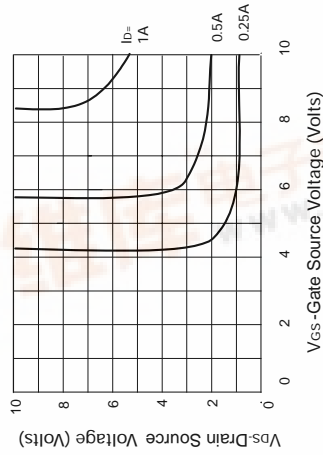
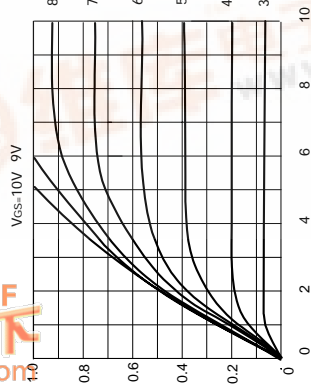
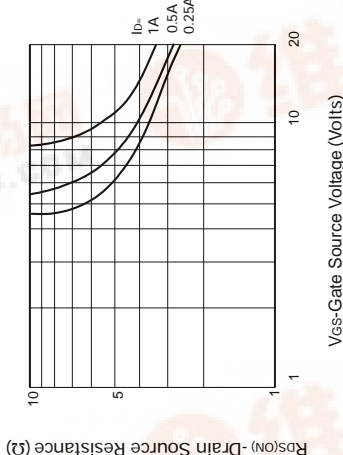
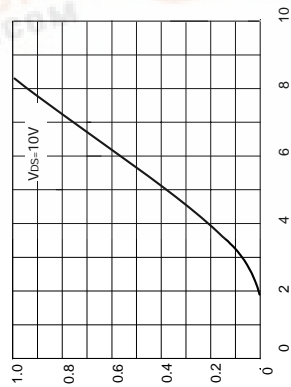


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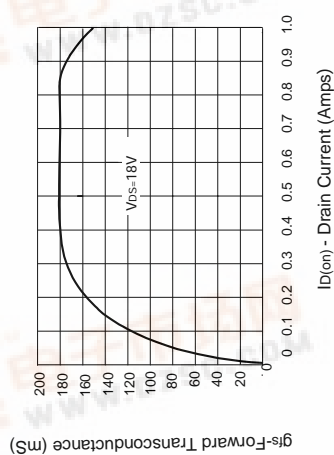
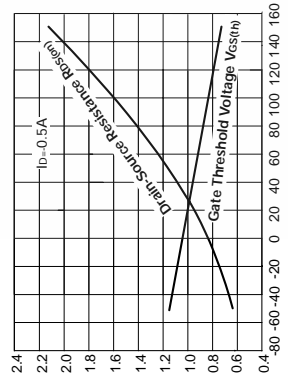
TYPICAL CHARACTERISTICS



