



BSS123T

■ Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	100	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =100V, V _{GS} =0V	-	-	1	μA
		V _{DS} =100V, V _{GS} =0V, T _J =150	-	-	100	
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	1.0	1.8	2.5	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =200mA	-	2.4	3.4	Ω
		V _{GS} =4.5V, I _D =200mA	-	2.65	3.6	
Diode Forward Voltage	V _{SD}	I _S =200mA, V _{GS} =0V	-	-	1.2	V
Gate resistance	R _G	f=1MHz,	-	5.5	-	Ω
Maximum Body-Diode Continuous Current	I _S		-	-	200	mA
Dynamic Parameters						
Input Capacitance	C _{ISS}	V _{DS} =50V, V _{GS} =0V, f=1MHz	-	33	-	pF
Output Capacitance	C _{OSS}		-	3.5	-	
Reverse Transfer Capacitance	C _{RSS}		-	1	-	
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =10V, V _{DS} =50V, I _D =1A	-	1.8	-	nC
Gate-Source Charge	Q _{gs}		-	0.6	-	
Gate-Drain Charge	Q _{gd}		-	0.3	-	
Reverse Recovery Charge	Q _{rr}	I _F =1A, di/dt=100A/us	-	6	-	nC
Reverse Recovery Time	t _{rr}		-	20	-	ns
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V, V _{DD} =50V, I _D =1A R _{GEN} =3Ω	-	4	-	ns
Turn-on Rise Time	t _r		-	20	-	
Turn-off Delay Time	t _{D(off)}		-	7	-	
Turn-off fall Time	t _f		-	31	-	

A. Repetitive rating; pulse width limited by max. junction temperature.

B. P_d is based on max. junction temperature, using junction-case thermal resistance.

C. The value of R_{θJA} is measured with the dev TJ70.3 129.14 Tmen0 G[d]4()-5(w5e)4(a)19(s)-6(u)4(r)5(e)]TJETQq0.000008881ns me dev T[d]4()-5(w5e)4



