



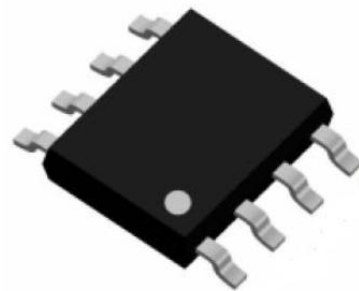
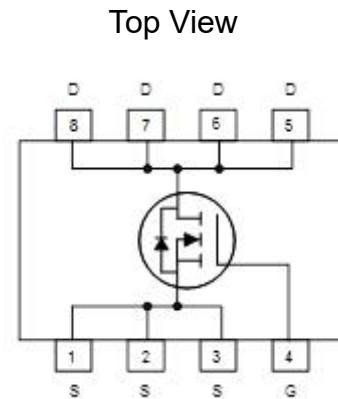
SSC8030GS1

N-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	9mR@10V	13A
		11mR@4V5	

➤ Pin configuration



SOP8

➤ Description

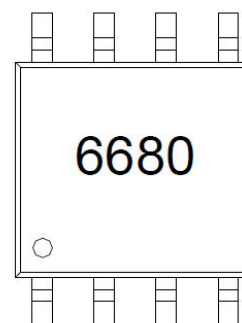
This device uses advanced trench technology to provide excellent RDSON and low gate charge. This device is suitable for use as a load switch or in PWM applications.

➤ Applications

- Load Switch
- NB/PC
- DCDC conversion

➤ Ordering Information

Device	Package	Shipping
SSC8030GS1	SOP8	2500/Reel



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	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	$^{\circ}\text{C}$
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	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	45	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	20	$^{\circ}\text{C}/\text{W}$

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 $T_J(\text{MAX})=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

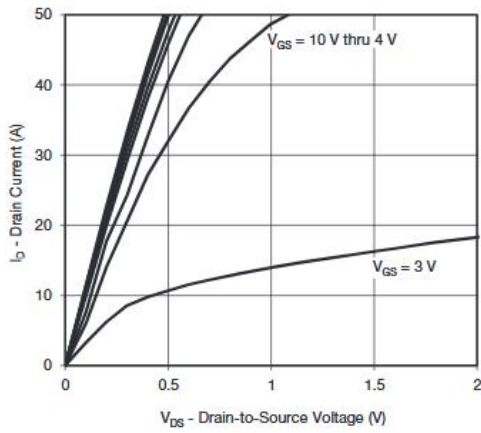


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

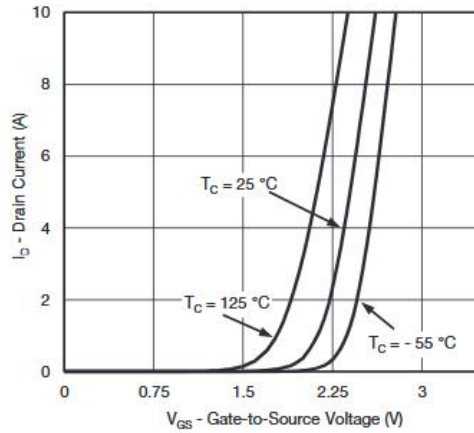
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1		3	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V, I_D=15A$		9	11	mR
		$V_{GS}=4.5V, I_D=12A$		11	15	
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	$V_{DS}=15V, I_D=12A$		46		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=1A$		0.8	1.5	V
C_{iss}	Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$		1200		pF
C_{oss}	Output Capacitance			200		
C_{rss}	Reverse Transfer Capacitance			105		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=10V,$ $V_{DS}=15V, R_L=2.3R, R_G=3R$		18		ns
T_r	Rise time			6		
$T_{D(OFF)}$	Turn-off delay time			70		
T_f	Fall time			17		
Q_g	Total Gate charge	$V_{GS}=10V, V_{DS}=10V, I_D=14A$		20		nC
Q_{gs}	Gate to Source charge			3		
Q_{gd}	Gate to Drain charge			5		



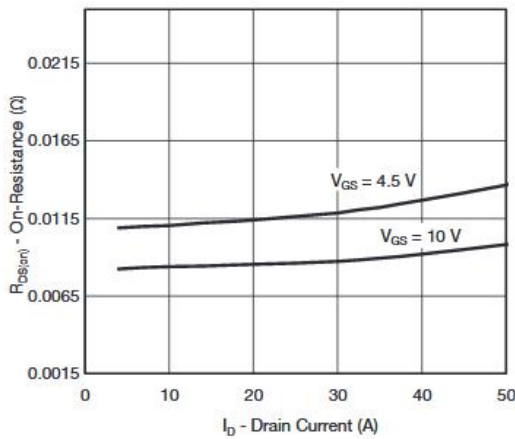
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