Normalized R<sub>DS(on)</sub> and V<sub>GS(th)</sub> vs Temperature

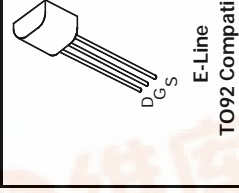


Normalized R<sub>DS(on)</sub> and V<sub>GS(th)</sub> vs Temperature



FEATURES

- \* 60 Volt V<sub>DS</sub>
- \* R<sub>DS(on)</sub>=5Ω



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	V <sub>DS</sub>	60	V
Continuous Drain Current at T <sub>amb</sub> =25°C	I <sub>D</sub>	270	mA
Pulsed Drain Current	I <sub>DM</sub>	3	A
Gate-Source Voltage	V <sub>GS</sub>	± 20	V
Power Dissipation at T <sub>amb</sub> =25°C	P <sub>Tot</sub>	625	mW
Operating and Storage Temperature	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>	60		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	I <sub>D</sub> =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>		0.5 50	μA	V <sub>DS</sub> =60V, V <sub>GS</sub> =0 V <sub>DS</sub> =48V, V <sub>GS</sub> =0V, T = 125°C(2)
On-State Drain Current(1)	I <sub>D(on)</sub>	750		mA	V <sub>DS</sub> =18V, V <sub>GS</sub> =10V
Static Drain-Source On-State Resistance (1)	R <sub>DS(on)</sub>		5	Ω	V <sub>GS</sub> =10V, I <sub>D</sub> =500mA
Forward Transconductance(1)(2)g <sub>fs</sub>		150		mS	V <sub>DS</sub> =18V, I <sub>D</sub> =500mA
Input Capacitance (2)	C <sub>iss</sub>		35	pF	
Common Source Output Capacitance (2)	C <sub>oss</sub>		25	pF	V <sub>DS</sub> =18V, V <sub>GS</sub> =0V, f=1MHz
Reverse Transfer Capacitance (2)	C <sub>rss</sub>		8	pF	
Turn-On Delay Time (2)(3)	t <sub>d(on)</sub>		5	ns	
Rise Time (2)(3)	t <sub>r</sub>		7	ns	V <sub>DD</sub> =18V, I <sub>D</sub> =500mA
Turn-Off Delay Time (2)(3)	t <sub>d(off)</sub>		6	ns	
Fall Time (2)(3)	t <sub>f</sub>		8	ns	

(1) Measured under pulsed conditions. Width=300μs. Duty cycle ≤2%  
3-375

2) Sample test.

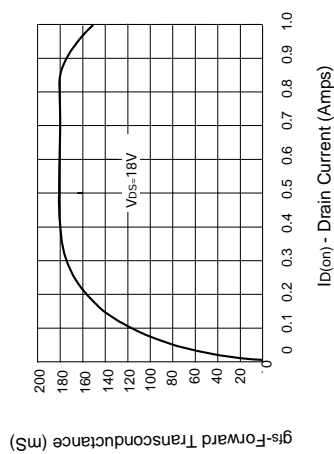
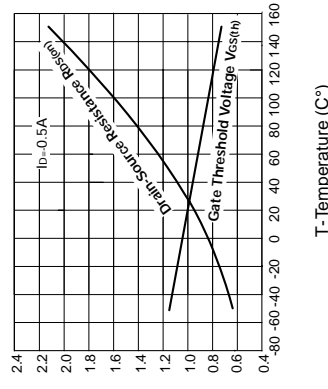
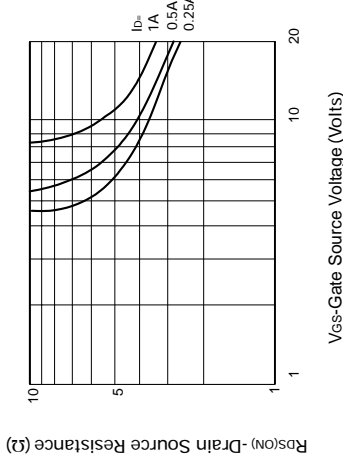
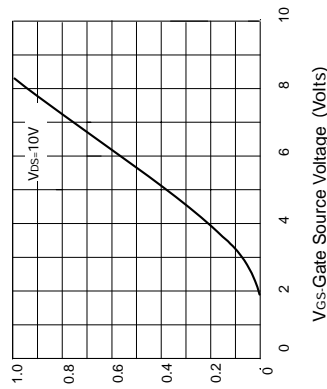
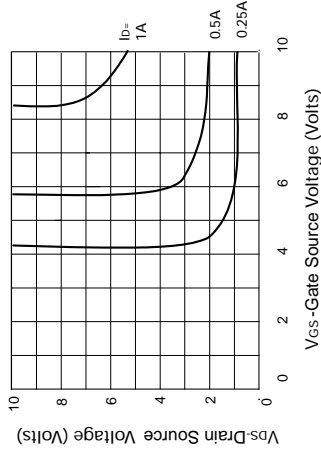
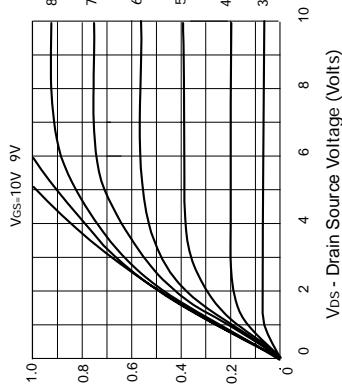
# ZVN3306A

