SSC8211GQ4

P-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
-16V	±12V	8mR@-4V5	-46A
		14mR@-2V5	

➢ Description

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device is particularly suited for low voltage power management requiring a wild range of given voltage ratings(4.5V~18V) such as load switch and battery protection.

➢ Applications

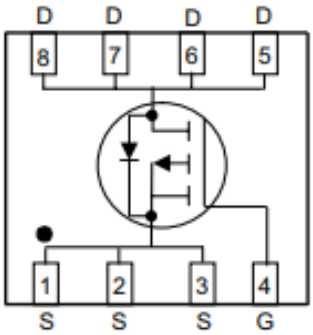
- Load Switch
- NB battery
- DCDC conversion

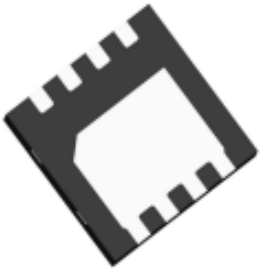
➢ Ordering Information

Device	Package	Shipping
SSC8211GQ4	DFN3x3	5000/Reel

➢ Pin configuration

Top view





Bottom View

(Y: year/W: week)

Marking

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

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		-16	V
V_{GSS}	Gate-to-Source Voltage		±12	V
I_D	Continuous Drain Current	TC=25℃	-46	A
		TC=100℃	-26	
I_{DSM}	Continuous Drain Current [a]	TA=25℃	-11	A
		TA=70℃	-8.5	
I_{DM}	Pulsed Drain Current [b]		-184	A
I_{AS}	Avalanche Current[b] L=0.5mH		18	A
E_{AS}	Avalanche Energy[b] L=0.5mH		81	mJ
P_D	Power Dissipation [c]	TC=25℃	27	W
		TC=100℃	11	W
P_{DSM}	Power Dissipation [a]	TA=25℃	1.6	W
		TA=70℃	1	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	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	79	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance [d]	4.5	

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.

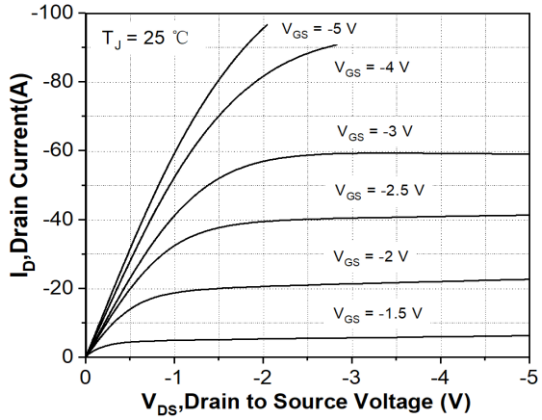
c. The power dissipation PD is based on TJ(MAX)=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

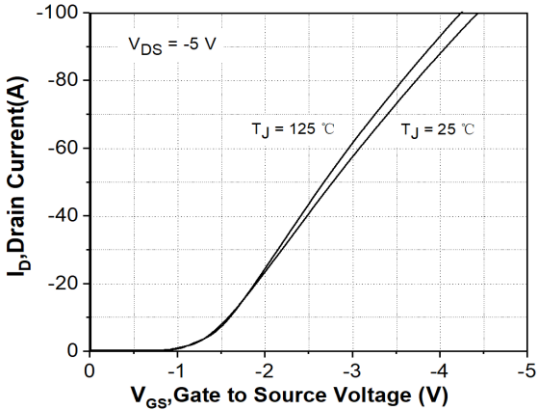
d. The value of Rjc has been determined of the temperature difference between junction and the case surface in contact with water cooled copper heat sink.

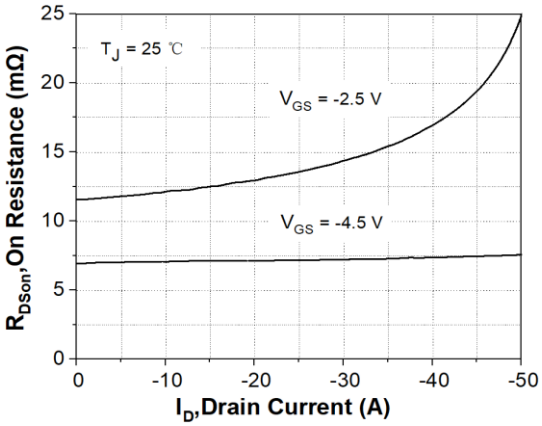
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

