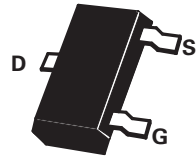


# SOT23 N-CANNEL ENHANCEMENT MODE VERTICAL DMOS FET

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## BSS123

PARTMARKING DETAIL – SA



SOT23

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	100	V
Drain-Gate Voltage	$V_{DGR}$	100	V
Continuous Drain Current at $T_{amb}=25^{\circ}C$	$I_D$	170	mA
Pulsed Drain Current	$I_{DM}$	680	mA
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Peak Gate-Source Voltage	$V_{GSM}$	$\pm 20$	V
Power Dissipation at $T_{amb}=25^{\circ}C$	$P_{tot}$	360	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.	MIN.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	$BV_{DSS}$	100			V	$I_D=0.25mA, V_{GS}=0V$
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.8	2.2	2.8	V	$I_D=1mA, V_{DS}=V_{GS}$
Gate-Body Leakage	$I_{GSS}$		10	50	nA	$V_{GS}=\pm 20V, V_{DS}=0V$
Zero Gate Voltage Drain Current	$I_{DSS}$		1	15	$\mu A$	$V_{DS}=100V, V_{GS}=0V$
			2	60	$\mu A$	$V_{DS}=100V, V_{GS}=0V, T=125^{\circ}C(2)$
				10	nA	$V_{DS}=20V, V_{GS}=0V$
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$		5	6	$\Omega$	$V_{GS}=10V, I_D=100mA$
Forward Transconductance(1)(2)	$g_{fs}$	80	120		mS	$V_{DS}=25V, I_D=100mA$
Input Capacitance (2)	$C_{iss}$			20	pF	$V_{DS}=25V, V_{GS}=0V, f=1MHz$
Common Source Output Capacitance (2)	$C_{oss}$			9	pF	
Reverse Transfer Capacitance (2)	$C_{rss}$			4	pF	
Turn-On Delay Time (2)(3)	$t_{d(on)}$		10		ns	$V_{DD} \approx 30V, I_D=280mA$
Rise Time (2)(3)	$t_r$		10		ns	
Turn-Off Delay Time (2)(3)	$t_{d(off)}$		15		ns	
Fall Time (2)(3)	$t_f$		25		ns	

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

(3) Switching times measured with 50 $\Omega$  source impedance and <5ns rise time on a pulse generator For typical characteristics graphs see ZVN3310F datasheet.