



SSC8030GN2

N-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	8.5mR@10V	17A
		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

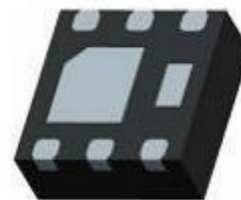
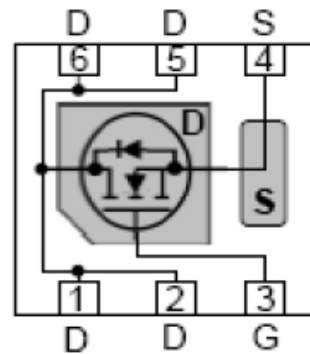
- Load Switch
- PC/NB
- DCDC conversion

➤ Ordering Information

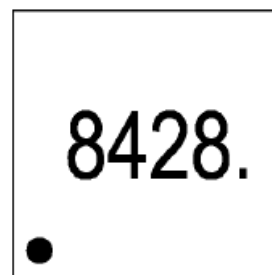
Device	Package	Shipping
SSC8030GN2	DFN2x2	3000/Reel

➤ Pin configuration

Top view



Bottom View



Marking



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ 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	17	A
I_{DM}	Pulsed Drain Current ^b	52	A
P_D	Power Dissipation ^c	4	W
P_{DSM}	Power Dissipation ^a	2	W
T_J	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
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 ^a		60	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		30	

Note:

- The value of $R_{\theta JA}$ is measured with the device mounted on 1 in² FR-4 board with 2oz.copper,in a still air environment with $T_A=25^{\circ}\text{C}$.The value in any given application depends on the user is specific board design. The current rating is based on the $t \leq 10\text{s}$ thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P_D is based on $T_{J(MAX)}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

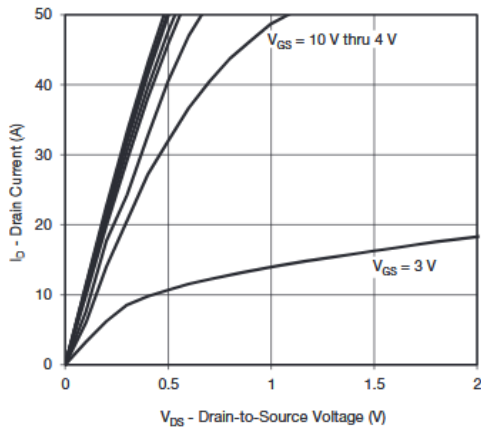


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

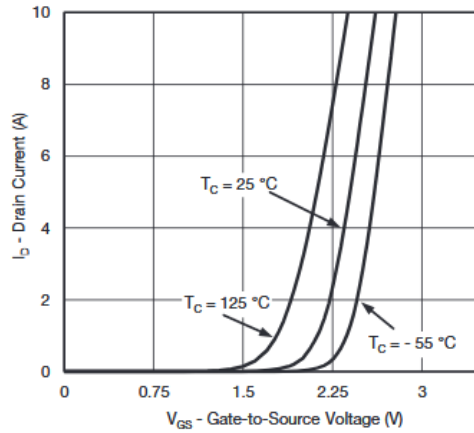
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	3	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=10A$		8.5	10.5	mR
		$V_{GS}=4.5V, I_D=8A$		10.5	14	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=15V, I_D=8A$		16		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=1A$		0.8	1.5	V
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1\text{MHz}$		1130		pF
C_{oss}	Output Capacitance			200		
C_{rss}	Reverse Transfer Capacitance			105		
$T_{D(ON)}$	Turn-on delay time			18		
T_r	Rise Time	$V_{GS}=10V,$ $V_{DS}=15V, R_L=2.3R, R_G=3R$		11		ns
$T_{D(OFF)}$	Turn-off delay time			70		
T_f	Fall Time			16		
Q_g	Total Gate charge			24		
Q_{gs}	Gate to Source charge	$V_{GS}=10V, V_{DS}=10V, I_D=4A$		3		nC
Q_{gd}	Gate to Drain charge			5		



