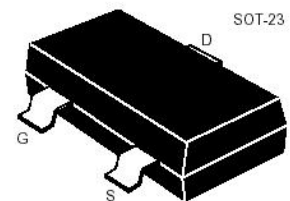




THE DATASHEET OF BSS123



N-Channel Power MOSFET



■ MAXIMUM RATINGS

Characteristic	Symbol	Max	Unit
Drain-Source Voltage	BV_{DSS}	100	V
Gate- Source Voltage	V_{GS}	± 20	V
Drain Current-continuous	I_{DR}	150	mA
Drain Current-pulsed	I_{DRM}	600	mA

■ THERMAL CHARACTERISTICS

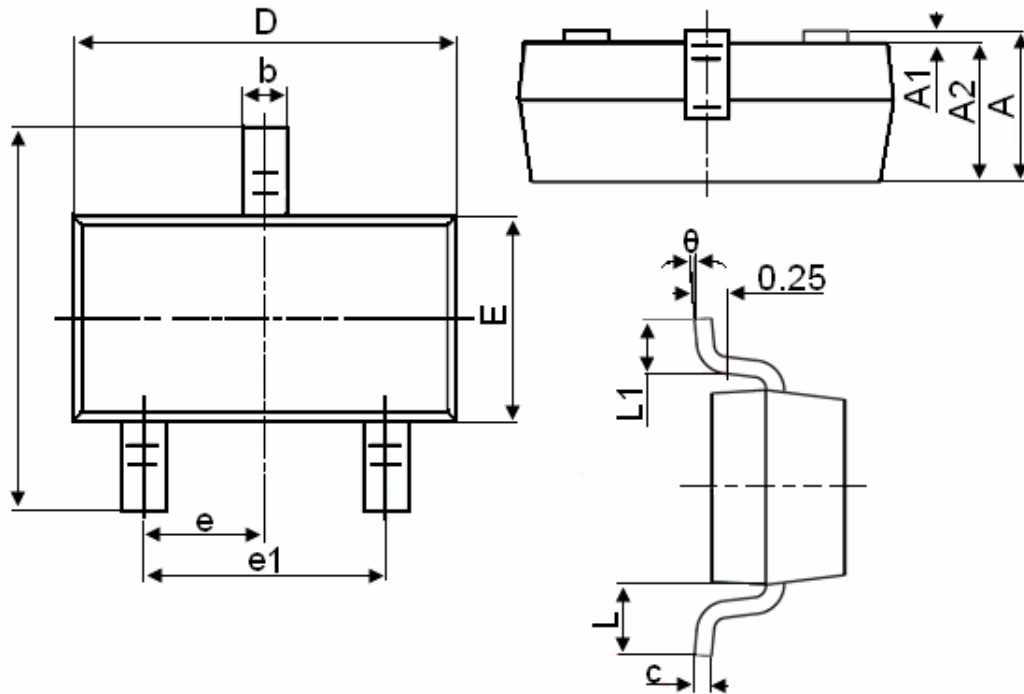
Characteristic	Symbol	Max	Unit
Total Device Dissipation $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	250 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	500	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	150 $^\circ\text{C}$, -55to+150 $^\circ\text{C}$	

■ ELECTRICAL CHARACTERISTICS

 (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage (I _D =10uA, V _{GS} =0V)	BV _{DSS}	100	—	—	V
Gate Threshold Voltage (I _D =1mA, V _{GS} = V _{DS})	V _{GS(th)}	1.0	—	2.8	V
Diode Forward Voltage Drop (I _{SD} =200mA, V _{GS} =0V)	V _{SD}	—	—	1.5	V
Zero Gate Voltage Drain Current (V _{GS} =0V, V _{DS} = 80V)	I _{DSS}	—	—	1	uA
Gate Body Leakage (V _{GS} =±20V, V _{DS} =0V)	I _{GSS}	—	—	±10	uA
Static Drain-Source On-State Resistance (I _D =120mA, V _{GS} =10V)	R _{DS(ON)}	—	3.5	6	Ω
Input Capacitance (V _{GS} =0V, V _{DS} =25V, f=1MHz)	C _{ISS}	—	—	40	pF
Common Source Output Capacitance (V _{GS} =0V, V _{DS} =25V, f=1MHz)	C _{OSS}	—	—	25	pF
Turn-ON Time (V _{DS} =50V, I _D =200mA, R _{GEN} =25Ω)	t _(on)	—	—	10	ns
Turn-OFF Time (V _{DS} =50V, I _D =200mA, R _{GEN} =25Ω)	t _(off)	—	—	20	ns

1. FR-5=1.0×0.75×0.062in.
2. Alumina=0.4×0.3×0.024in.99.5%alumina.
3. Pulse Width≤300 μs; Duty Cycle≤2.0%.

SOT-23 Package Information


Symbol	Dimensions in Millimeters	
	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°

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