Typical Electrical and Thermal Characteristics Diagrams

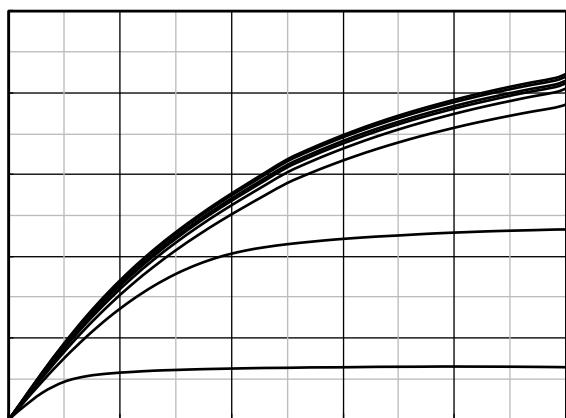


Figure 1. Output Characteristics

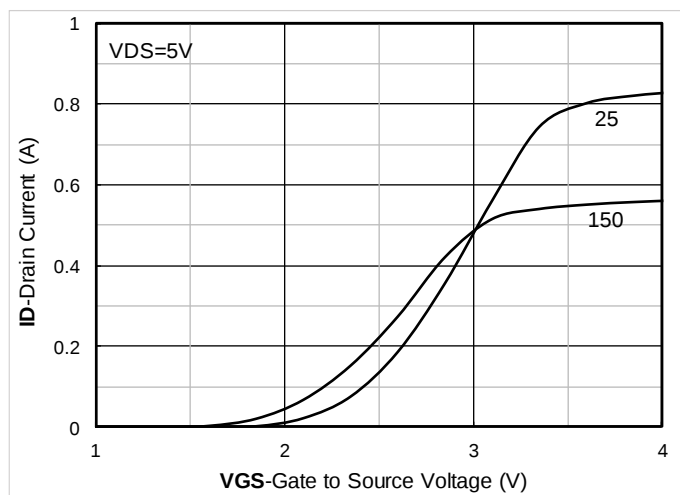


Figure 2. Transfer Characteristics

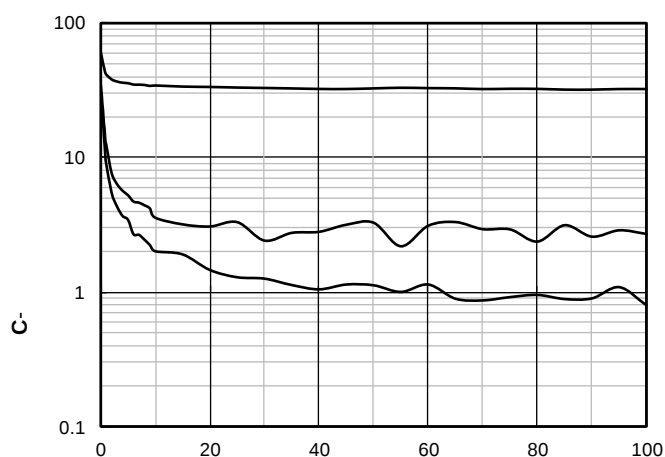


Figure 3. Capacitance Characteristics

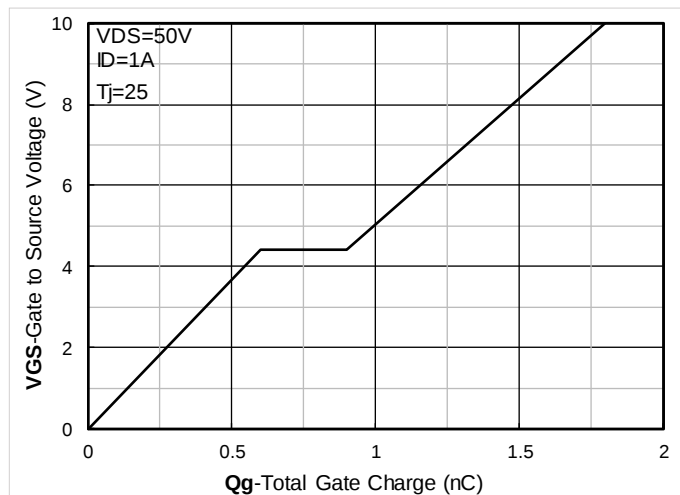


Figure 4. Gate Charge

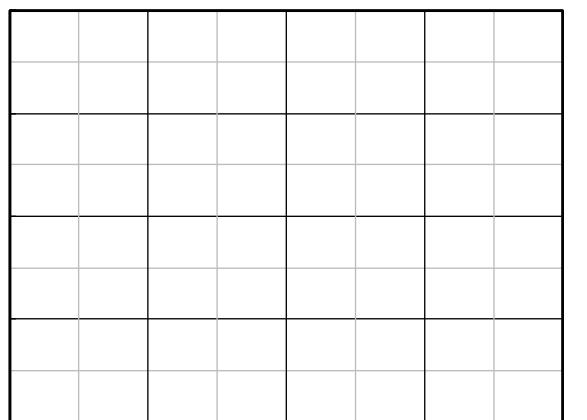


Figure 5. On-Resistance VS Gate to Source Voltage

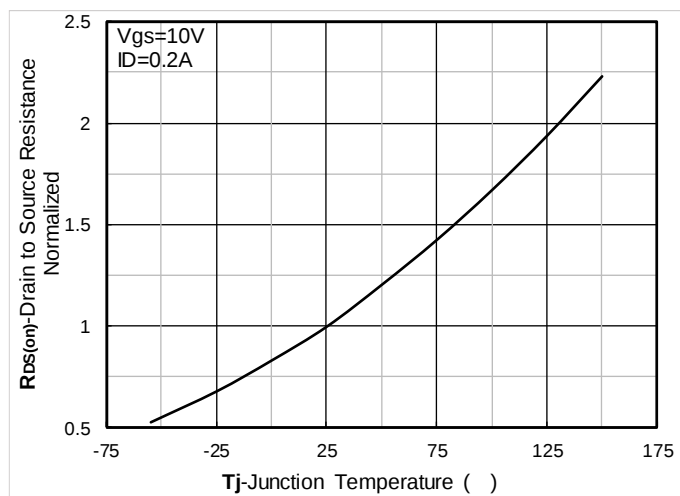


Figure 6. Normalized On-Resistance



