SSC8030GS1

N-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	9mR@10V	13A
		11mR@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

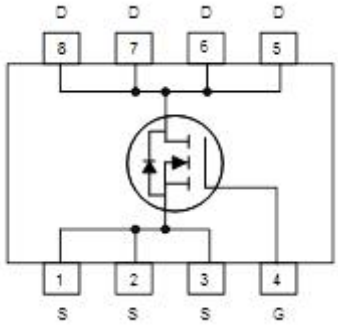
- Load Switch
- NB/PC
- DCDC conversion

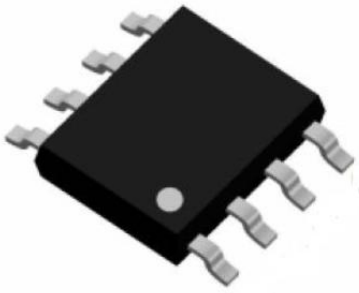
➢ Ordering Information

Device	Package	Shipping
SSC8030GS1	SOP8	2500/Reel

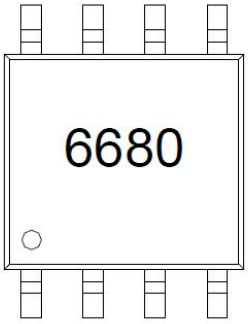
➢ Pin configuration

Top View





SOP8



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]	13	A
I_{DM}	Pulsed Drain Current [b]	51	A
P_D	Power Dissipation [c]	6	W
P_{DSM}	Power Dissipation [a]	2.5	W
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse	19	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse	90	mJ
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]	45	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	20	℃/W

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.

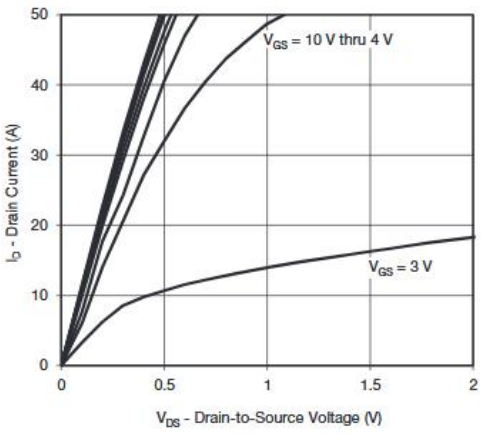
b. Repetitive rating, pulse width limited by junction temperature.

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.

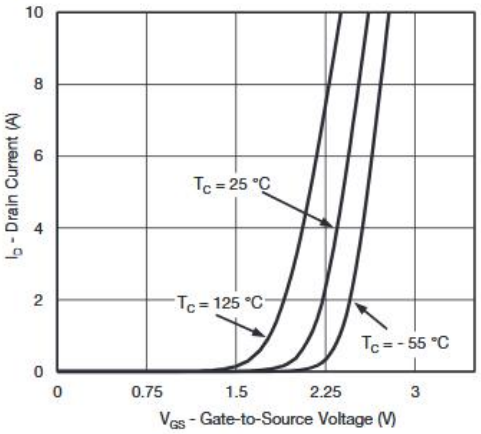
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

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		9	11	mR
		VGS=4.5V,ID=12A		11	15	
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		46		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		

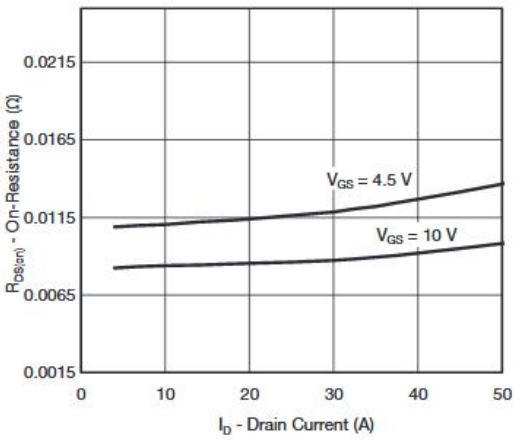
➢ **Typical Characteristics**(T_A=25℃ unless otherwise noted)



