SSC8122GS9

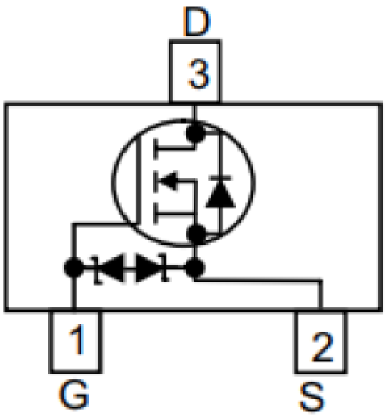
N-Channel Enhancement Mode MOSFET with ESD Protection

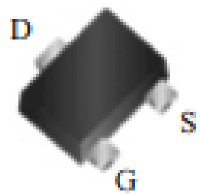
➢ Features

VDS	VGS	RDSON Typ.	ID	ESD
20V	±8V	215mR@4V5	1A	2K
		260mR@2V5		
		310mR@1V8		

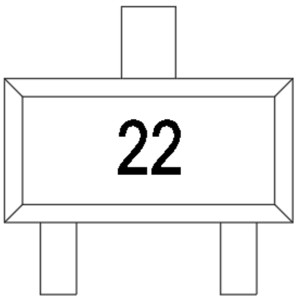
➢ Pin configuration

Top view





SOT723



Marking

➢ Description

This device is a N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

➢ Applications

- Replace Digital Transistor
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching cell Phones

➢ Ordering Information

Device	Package	Shipping
SSC8122GS9	SOT723	8000/Reel

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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	20	V
V_{GSS}	Gate-to-Source Voltage	±8	V
I_D	Continuous Drain Current [a]	1	A
I_{DM}	Pulsed Drain Current [b]	2.5	A
P_D	Power Dissipation [c]	0.3	W
P_{DSM}	Power Dissipation [a]	0.17	W
T_J	Operation junction temperature	-55 to 150	℃
T_{STG}	Storage temperature range	-55 to 150	℃

➢ **Thermal Resistance Ratings**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]		735	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		416	

Note:

a. The value of RθJA is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper,in a still air environment with TA=25C°.The value in any given application depends on the user is specific board design. The current rating is based on the t≤ 10s thermal resistance rating.

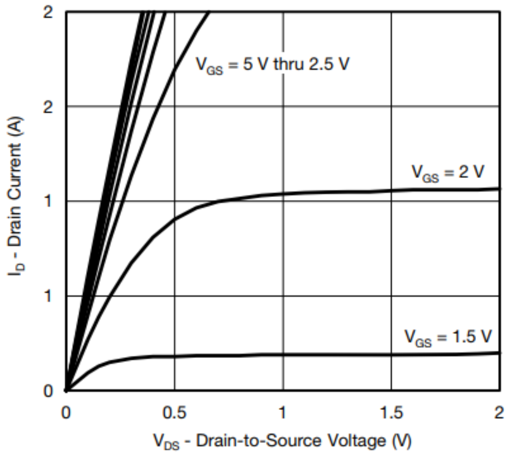
b. Repetitive rating, pulse width limited by junction temperature.

c. The power dissipation PD is based on TJ(MAX)=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

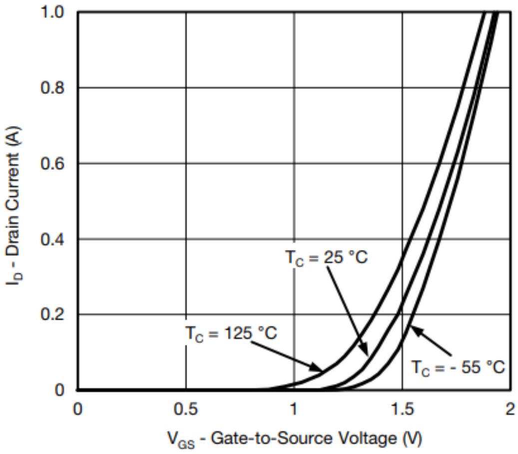
➢ Electronics Characteristics(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V,ID=250uA	20			V
$V_{GS(th)}$	Gate Threshold Voltage	VDS=VGS,ID=250uA	0.5	0.7	1	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=4.5V,ID=0.5A		215	400	mR
		VGS=2.5V,ID=0.5A		260	500	
		VGS=1.8V,ID=0.35A		310	800	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=20V,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±8V,VDS=0V			±10	uA
G_{FS}	Forward Transconductance	VDS=10V,ID=0.4A		1		S
V_{SD}	Forward Voltage	VGS=0V,IS=0.35A			1.2	V
Ciss	Input Capacitance	VDS=10V, VGS=0V, F=100KHZ		86		pF
Coss	Output Capacitance			16		
Crss	Reverse Transfer Capacitance			8		
$T_{D(ON)}$	Turn-on delay time	VGS=4.5V, VDD=10V, RG=6R, ID=0.45A		22		ns
$T_{D(OFF)}$	Turn-off delay time			36		

