

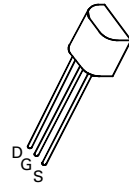
# N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

## VN10LP

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### FEATURES

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



E-Line  
TO92 Compatible

REFER TO ZVN3306A FOR GRAPHS

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	60	V
Continuous Drain Current at $T_{amb} = 25^{\circ}\text{C}$	$I_D$	270	mA
Pulsed Drain Current	$I_{DM}$	3	A
Gate Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation at $T_{amb} = 25^{\circ}\text{C}$	$P_{tot}$	625	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}\text{C}$

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	60			V	$I_D=100\mu\text{A}, V_{GS}=0\text{V}$
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.8		2.5	V	$I_D=1\text{mA}, V_{DS}=V_{GS}$
Gate Body Leakage	$I_{GSS}$			100	nA	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$
Zero Gate Voltage Drain Current (1)	$I_{DSS}$			10	$\mu\text{A}$	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$
On State Drain Current(1)	$I_{D(on)}$	750			mA	$V_{DS}=15\text{V}, V_{GS}=10\text{V}$
Static Drain Source On State Resistance (1)	$R_{DS(on)}$			5.0 7.5	$\Omega$	$V_{GS}=10\text{V}, I_D=500\text{mA}$ $V_{GS}=5\text{V}, I_D=200\text{mA}$
Forward Transconductance (1)(2)	$g_{fs}$	100			mS	$V_{DS}=15\text{V}, I_D=500\text{mA}$
Input Capacitance (2)	$C_{iss}$			60	pF	$V_{DS}=25\text{V}, V_{GS}=0\text{V}$ $f=1\text{MHz}$
Common Source Output Capacitance (2)	$C_{oss}$			25	pF	
Reverse Transfer Capacitance (2)	$C_{rss}$			5	pF	
Turn-On Time (2)(3)	$t_{(on)}$			10	ns	$V_{DD}\approx 15\text{V}, I_D=600\text{mA}$
Turn-Off Time (2)(3)	$t_{(off)}$			10	ns	