

BSS100L / BSS123

FEATURES

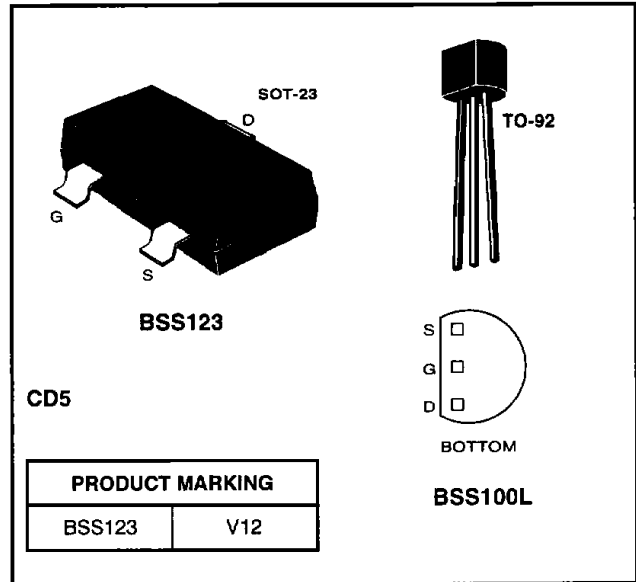
- Compact Geometry
- Fast Switching Speeds
- No Secondary Breakdown
- Excellent Temperature Stability
- High Input Impedance
- Low Current Drive
- Ease of Paralleling

APPLICATIONS

- Small Motor Drivers
- Switches
- Amplifiers

ORDERING INFORMATION

Part	Package	Temperature Range
BSS123	Surface Mount SOT-23	-55°C to +150°C
BSS100L	Plastic TO-92	-55°C to +150°C
XBSS123	Sorted Chips in Carriers	-55°C to +150°C



ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETERS	BSS100L	BSS123	UNITS
V _{DS}	Drain-Source Voltage	100	100	V
I _D	Continuous Drain Current (@ T _A = 25°C)	170	170	mA
I _{DM}	Pulsed Drain Current	680	680	mA
V _{GS}	Gate-Source Voltage	±20	±20	V
P _D	Max. Power Dissipation (@ T _A = 25°C)	.2	0.36	W
T _J , T _{stg}	Operating/Storage Temperature Range	-50 to +150	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}C$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
BV _{DSS}	Drain-Source Breakdown Voltage	100			V	I _D = 0.25mA, V _{GS} = 0V
V _{GS(th)}	Gate-Source Threshold Voltage	0.8	2.2	2.8	V	I _D = 1mA, V _{DS} = V _{GS}
I _{GSS}	Gate-Body Leakage		10	50	nA	V _{GS} = 20V, V _{DS} = 0V
I _{DSS}	Zero Gate Voltage Drain Current		1 2	15 50 10	μA μA nA	V _{DS} = 100V, V _{GS} = 0V, T = 25°C V _{DS} = 100V, V _{GS} = 0V, T = 125°C ² V _{DS} = 20V, V _{GS} = 0V, T = 25°C
R _{DS(ON)}	Static Drain-Source On-State Resistance ¹		5	6	Ω	I _D = 100mA, V _{GS} = 10V
g _{fs}	Forward Transconductance ^{1, 2}	80	120		mS	V _{DS} = 25V, I _D = 100mA
C _{iss}	Input Capacitance ²		20		pF	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz
C _{oss}	Common Source Output Capacitance ²		9			
C _{rss}	Reverse Transfer Capacitance ²		4			
t _{d(ON)}	Turn-On Delay Time ^{2, 3}		10		ns	V _{DD} = 30V, I _D = 280mA
t _r	Rise Time ^{2, 3}		10			
t _{d(OFF)}	Turn-Off Delay Time ^{2, 3}		15			
t _f	Fall Time ^{2, 3}		25			

Notes:

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.