



SSC8222GN2

N-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
20V	±12V	5.6mR@4V5	15A
		7.5mR@2V5	
		13mR@1V8	

➤ Description

- Advance trench process technology
- High density cell design for ultralow on-resistance
- High power and current handling capability
- Fully characterized avalanche voltage and current

➤ Applications

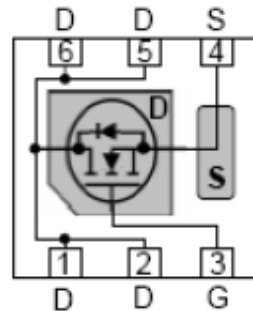
- Load Switch
- Li-ion battery protection

➤ Ordering Information

Device	Package	Shipping
SSC8222GN2	DFN2x2	3000/Reel

➤ Pin configuration

Top view



Bottom View



Marking



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	20	V
V_{GSS}	Gate-to-Source Voltage	± 12	V
I_D	Continuous Drain Current	15	A
I_{DM}	Pulsed Drain Current	50	A
P_D	Power Dissipation	2.8	W
T_J	Operation junction temperature	-25 to 85	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

➤ **Thermal Resistance Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance		61	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		43	

➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

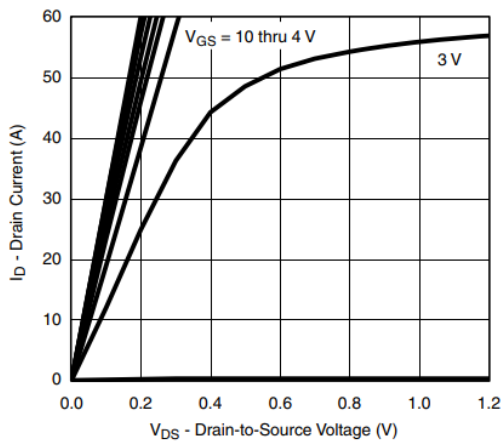
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu\text{A}$	20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.4	0.7	1	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=4.5V, I_D=10A$		5.6	8	mR
		$V_{GS}=2.5V, I_D=5A$		7.5	10	
		$V_{GS}=1.8V, I_D=2.5A$		13	15	



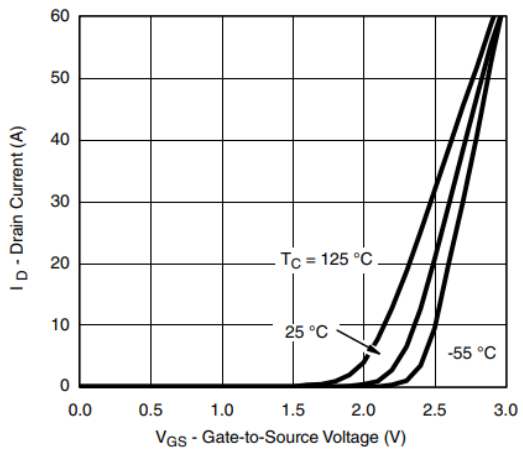
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			± 100	nA
G_{FS}	Forward Transconductance	$V_{DS}=5V, I_D=4.5A$		8		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=0.5A$		0.8	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=8V, V_{GS}=0V,$ $F=1MHz$		1900		pF
C_{oss}	Output Capacitance			430		
C_{rss}	Reverse Transfer Capacitance			140		
$T_{D(ON)}$	Turn-on delay time	$V_{GEN}=4.5V, R_L=10R,$ $V_{DS}=10V, R_G=6R, I_D=1A$			20	ns
$T_{D(OFF)}$	Turn-off delay time				70	



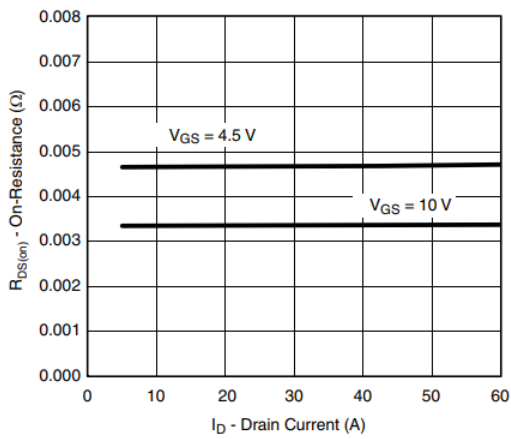
➤ **Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)



