SSC8122GN1

N-Channel Enhancement Mode MOSFET with ESD protection

➢ Features

VDS	VGS	RDSON Typ.	ID	ESD
20V	±8V	195mR@4V5	1.1A	2K
		240mR@2V5		
		305mR@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

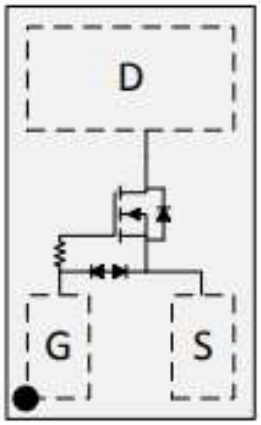
- Load Switch
- Portable Devices

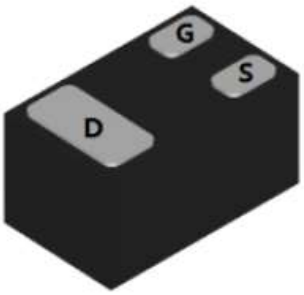
➢ Ordering Information

Device	Package	Shipping
SSC8122GN1	DFN1006	10K/Reel

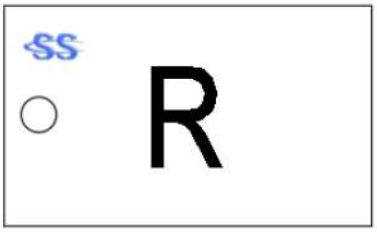
➢ Pin configuration

Top view





Bottom View



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]	1.1	A
I_{DM}	Pulsed Drain Current [b]	3.1	A
P_D	Power Dissipation [c]	0.32	W
P_{DSM}	Power Dissipation [a]	0.18	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]		690	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		379	

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper,in a still air environment with T_A=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.

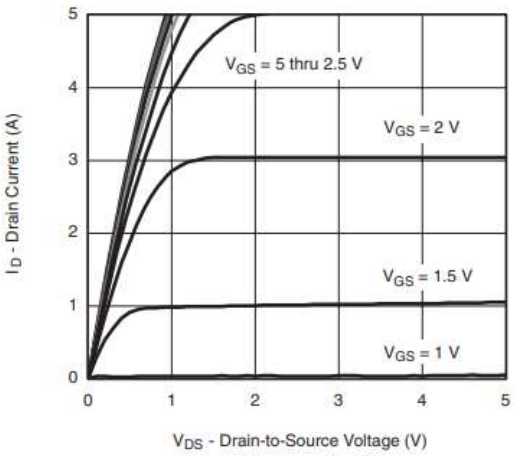
b. Repetitive rating, pulse width limited by junction temperature.

c. The power dissipation P_D is based on $T_{J(MAX)}$=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.

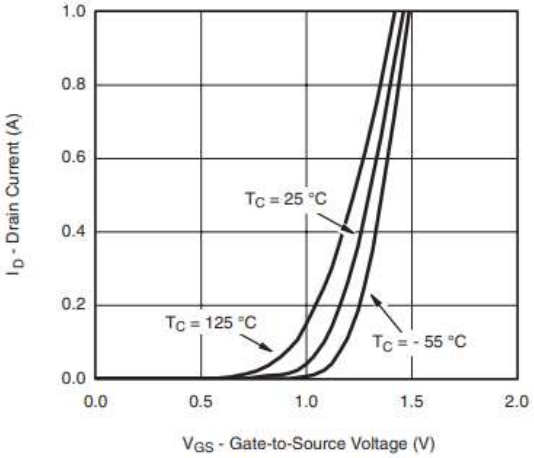
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

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	0.68	1	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=4.5V , ID=0.5A		195	310	mR
		VGS=2.5V , ID=0.5A		240	380	
		VGS=1.8V , ID=0.35A		305	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=0.5A		2		S
V_{SD}	Forward Voltage	VGS=0V , IS=0.5A		0.7	1.3	V
Ciss	Input Capacitance	VDS=10V , VGS=0V, f=1MHz		66		pF
Coss	Output Capacitance			18		
Crss	Reverse Transfer Capacitance			9		
$T_{D(ON)}$	Turn-on delay time	VGS=4.5V , VDS=10V, RG=6R,ID=0.6A		20		ns
Tr	Rise time			13		
$T_{D(OFF)}$	Turn-off delay time			40		
Tf	Fall time			12		

