SSC8122GN5

N-Channel Enhancement Mode MOSFET with ESD Protection

➢ Features

VDS	VGS	RDSON Typ.	ID	ESD
20V	±8V	200mR@4V5	2A	1K
		290mR@2V5		
		450mR@1V8		

➢ 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.

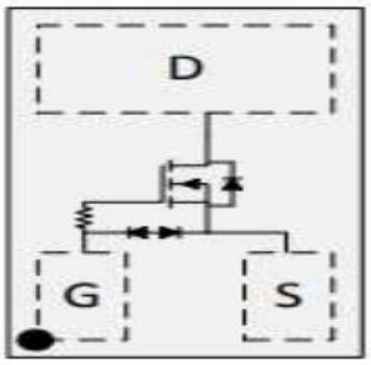
➢ Applications

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

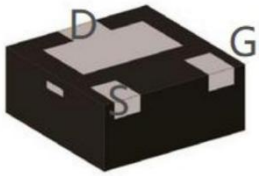
➢ Ordering Information

Device	Package	Shipping
SSC8122GN5	DFN1616	3000/Reel

➢ Pin configuration



Top view



DFN1616

Marking

➢ 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]	2	A
I_{DM}	Pulsed Drain Current [b]	6	A
P_D	Power Dissipation [c]	2	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	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	60	℃/W

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=25℃.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.

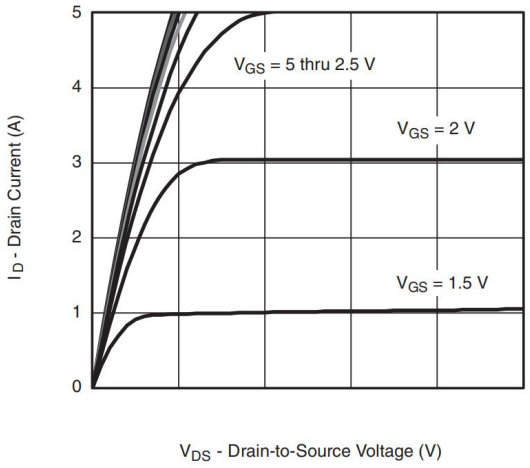
b. Repetitive rating, pulse width limited by junction temperature.

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.

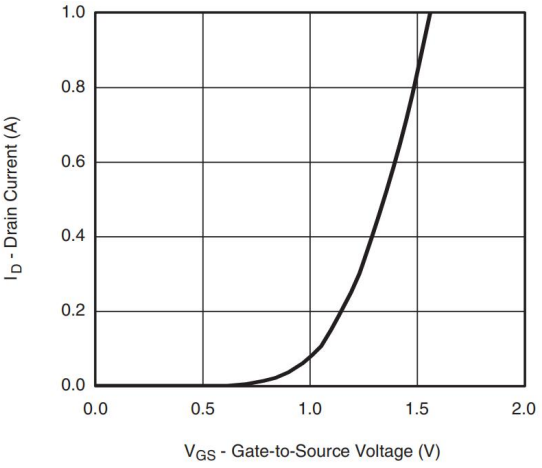
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

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	0.8	1	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=4.5V , ID=0.5A		200	350	mR
		VGS=2.5V , ID=0.3A		290	400	
		VGS=1.8V , ID=0.1A		450	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}	Transconductance	VDS=5V , ID=2A		2		S
V_{SD}	Forward Voltage	VGS=0V , IS=2.2A		0.7	1.3	V
Ciss	Input Capacitance	VDS=10V , VGS=0V, f=1MHz		50		pF
Coss	Output Capacitance			12		
Crss	Reverse Capacitance			7		
$T_{D(ON)}$	Turn-on delay time	VGS=4.5V, VDS=10V, RL=5R RG=3R		2		ns
Tr	Rise time			4		
$T_{D(OFF)}$	Turn-off delay time			10		
Tf	Fall time			8		
Qg	Total Gate charge	VGS=4.5V, VDS=10V ID=2A		0.8		nC
Qgs	Gate Source charge			0.1		
Qgd	Gate Drain charge			0.2		

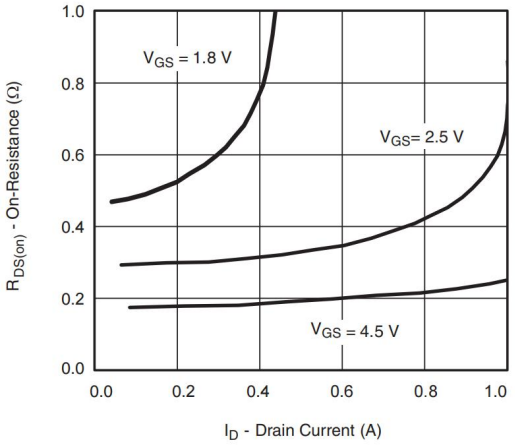
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



