SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL DMOS FET

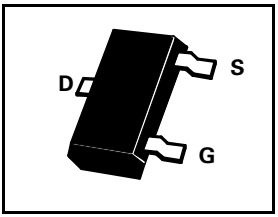
BSS123A

ISSUE 4 – APRIL 1998

FEATURES

* BV_{DSS} = 100V
* Low Threshold

PARTMARKING DETAIL – SAA



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°C	I_D	170	mA
Pulsed Drain Current	I_{DM}	680	mA
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation at T_{amb}=25°C	P_{tot}	360	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (at T_{amb} = 25°C unless otherwise stated).

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV_{DSS}	100			V	I_D=0.25mA, V_{GS}=0V
Gate-Source Threshold Voltage	$V_{GS(th)}$	0.5		2.0	V	I_D=1mA, V_{DS}= V_{GS}
Gate-Body Leakage	I_{GSS}			50	nA	V_{GS}=± 20V, V_{DS}=0V
Zero Gate Voltage Drain Current	I_{DSS}			500	nA	V_{DS}=100V, V_{GS}=0V
Static Drain-Source On-State Resistance (1)	$R_{DS(on)}$			6 10	Ω Ω	V_{GS}=10V, I_D=170mA V_{GS}=4.5V, I_D=170mA
Forward Transconductance(1)(2)	g_{fs}	80			mS	V_{DS}=25V, I_D=100mA
Input Capacitance (2)	C_{iss}		25		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}≈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=300µs. Duty cycle ≤2% (2) Sample test.

(3) Switching times measured with 50Ω source impedance and <5ns rise time on a pulse generator