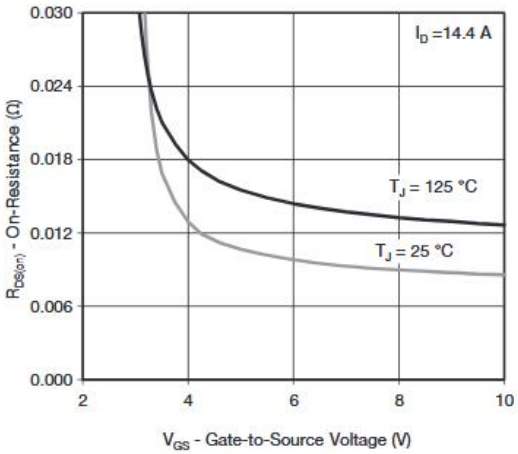
Output Characteristics



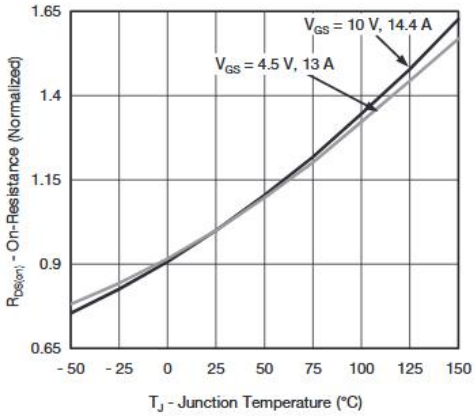
Transfer Characteristics



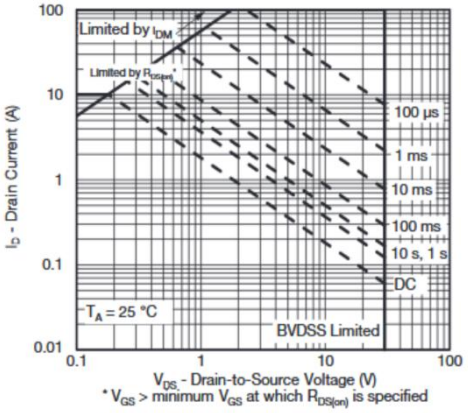
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

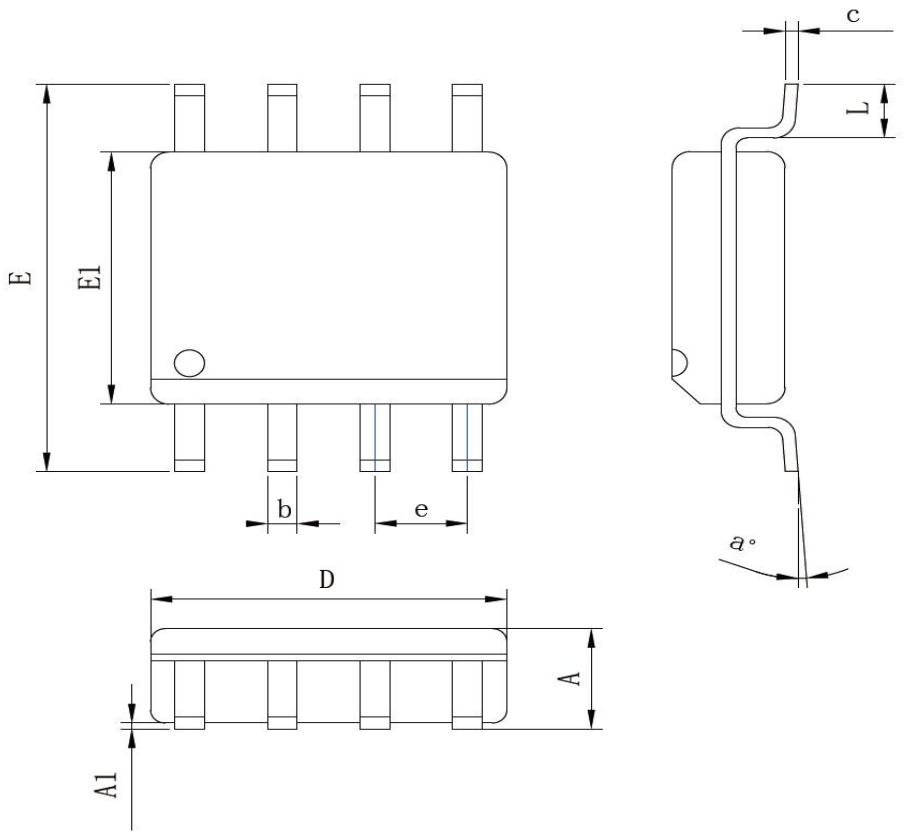


On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient

➢ Package Information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	--	--	1.75
A1	0.10	--	0.23
b	0.35	--	0.48
c	0.19	--	0.25
D	4.70	4.90	5.10
E	5.80	6.00	6.20
E1	3.70	3.9	4.10
e	1.27BSC		
L	0.50	--	0.80
a°	0°	--	8°

➢ History Version

V1.0	Product datasheet release	2012-10-25
V2.0	The new vision updates Rjc to RjL	2020-06-05
V3.0	Update P_D、P_{DSM}、 I_{AS} and E_{AS}	2021-12-05

DISCLAIMER