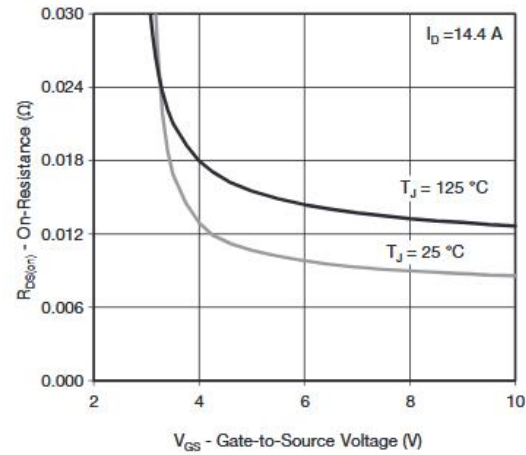
Output Characteristics



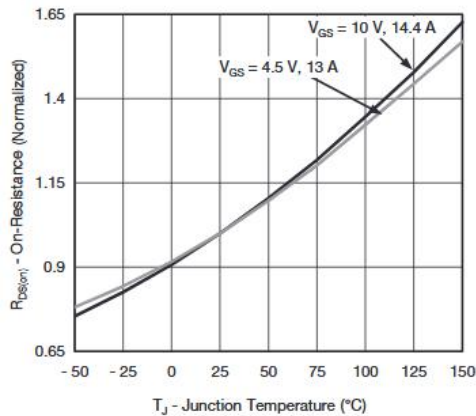
Transfer Characteristics



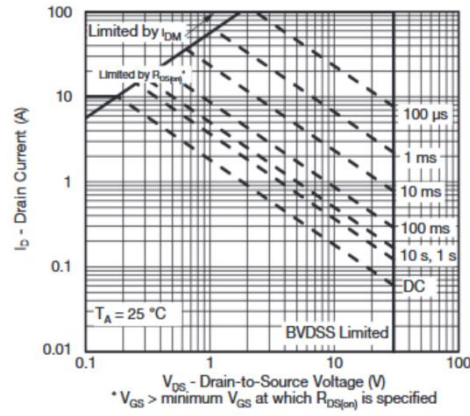
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



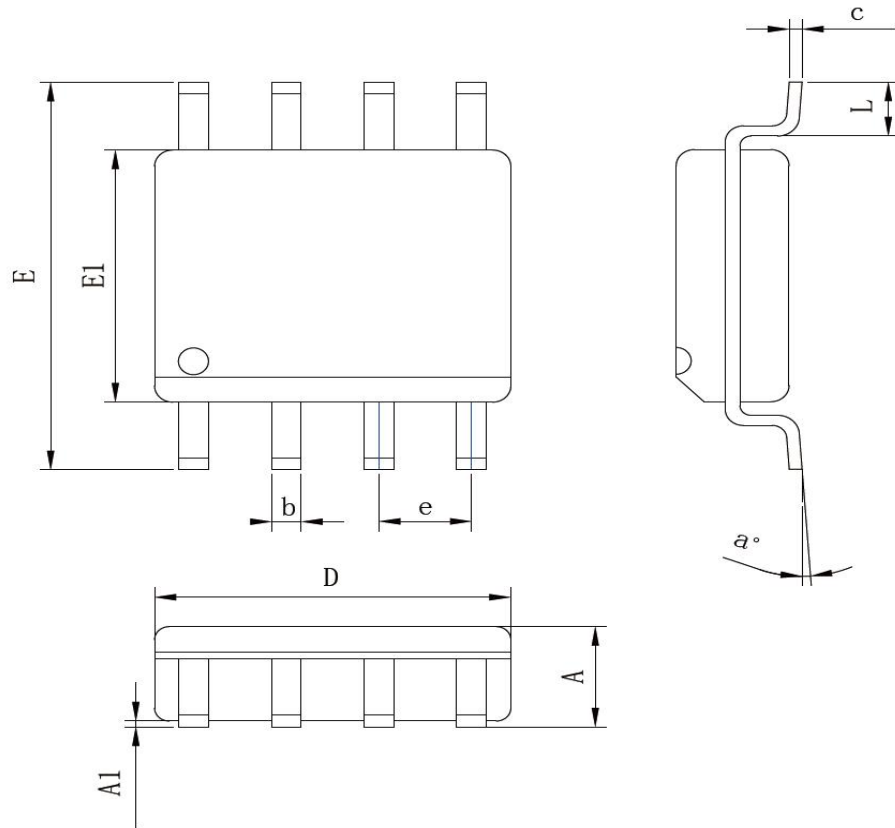
On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient



➤ Package Information



SYMBOL	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

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