Figure 7. $R_{DS(on)}$ VS Drain Current

Figure 8. Forward characteristics of reverse diode

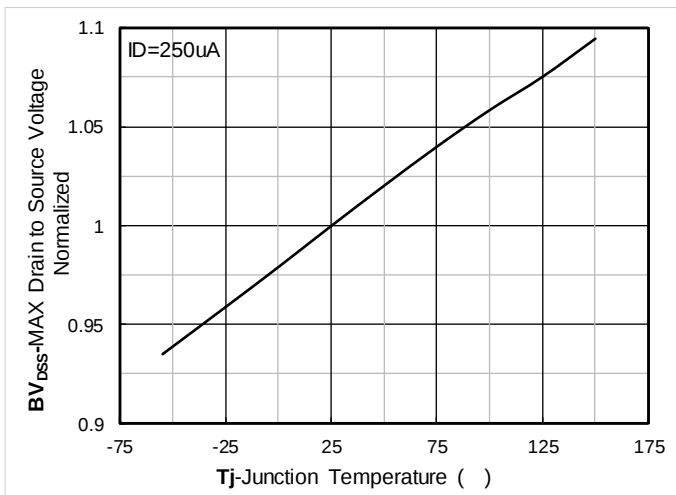


Figure 9. Normalized breakdown voltage

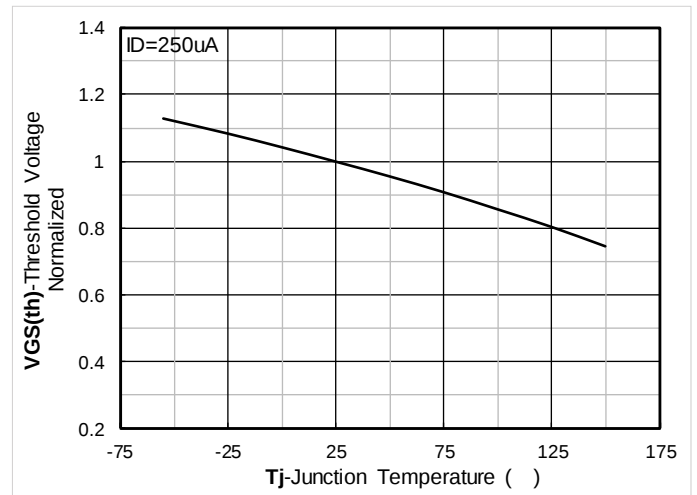


Figure 10. Normalized Threshold voltage

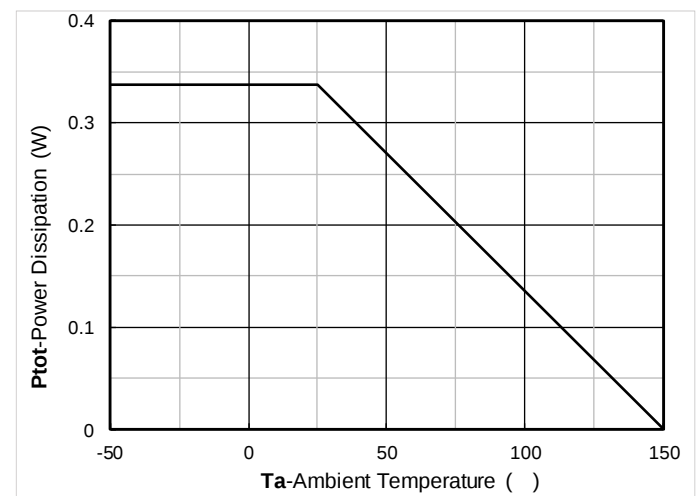
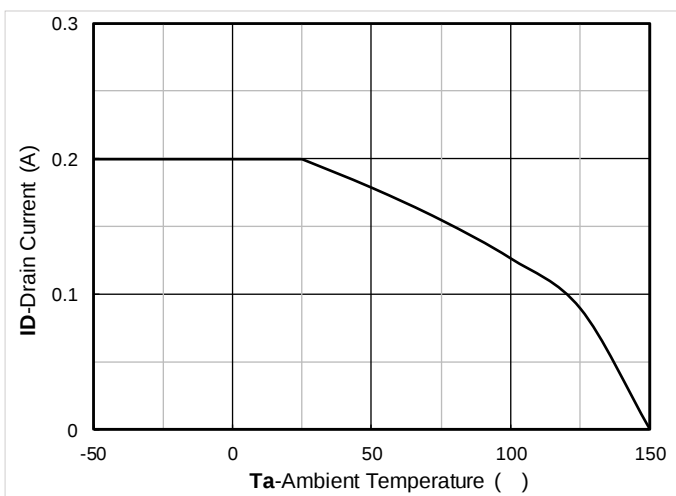
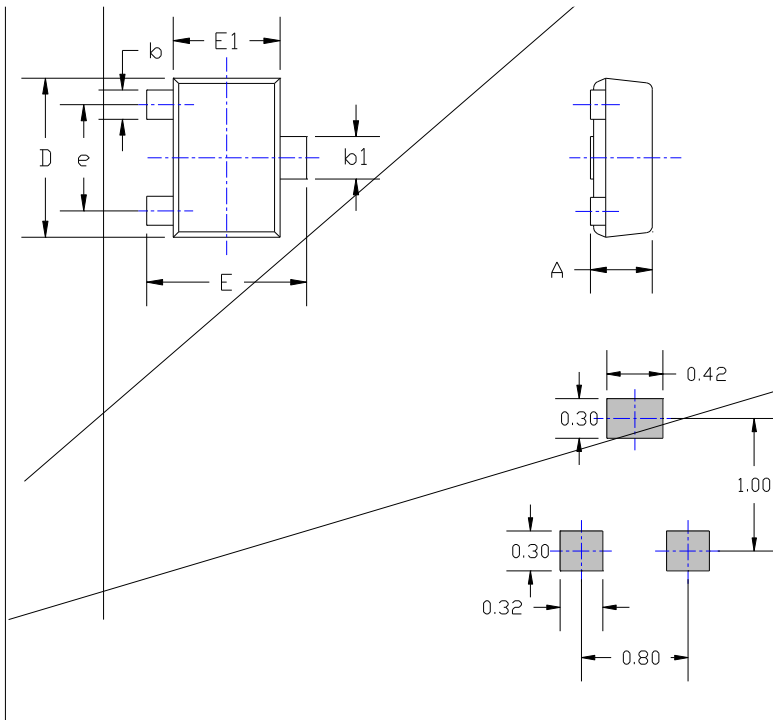


Figure 11. Current dissipation graph. The y-axis is 'ID-Drain Current (A)' ranging from 0 to 0.3. The x-axis is 'Ta-Ambient Temperature (°C)' ranging from -50 to 150. The curve shows a constant drain current of 0.2 A from -50°C to 25°C, then decreases linearly to 0 A at 150°C.

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■ SOT-723 Package information



SYMBOL	DIMENSIONS		
	INCHES		Mi
	MIN.	MAX.	
A	0.017	0.022	
A1	0.000	0.002	
b		0.011	
b1			
C			
D			
E			
E1			
e			

NOTE:

- 1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
- 2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
- 3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



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