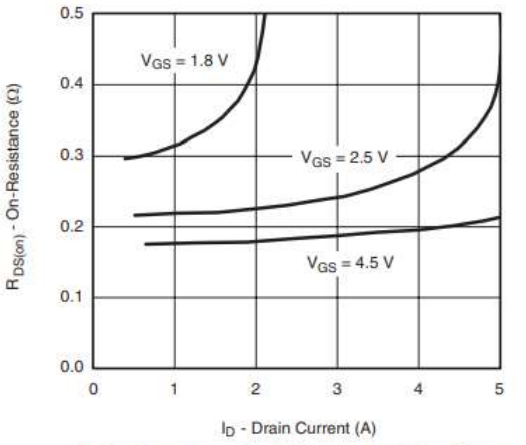
➢ **Typical Characteristics**(T_A=25℃ unless otherwise noted)



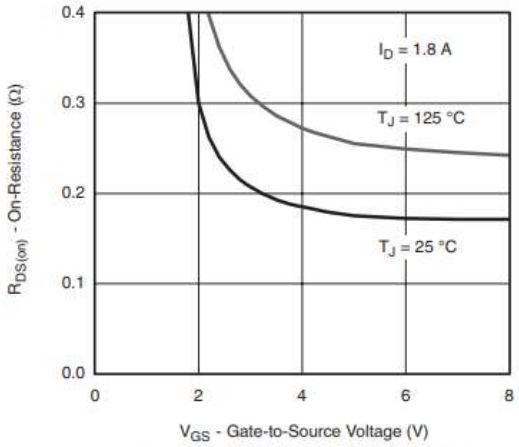
Output Characteristics



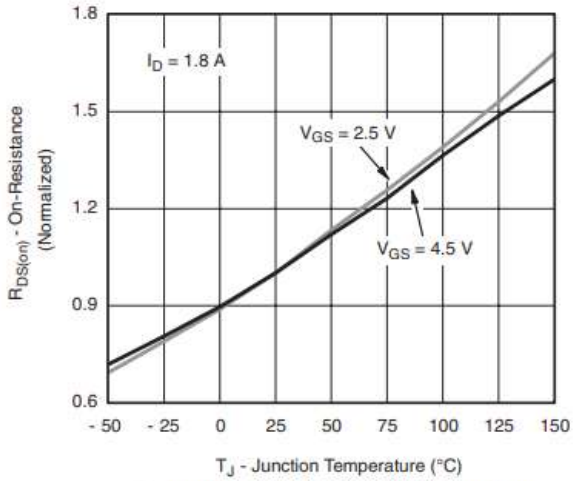
Transfer Characteristics



On-Resistance vs. Drain Current and Gate Voltage



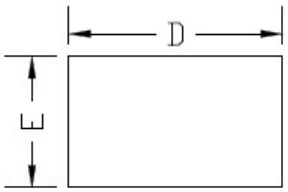
On-Resistance vs. Gate-to-Source Voltage