# N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

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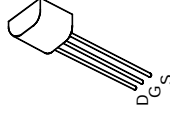
# ZVN3306A

## TYPICAL CHARACTERISTICS



## FEATURES

- \* 60 Volt  $V_{DS}$
- \*  $R_{DS(on)} = 5\Omega$



E-Line  
TO92 Compatible

## ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	60	V
Continuous Drain Current at $T_{amb}=25^{\circ}C$	$I_D$	270	mA
Pulsed Drain Current	$I_{DM}$	3	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{Tot}$	625	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).

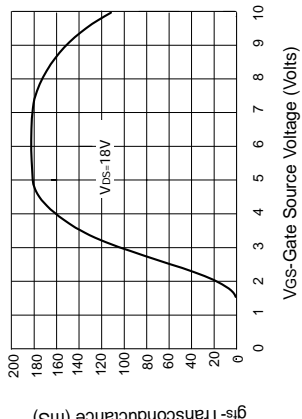
PARAMETER	SYMBOL	MIN.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	60		V	$I_D = 1mA, V_{GS} = 0V$
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.8	2.4	V	$I_D = 1mA, V_{DS} = V_{GS}$
Gate-Body Leakage	$I_{GSS}$		20	nA	$V_{GS} = \pm 20V, V_{DS} = 0V$
Zero Gate Voltage Drain Current	$I_{DSS}$		0.5 50	$\mu A$ $\mu A$	$V_{DS} = 60V, V_{GS} = 0$ $V_{DS} = 48V, V_{GS} = 0V, T = 125^{\circ}C(2)$
On-State Drain Current(1)	$I_{D(on)}$	750		mA	$V_{DS} = 18V, V_{GS} = 10V$
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		5	$\Omega$	$V_{GS} = 10V, I_D = 500mA$
Forward Transconductance(1)(2)	$g_{fs}$	150		mS	$V_{DS} = 18V, I_D = 500mA$
Input Capacitance (2)	$C_{iss}$		35	pF	
Common Source Output Capacitance (2)	$C_{oss}$		25	pF	$V_{DS} = 18V, V_{GS} = 0V, f = 1MHz$
Reverse Transfer Capacitance (2)	$C_{rss}$		8	pF	
Turn-On Delay Time (2)(3)	$t_{d(on)}$		5	ns	
Rise Time (2)(3)	$t_r$		7	ns	$V_{DD} = 18V, I_D = 500mA$
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=300 $\mu s$ . Duty cycle  $\leq 2\%$   
3-375

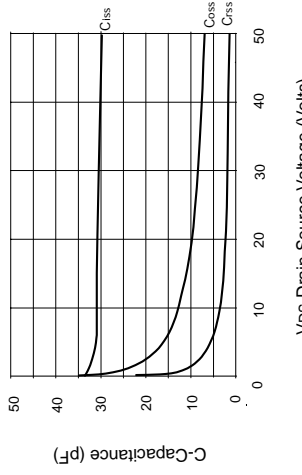
2) Sample test.

# ZVN3306A

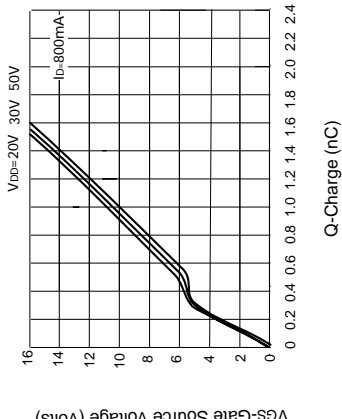
## TYPICAL CHARACTERISTICS



Transconductance v gate-source voltage



Capacitance v drain-source voltage



Gate charge v gate-source voltage