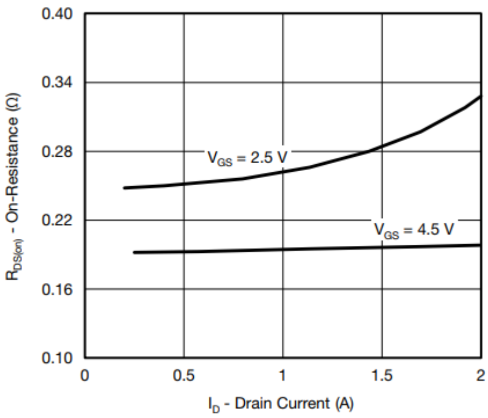
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



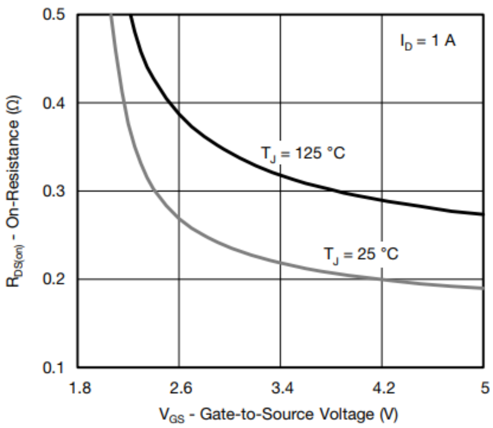
Output Characteristics



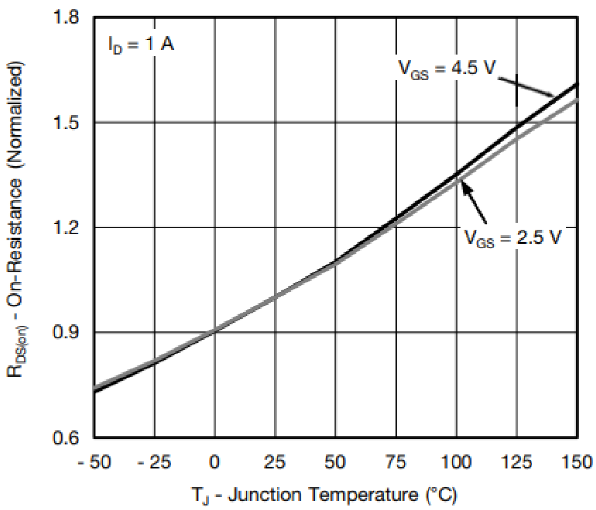
Transfer Characteristics



On-Resistance vs. Drain Current and Gate Voltage



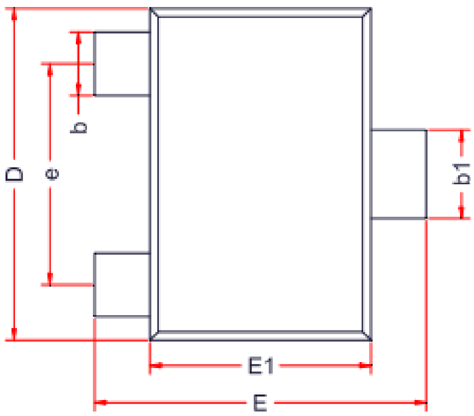
On-Resistance vs. Gate-to-Source Voltage



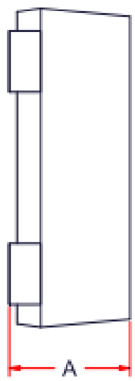
On-Resistance vs. Junction Temperature

➢ Package Information

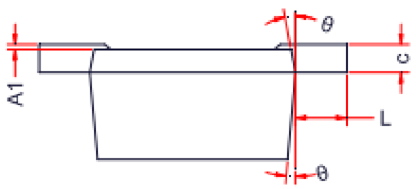
SOT-723



TOP VIEW



SIDE VIEW



SIDE VIEW

Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.43	-	0.55
A1	0.00	-	0.05
c	0.08	0.13	0.18
b1	0.27	-	0.37
b	0.17	-	0.27
L	0.15	0.20	0.25
D	1.15	1.20	1.25
E	1.15	1.20	1.25
E1	0.75	0.80	0.85
e	0.80 Ref.		
θ	7 ° Ref.		

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