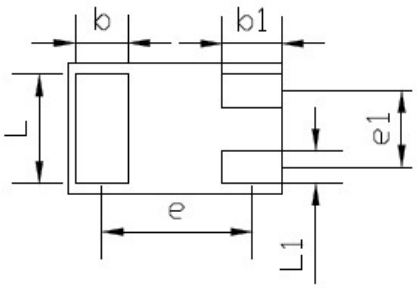
On-Resistance vs. Junction Temperature

➢ Package Information

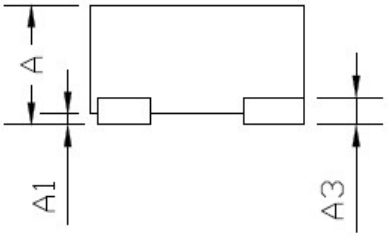
POD



TOP VIEW



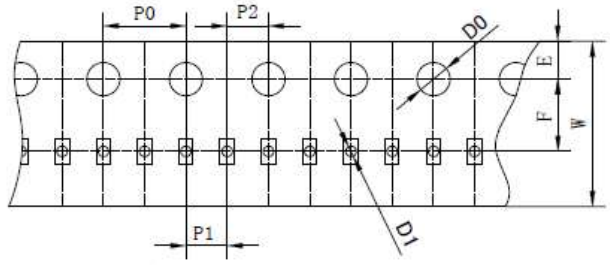
BOTTOM VIEW

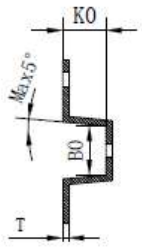


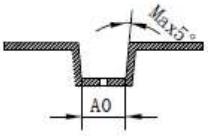
SIDE VIEW

COMMON DIMENSION (MM)			
PKG	DFN1006		
REF.	MIN.	NOM.	MAX
A	>0.4	–	0.50
A1	0.00	–	0.05
A3	0.125REF.		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b	0.20	0.25	0.30
b1	0.20	0.30	0.40
L	0.45	0.50	0.55
L1	0.10	0.15	0.20
e	0.675		
e1	0.35		

Tape Data



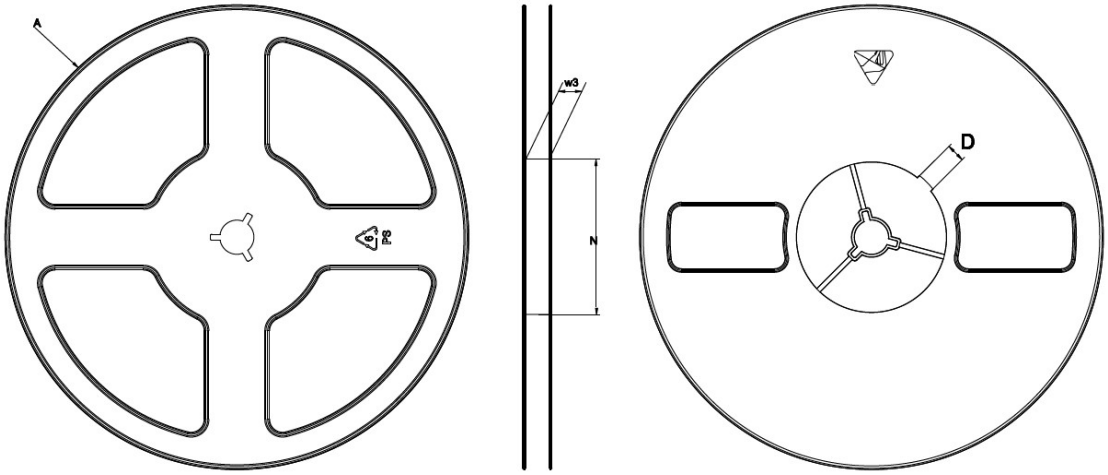


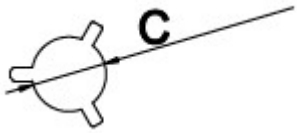


NOTE:
1. 材料：黑色防静电材料；
2. 10个链孔的累积公差不能超过±0.2
3. 尺寸符合EIA-481-E的要求。

SYMBOL	A0	B0	K0	P0	P1	P2
SPEC	0.69±0.05	1.15±0.05	0.60±0.05	4.00±0.10	2.00±0.05	2.00±0.05
SYMBOL	T	E	F	D0	D1	W
SPEC	0.18±0.03	1.75±0.10	3.50±0.05	1.55±0.05	0.50±0.05	8.00 $^{+0.3}_{-0.1}$

Reel Data





材质说明：该产品用料为 PS

TYPE	A	N	C	D	w3
8MM	Ø178 +1 -1	Ø60 +1 -1	Ø13,3 +0,3 -0,3	7,5±0,5	9±0.3

➢ History Version

V1.0	Product datasheet	2019-01-04
V2.1	Update $R_{DS(on)}$	2021-09-01