SSC8030GQ4

N-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	8mR@10V	29A
		10mR@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.

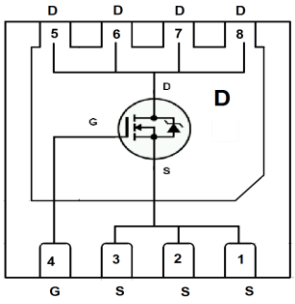
➢ Applications

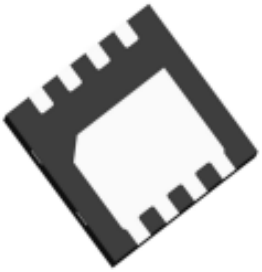
- Load Switch
- NB/PC
- DCDC conversion

➢ Ordering Information

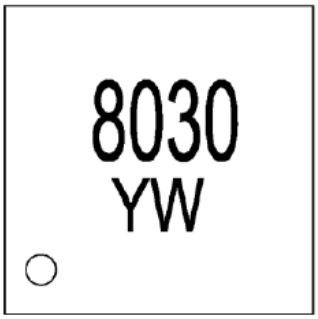
Device	Package	Shipping
SSC8030GQ4	DFN3x3	5000/Reel

➢ Pin configuration





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		30	V
V_{GSS}	Gate-to-Source Voltage		±20	V
I_D	Continuous Drain Current	TC=25C°	29	A
		TC=100C°	22	A
I_{DM}	Pulsed Drain Current [b]		90	A
I_{DSM}	Continuous Drain Current [a]	TA=25C°	15	A
		TA=70C°	12	A
P_D	Power Dissipation [c]	TC=25C°	25	W
		TC=100C°	10	W
P_{DSM}	Power Dissipation [a]	TA=25C°	3.1	W
		TA=70C°	2	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]		45	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		6	

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=25C°.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.

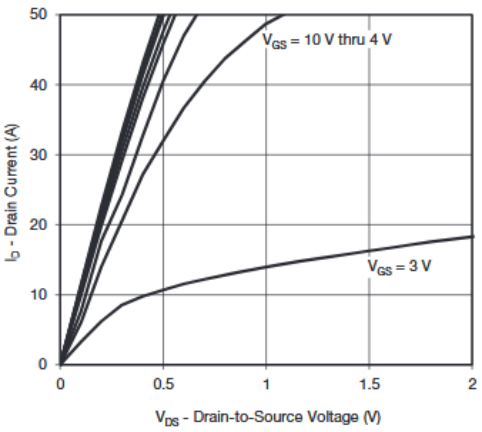
b. Repetitive rating, pulse width limited by junction temperature.

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.

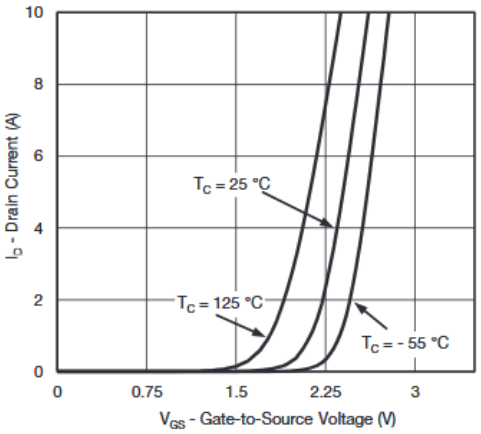
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

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		3	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V,ID=15A		8	11	mR
		VGS=4.5V,ID=12A		10	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=12A		56		S
V_{SD}	Forward Voltage	VGS=0V,IS=1A		0.8	1.5	V
Ciss	Input Capacitance	VDS=15V, VGS=0V,f=1MHz		1200		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			6		
$T_{D(OFF)}$	Turn-off delay time			70		
Tf	Fall time			17		
Qg	Total Gate charge	VGS=10V, VDS=10V, ID=14A		20		nC
Qgs	Gate to Source charge			3		
Qgd	Gate to Drain charge			5		

