SSC8030GN2

N-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	8.5mR@10V	10A
		10.5mR@4V5	

➢ Description

This device uses advanced trench technology to provide excellent RDSON and low gate charge. This device is suitable for use as a load switch or in PWM applications.

➢ Applications

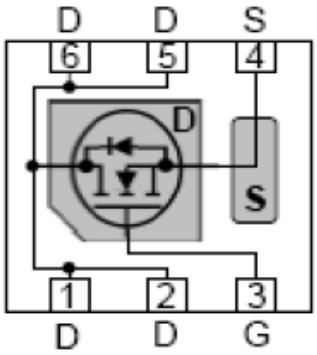
- Load Switch
- PC/NB
- DCDC conversion

➢ Ordering Information

Device	Package	Shipping
SSC8030GN2	DFN2x2	3000/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	30	V
V_{GSS}	Gate-to-Source Voltage	±20	V
I_D	Continuous Drain Current [a]	10	A
I_{DM}	Pulsed Drain Current [b]	41	A
P_D	Power Dissipation [c]	5	W
P_{DSM}	Power Dissipation [a]	2.4	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]		60	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		30	

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.

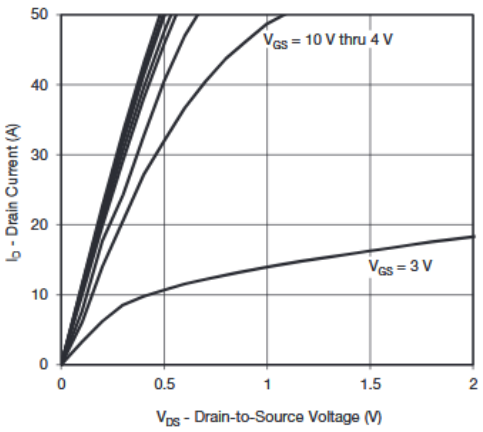
b. Repetitive rating, pulse width limited by junction temperature.

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.

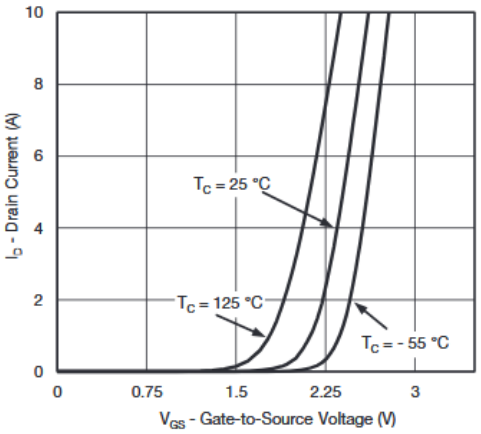
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V,ID=250uA	30			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS,ID=250uA	1	1.5	3	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V,ID=10A		8.5	10.5	mR
		VGS=4.5V,ID=8A		10.5	14	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=24V,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V,VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=15V,ID=8A		16		S
V_{SD}	Forward Voltage	VGS=0V,IS=1A		0.8	1.5	V
Ciss	Input Capacitance	VDS=15V, VGS=0V, f=1MHz		1130		pF
Coss	Output Capacitance			200		
Crss	Reverse Transfer Capacitance			105		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, VDS=15V, RL=2.3R, RG=3R		18		ns
Tr	Rise Time			11		
$T_{D(OFF)}$	Turn-off delay time			70		
Tf	Fall Time			16		
Qg	Total Gate charge	VGS=10V, VDS=10V, ID=4A		24		nC
Qgs	Gate to Source charge			3		
Qgd	Gate to Drain charge			5		

