TL-BSS123

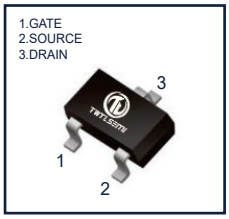
SOT23 100V N-Channel Enhancement Mode MOSFET

Description

The BSS123 is N-Channel enhancement MOS Field Effect Transistor. Uses advanced trenchtechnology and design to provide excellent Ros(ow, with low gate charge. Device is suitable for use inDC-DC conversion, power switch and charging circuit.

General Features

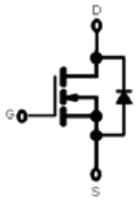
- ESD Protection.
- Exceptional on-resistance and maximum DC current capability.



SOT23

Applications

- Battery Powered System.
- Load Switch.



Equivalent Circuit

Ordering information

Product ID	Pack	Naming rule	Marking	Qty(PCS)
BSS123	SOT23	BSS123 产品名称 product name	SA	3000

Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-Source Voltage	100	V
V_{GS}	Continuous Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	0.17	A
I_{DM}	Pulsed Drain Current (tp=10us)	0.68	A
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient (t≤5s)	350	℃/W
T_J,T_{STG}	Operation Junction and Storage Temperature Range	-55~+150	℃

Electrical Characteristics (T_A=25℃, unless otherwise noted)

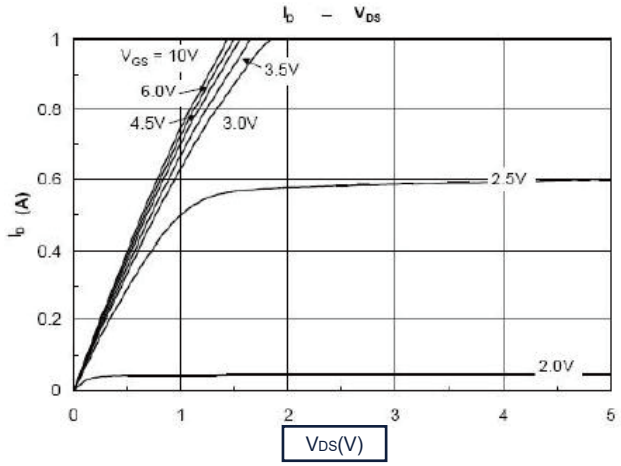
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
STATIC						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V , I_D=250μA	100	---	---	V
$V_{GS(th)}$	Gate-threshold voltage	V_{DS}=V_{GS}, I_D=250μA	1.5	---	2.5	V
I_{GSS}	Gate -Source leakage current	V_{GS}=±20V, V_{DS}=0V	---	---	±10	μA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=100V,V_{GS}= 0V	---	---	1	μA
$R_{DS(on)}$	Drain-Source On-Resistance[a]	V_{GS}= 10V, I_D=0.17A	---	---	6.0	Ω
		V_{GS}= 4.5V, I_D=0.17A	---	---	9.0	
V_{SD}	Body diode forward voltage	I_S=0.2A, V_{GS}= 0V	---	---	1.0	V
Dynamic						
C_{iss}	Input Capacitance	V_{DS}=50V,V_{GS}=0V,f=1MHz	---	30	---	pF
C_{oss}	Output Capacitance		---	10	---	
C_{rss}	Reverse Transfer Capacitance[b]		---	7	---	
Switching[b]						
$T_{d(on)}$	Turn-on delay time	V_{GS}=10V,V_{DS}=50V I_D=200mA, R_{GEN}=6Ω	---	1.7	---	ns
T_r	Rise time		---	9	---	
$T_{d(off)}$	Turn-off delay time		---	17	---	
T_f	Fall time		---	7	---	

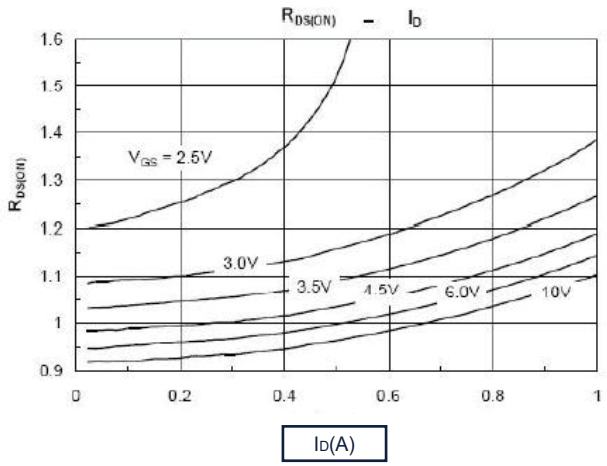
Notes :