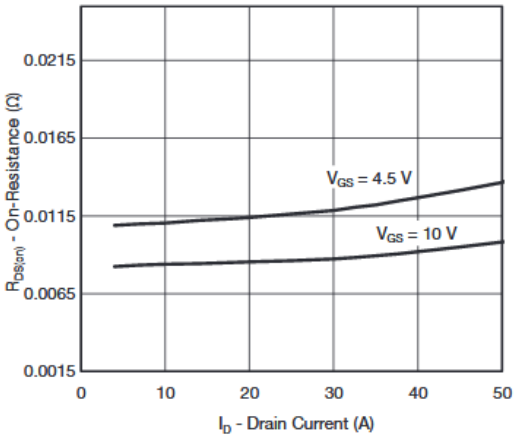
➢ **Typical Characteristics**(T_A=25℃ unless otherwise noted)



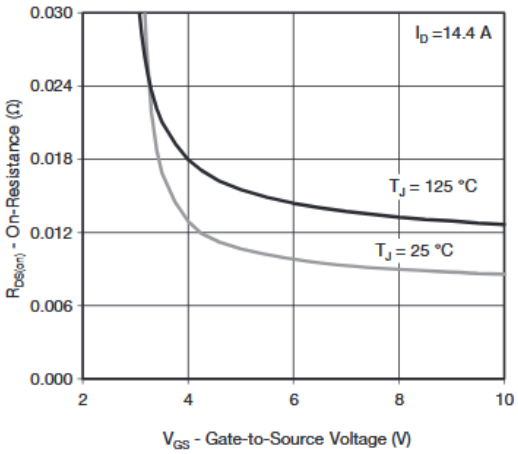
Output Characteristics



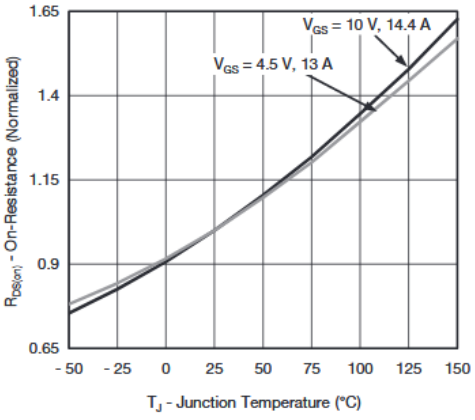
Transfer Characteristics



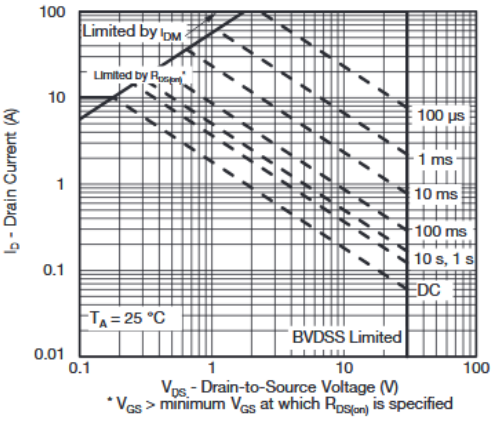
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

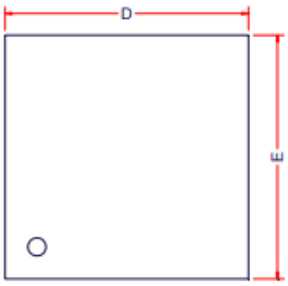


On-Resistance vs. Junction Temperature

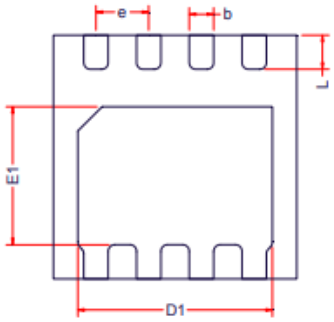


Safe Operating Area, Junction-to-Ambient

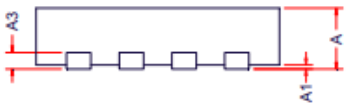
➢ Package Information



TOP VIEW



BOTTOM VIEW



SIDE VIEW

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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