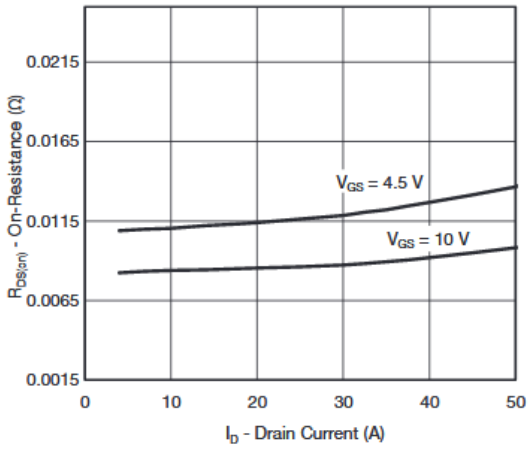
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



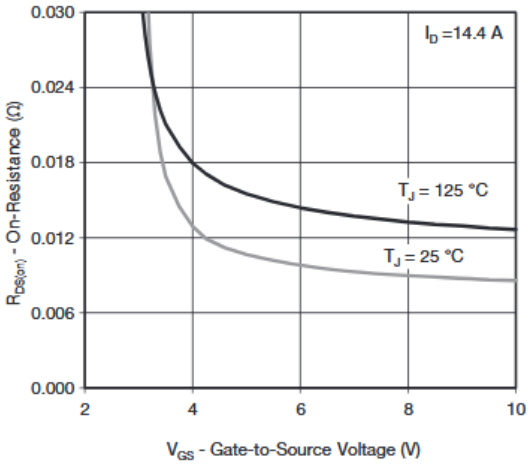
Output Characteristics



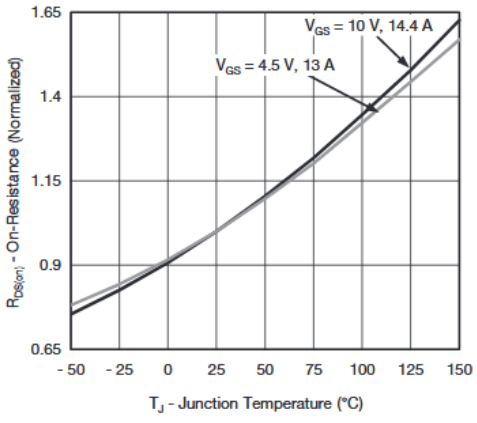
Transfer Characteristics



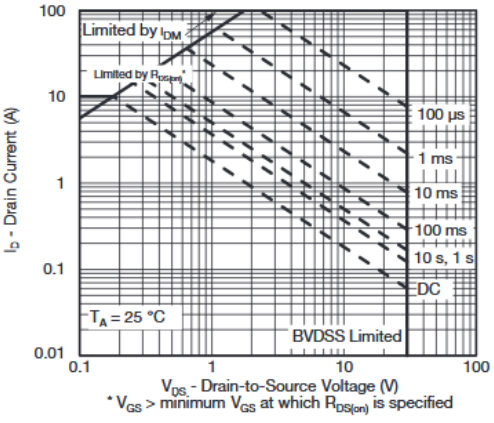
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

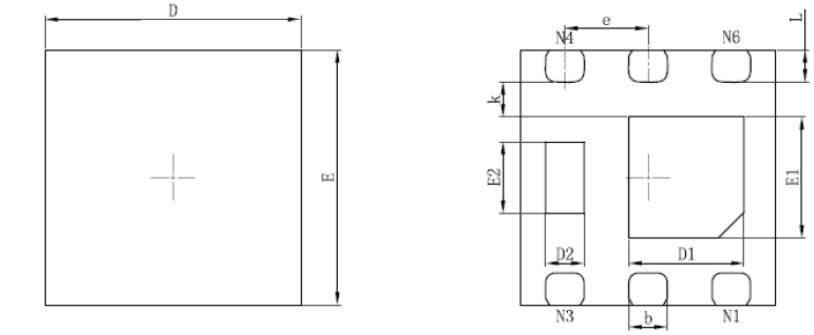


On-Resistance vs. Junction Temperature



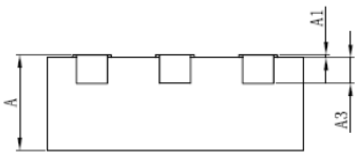
Safe Operating Area, Junction-to-Ambient

➢ 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

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.