

SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

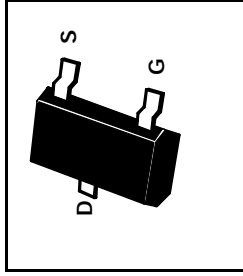
VN10LFF

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FEATURES

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

PARTMARKING DETAIL – MY



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	150	mA
Pulsed Drain Current	I_{DM}	3	A
Gate Source Voltage	V_{GS}	± 20	V
Power Dissipation at $T_{amb} = 25^\circ\text{C}$	P_{tot}	330	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 Breakdown 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	μA	$V_{DS} = 60\text{V}, V_{GS} = 0\text{V}$
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	Ω	$V_{GS} = 10\text{V}, I_D = 500\text{mA}$ $V_{GS} = 5\text{V}, I_D = 200\text{mA}$
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	
Common Source Output Capacitance (2)	C_{oss}			25	pF	$V_{DS} = 25\text{V}, V_{GS} = 0\text{V}$ $f = 1\text{MHz}$
Reverse Transfer Capacitance (2)	C_{rss}			5	pF	
Turn-On Time (2)(3)	$t_{(on)}$		3	10	ns	
Turn-Off Time (2)(3)	$t_{(off)}$		4	10	ns	$V_{DD} = 15\text{V}, I_D = 600\text{mA}$

(1) Measured under pulsed conditions. Width=300 μs . Duty cycle $\leq 2\%$. (2) Sample test.

(3) Switching times measured with 50 Ω source impedance and <5ns rise time on a pulse generator. Spice parameter data is available upon request for this device. For typical characteristics graphs see ZVN3306F datasheet.