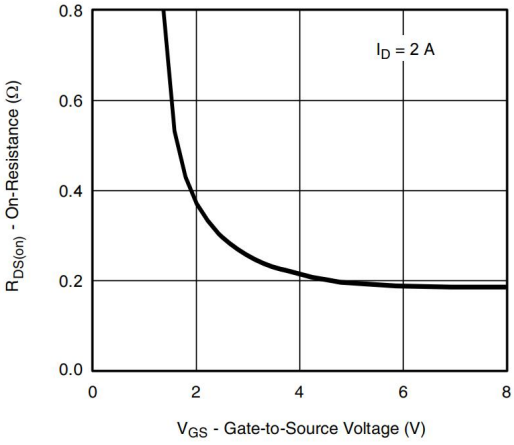
Output Characteristics



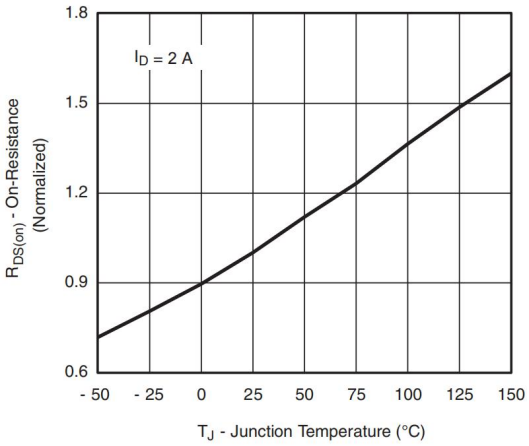
Transfer Characteristics



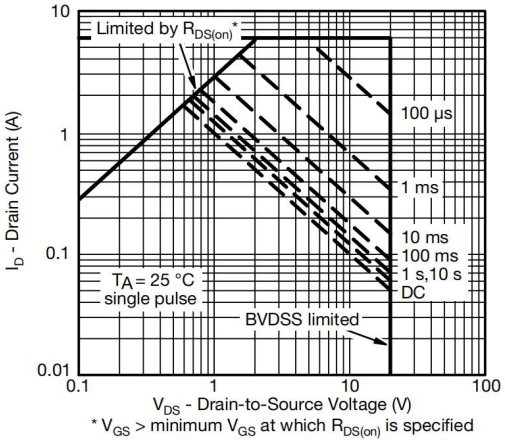
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

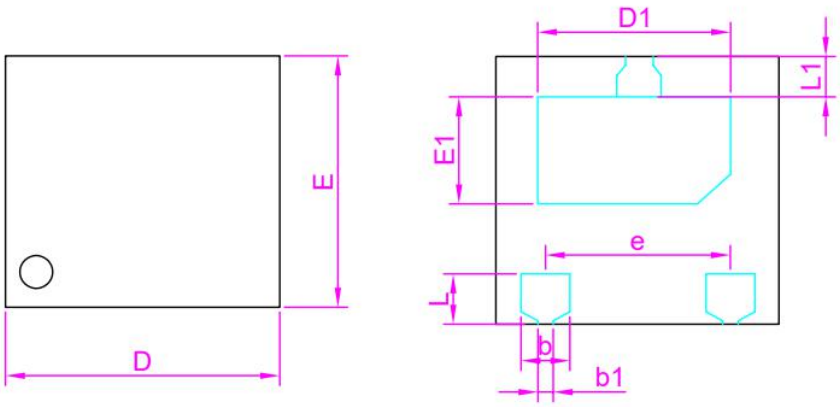


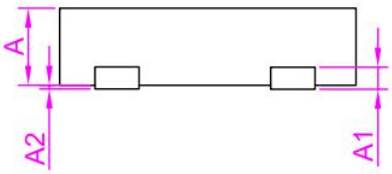
On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Case

➢ Package Information





COMMON DIMENSION (MM)			
PKG	DFN1616-3L		
REF.	MIN.	NOM.	MAX.
A	0.50	0.55	0.60
D	1.55	1.60	1.65
E	1.55	1.60	1.65
b	0.35	0.40	0.45
L	0.35	0.40	0.45
e		1.00BSC	
D1	1.15	1.20	1.25
E1	0.50	0.55	0.65
b1	0.15	0.20	0.25
L1	0.20	0.25	0.30
A1		0.15BSC	
A2	0.00	0.025	0.05

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