

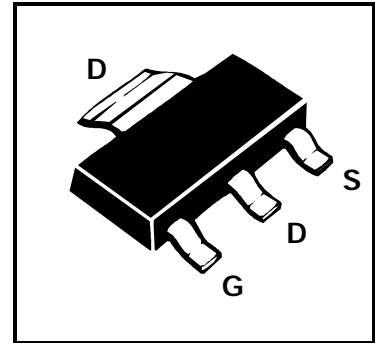
# SOT223 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

## ZVN0545G

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### FEATURES

- \* 450 Volts  $V_{DS}$
- \*  $R_{DS(on)} = 50\Omega$
- \* Ease of paralleling



PARTMARKING DETAIL – ZVN0545

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	450	V
Continuous Drain Current at $T_{amb}=25^{\circ}\text{C}$	$I_D$	140	mA
Pulsed Drain Current	$I_{DM}$	600	mA
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	$P_{tot}$	2	W
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.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	450		V	$I_D=1\text{mA}, V_{GS}=0\text{V}$
Gate-Source Threshold Voltage	$V_{GS(th)}$	1	3	V	$I_D=1\text{mA}, V_{DS}=V_{GS}$
Gate-Body Leakage	$I_{GSS}$		20	nA	$V_{GS}=\pm 20\text{V}, V_{DS}=0\text{V}$
Zero Gate Voltage Drain Current	$I_{DSS}$		10 400	$\mu\text{A}$ $\mu\text{A}$	$V_{DS}=450\text{V}, V_{GS}=0$ $V_{DS}=405\text{V}, V_{GS}=0\text{V},$ $T=125^{\circ}\text{C}(2)$
On-State Drain Current(1)	$I_{D(on)}$	150		mA	$V_{DS}=25\text{V}, V_{GS}=10\text{V}$
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		50	$\Omega$	$V_{GS}=10\text{V}, I_D=100\text{mA}$
Forward Transconductance(1)(2)	$g_{fs}$	100		mS	$V_{DS}=25\text{V}, I_D=100\text{mA}$
Input Capacitance (2)	$C_{iss}$		70	pF	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$
Common Source Output Capacitance (2)	$C_{oss}$		10	pF	
Reverse Transfer Capacitance (2)	$C_{rss}$		4	pF	
Turn-On Delay Time (2)(3)	$t_{d(on)}$		7	ns	$V_{DD}\approx 25\text{V}, I_D=100\text{mA}$
Rise Time (2)(3)	$t_r$		7	ns	
Turn-Off Delay Time (2)(3)	$t_{d(off)}$		16	ns	
Fall Time (2)(3)	$t_f$		10	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