=0V, f=1MHz
Common Source Output Capacitance (2)	C_{oss}			140	pF	
Reverse Transfer Capacitance (2)	C_{rss}			30	pF	
Turn-On Delay Time (2)(3)	$t_{d(on)}$			8	ns	V_{DD}≈25V, V_{GEN}=10V, I_D=3A
Rise Time (2)(3)	t_r			25	ns	
Turn-Off Delay Time (2)(3)	$t_{d(off)}$			30	ns	
Fall Time (2)(3)	t_f			16	ns	

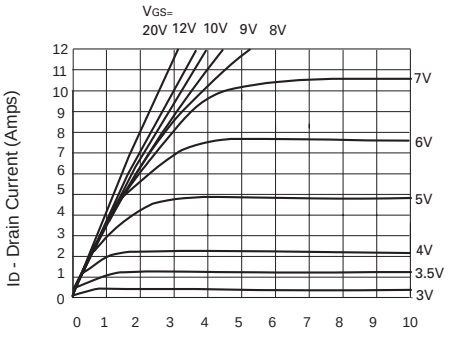
(1) Measured under pulsed conditions. Width=300µs. Duty cycle ≤2%

(2) Sample test.

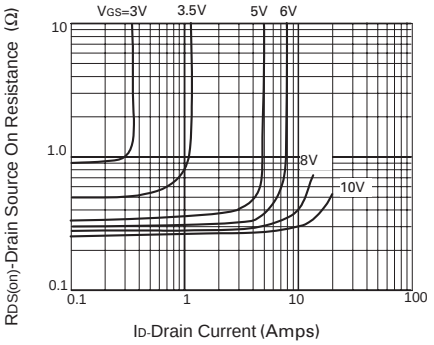
(3) Switching times measured with 50Ω source impedance and <5ns rise time on a pulse generator

ZVN4306AV

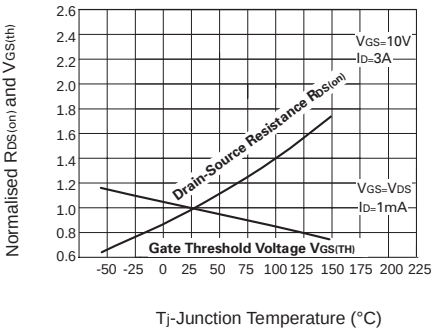
TYPICAL CHARACTERISTICS



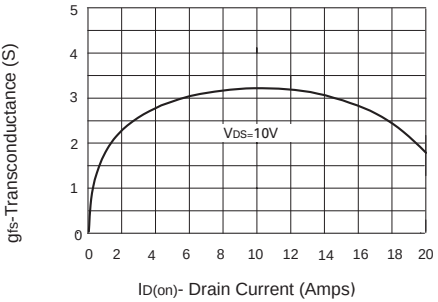
Saturation Characteristics



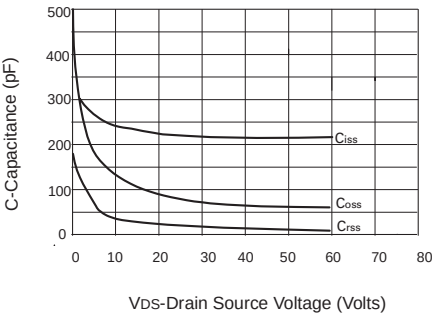
On-resistance v drain current



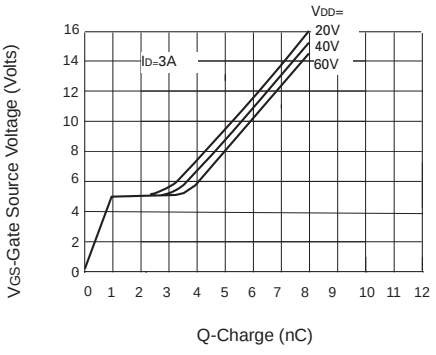
Normalised $R_{DS(on)}$ and $V_{GS(th)}$ v Temperature