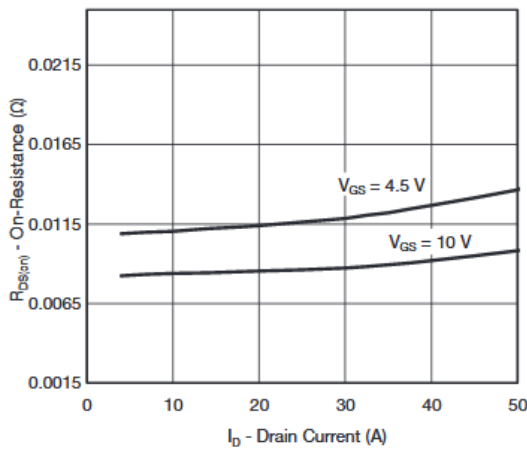
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



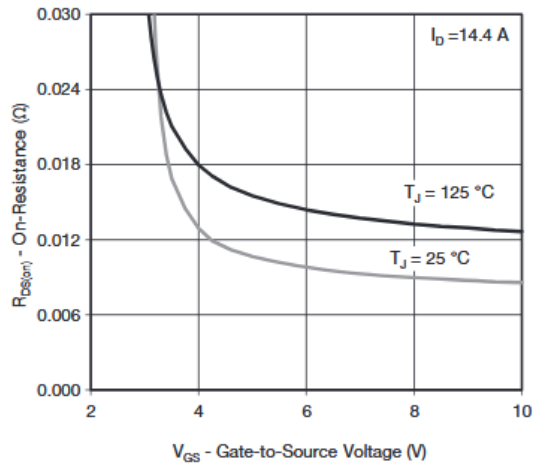
Output Characteristics



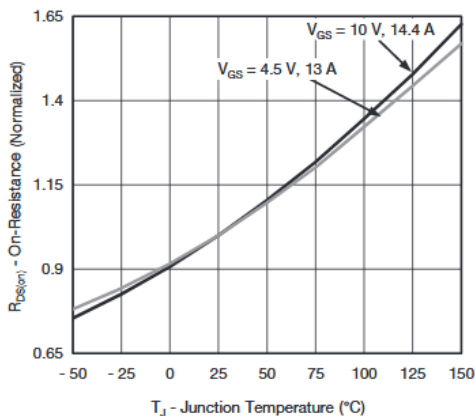
Transfer Characteristics



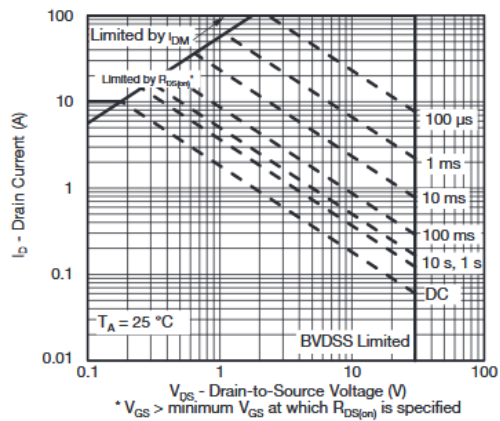
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



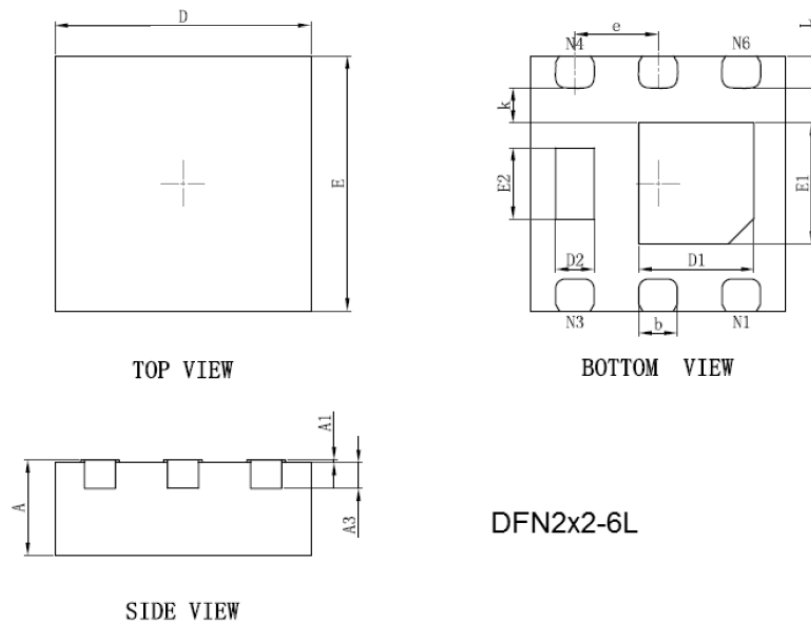
On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient



➤ Package Information



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

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