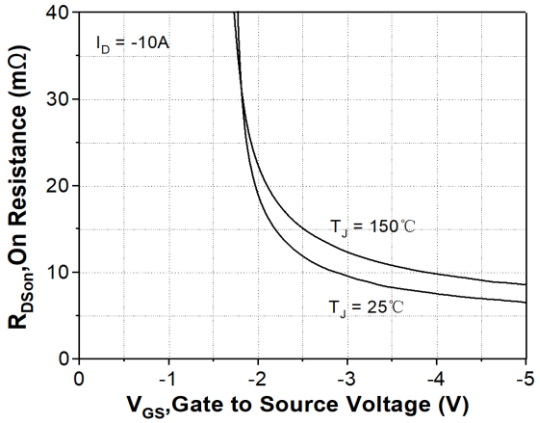
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V , ID=-250uA	-16			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS , ID=-250uA	-0.4	-0.75	-1	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=-4.5V , ID=-7A		8	12	mR
		VGS=-2.5V , ID=-6A		14	19	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=-12V , VGS=0V			-1	uA
I_{GSS}	Gate-Source leak current	VGS=±12V , VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=-5V , ID=-10A		28		S
V_{SD}	Forward Voltage	VGS=0V , IS=-2A		-0.75	-1.3	V
Ciss	Input Capacitance	VDS=-8V , VGS=0V, f=1MHz		1800		pF
Coss	Output Capacitance			465		
Crss	Reverse Transfer Capacitance			410		
Q_G	Total Gate charge	VGS=-4.5V , VDS=-8V, ID=-10A		23		nC
Q_{GS}	Gate to Source charge			4.1		
Q_{GD}	Gate to Drain charge			6.7		
$T_{D(ON)}$	Turn-on delay time	VGS=-4.5V, VDS=-8V, RL=1R, RG=3R		13		ns
Tr	Rise time			45		
$T_{D(OFF)}$	Turn-off delay time			75		
Tf	Fall time			24		
Trr	Diode Recovery Time	IF=-10A, di/dt=200A/us		26		ns
Qrr	Diode Recovery Charge			6.5		nC

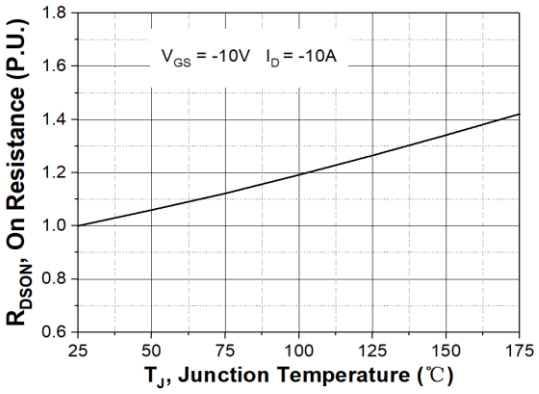
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)

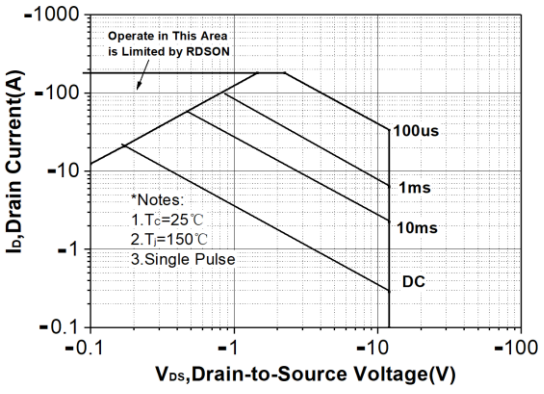


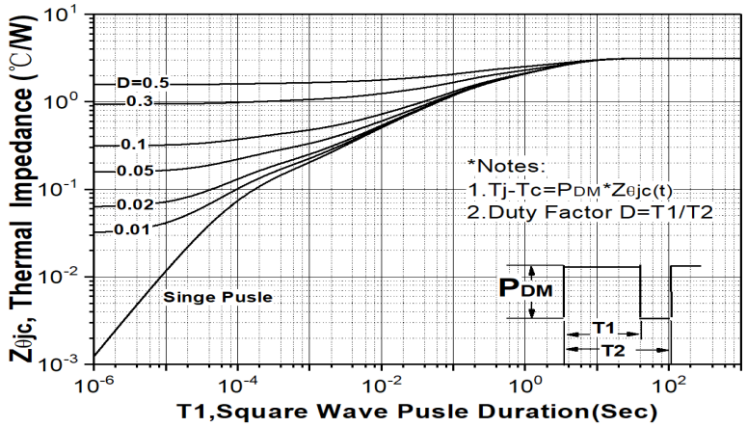




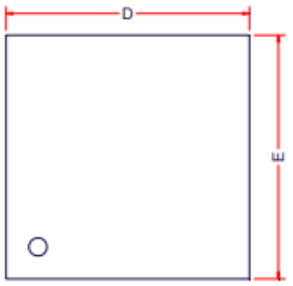




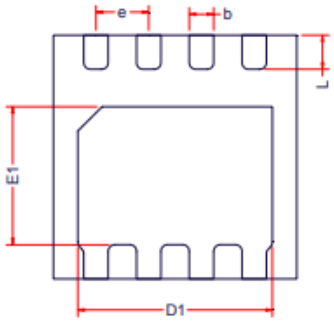




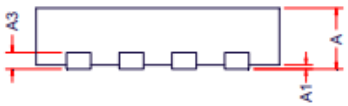
➢ Package Information



TOP VIEW



BOTTOM VIEW



SIDE VIEW

DFN3X3-8L

Symbol	Dimensions in Millimeters		
	Min.	Typ.	Max.
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A2		0.20Ref	
D	2.90	3.00	3.10
E	2.90	3.00	3.10
D1	2.35	2.40	2.45
E1	1.65	1.70	1.75
b	0.25	0.30	0.35
e		0.65BSC	
L	0.37	0.42	0.47

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