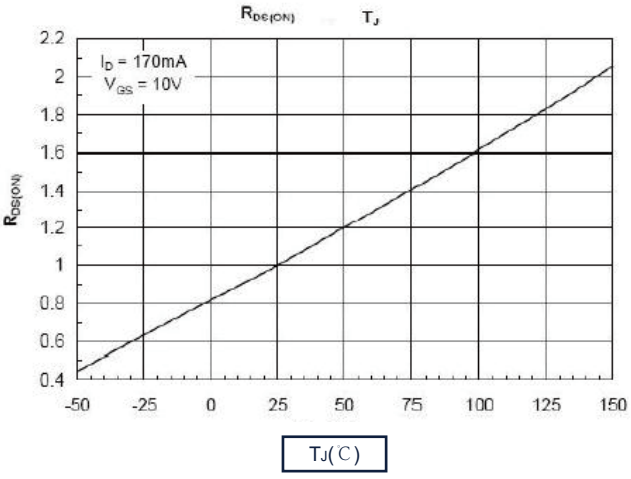
a. Pulse Test : Pulse width≤300μs, duty cycle ≤2%.

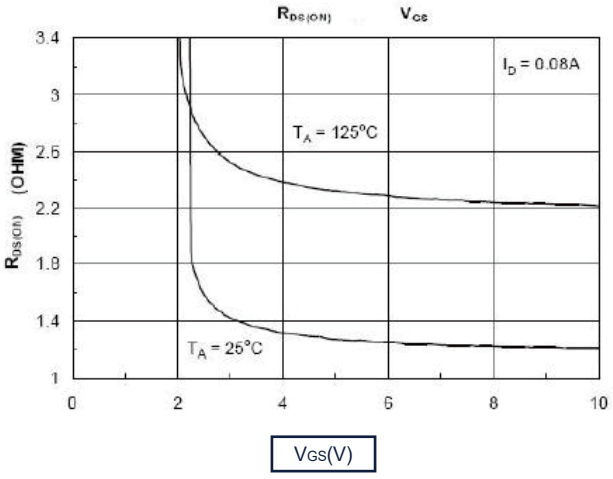
b. Guaranteed by design, not subject to producting.