Transconductance v drain current



Capacitance v drain-source voltage

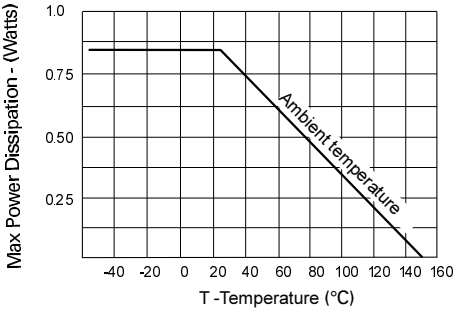


Gate charge v gate-source voltage

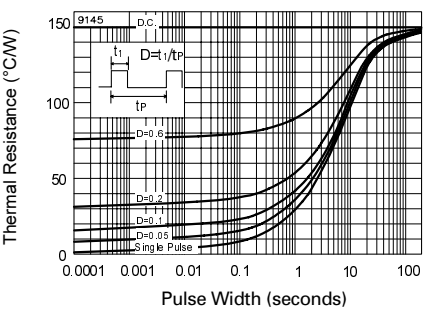
ZVN4306AV

THERMAL CHARACTERISTICS

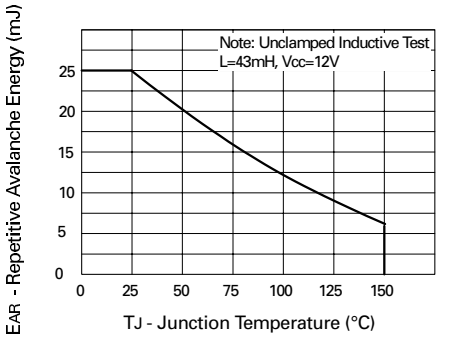
PARAMETER	SYMBOL	MAX.	UNIT
Thermal Resistance:Junction to Ambient Junction to Case	$R_{th(j\text{-}amb)}$ $R_{th(j\text{-}case)}$	150 50	°C/W °C/W



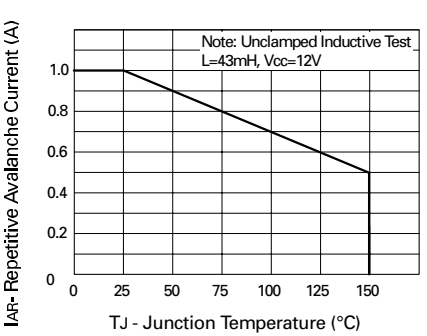
Derating curve



Maximum transient thermal impedance



Maximum Repetitive Avalanche Energy v Junction Temperature.



Maximum Repetitive Avalanche Current v Junction Temperature

Zetex plc.
Fields New Road, Chadderton, Oldham, OL9-8NP, United Kingdom.
Telephone: (44)161-627 5105 (Sales), (44)161-627 4963 (General Enquiries)
Fax: (44)161-627 5467

Zetex GmbH
Streitfeldstraße 19
D-81673 München
Germany
Telefon: (49) 89 45 49 49 0
Fax: (49) 89 45 49 49 49

Zetex Inc.
47 Mall Drive, Unit 4
Commack NY 11725
USA
Telephone: (516) 543-7100
Fax: (516) 864-7630

Zetex (Asia) Ltd.
3510 Metroplaza, Tower 2
Hing Fong Road,
Kwai Fong, Hong Kong
Telephone:(852) 26100 611
Fax: (852) 24250 494

These are supported by agents and distributors in major countries world-wide

©Zetex plc 1997

Internet:
http://www.zetex.com

This publication is issued to provide outline information only which (unless agreed by the Company in writing) may not be used, applied or reproduced for any purpose or form part of any order or contract or be regarded as a representation relating to the products or services concerned. The Company reserves the right to alter without notice the specification, design, price or conditions of supply of any product or service.

ENTEGRECİ

Bu belge www.entegreci.com üzerinden sunulmaktadır.

Elektronik komponent tedarikinde Entegreci

Entegreci, Eskişehir merkezli, Türkiye geneline satış yapan bir elektronik komponent mağazasıdır. Entegreler (IC), mikrodenetleyiciler, transistörler, diyotlar, pasif elemanlar, konnektörler, modüller ve geliştirme kartları tek adetten seri üretim adetlerine kadar satılır. Ürün sayfalarında güncel stok durumunu, fiyatı ve datasheet bağlantısını bulabilirsiniz.

Parça koduyla arama

Üretici parça numarasını yazın; stok ve fiyatı hemen görün.

www.entegreci.com

Ürün kategorileri

Entegreden kapasitöre tüm elektronik komponent kategorileri.

Kategorilere göz atın

Üreticiler

Aradığınız üreticinin ürünlerini tek sayfada inceleyin.

Üreticileri görün

Toplu alım ve teklif

Listede olmayan ya da yüksek adetli parçalar için teklif isteyin.

Teklif isteyin

www.entegreci.com | **destek@entegreci.com** | **0850 305 90 34**

Entegreci is an online electronic components store based in Türkiye. Search by manufacturer part number to see stock, prices and datasheets for integrated circuits, microcontrollers, transistors, passive components and connectors, or request a quote for parts that are not listed.

Bu sayfa Entegreci tarafından eklenmiştir. Belgenin önceki sayfaları asıl yayıncısına aittir ve içeriği değiştirilmemiştir; en güncel sürüm için belgenin yayıncısına başvurun.