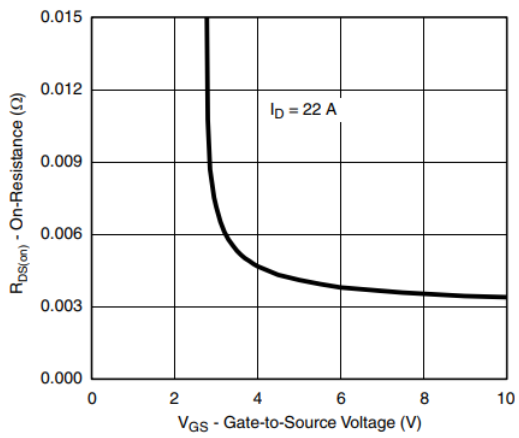
Output Characteristics



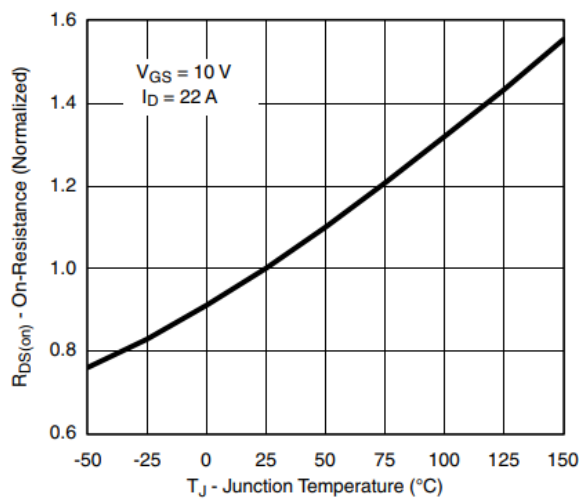
Transfer Characteristics



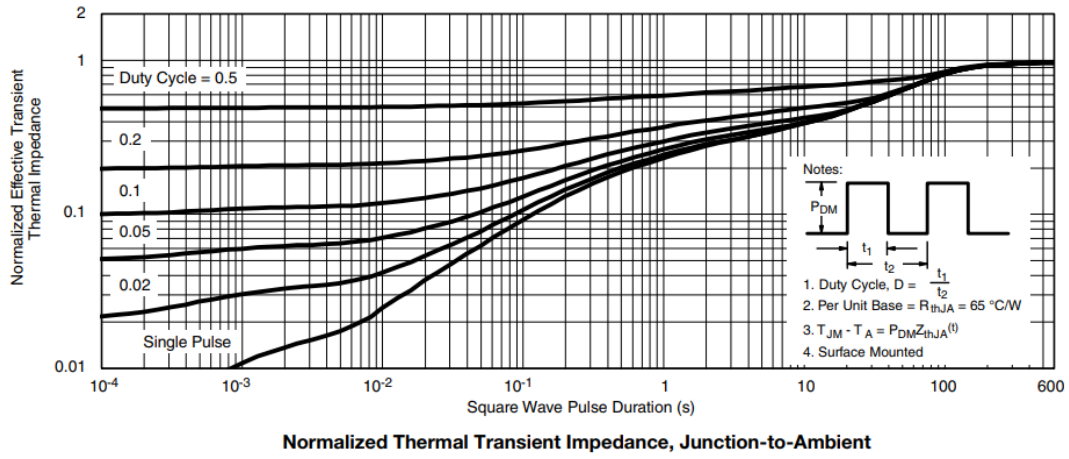
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

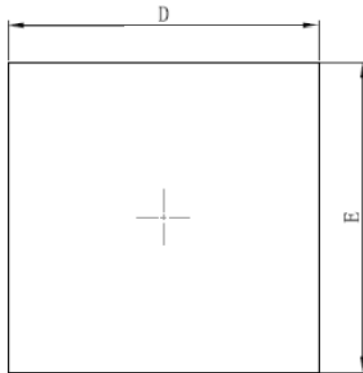


On-Resistance vs. Junction Temperature

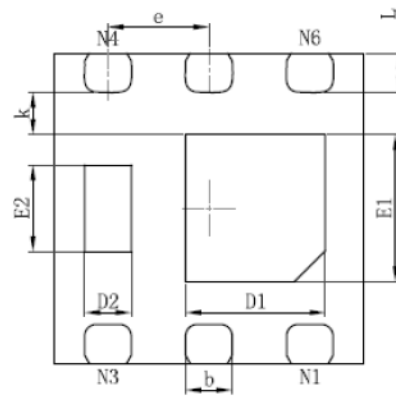




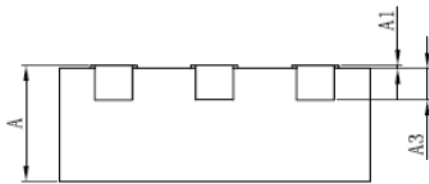
➤ Package Information



TOP VIEW



BOTTOM VIEW



SIDE VIEW

DFN2x2-6L

Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.700	0.800
A1	0.000	0.050
A3	0.203REF.	
D	1.924	2.076
E	1.924	2.076
D1	0.800	1.000
E1	0.850	1.050
D2	0.200	0.400
E2	0.460	0.660
k	0.200MIN.	
b	0.250	0.350
e	0.650TYP.	
L	0.174	0.326



➤ **History Version**

V1.0	Product datasheet	2017-05-13
V1.4	The minimum of VTH is adjusted from 0.5 to 0.4	2021-06-16

DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.