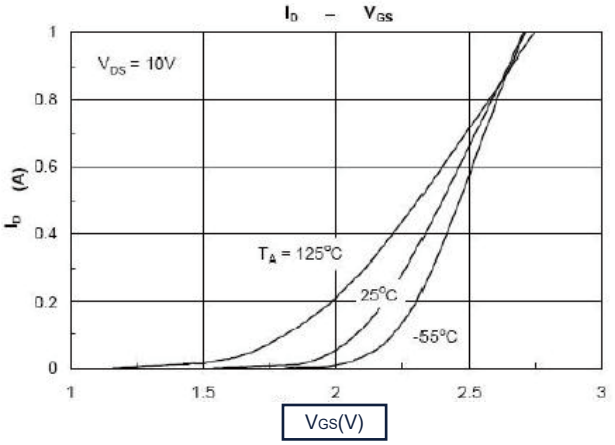
Typical Characteristics

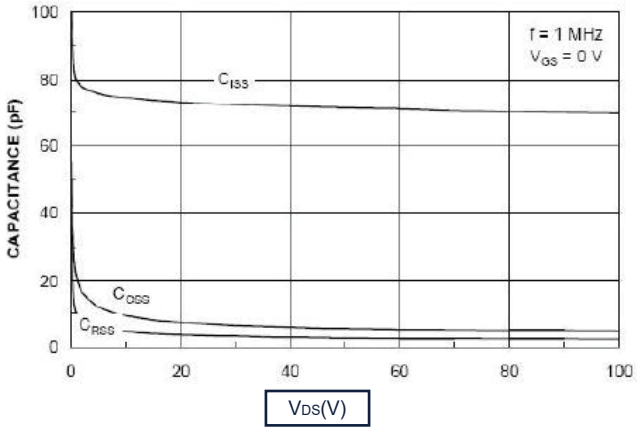


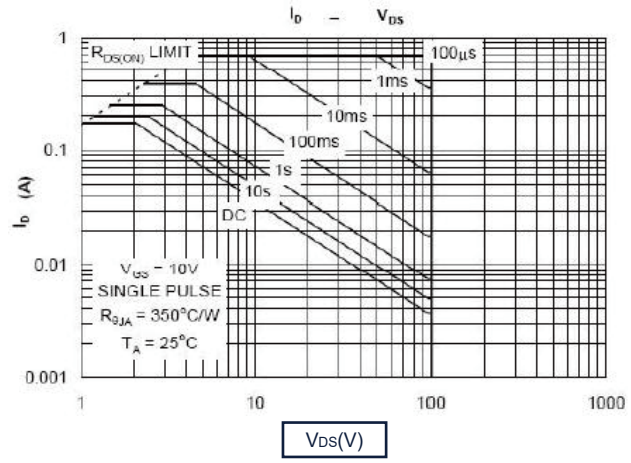


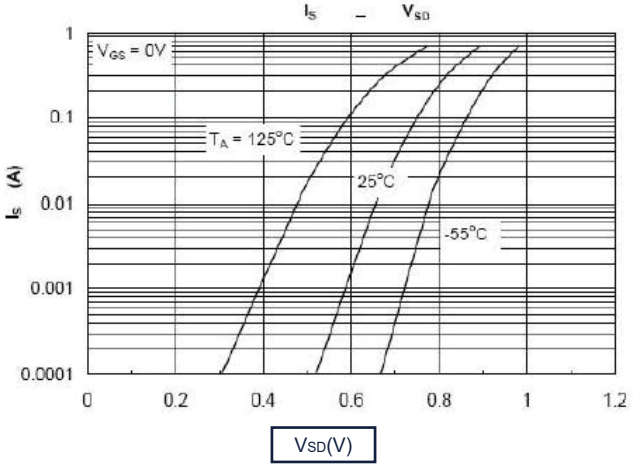




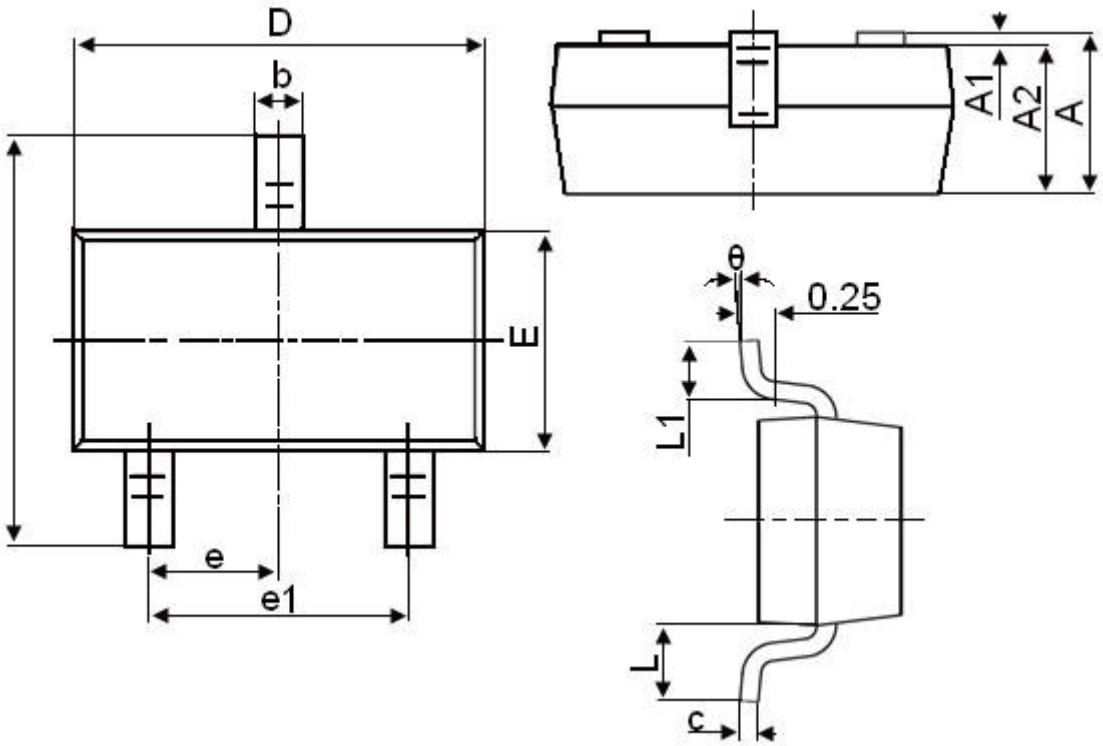








SOT23 Package Outline Dimensions



Symbol	Dimensions in Millimeters	
	mm	
	Min	Max
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°