SSC8066GS1

N-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
60V	±20V	13mΩ@10V 15mΩ@4.5V	38A

➢ Description

This SSC8066GS1 uses advanced trench technology to provide excellent RDSON and low gate charge. The complementary MOSFETS may be used to form a level shifted high side switch, and for a host of other applications.

100% UIS + ΔVDS + Rg Tested!

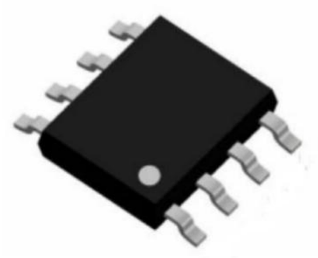
➢ Applications

- Load Switch
- PWM Application
- Power Management

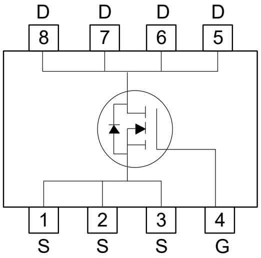
➢ Ordering Information

Device	Package	Shipping
SSC8066GS1	SOP-8	4000/Reel

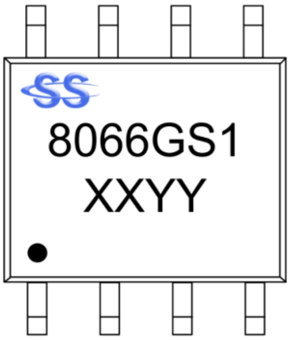
➢ Pin configuration



SOP-8



Pin Configuration (Top View)



Marking

(XXYY: Internal Traceability Code)

Absolute Maximum Ratings (T_A=25℃ unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		60	V
V_{GSS}	Gate-to-Source Voltage		±20	V
I_D	Continuous Drain Current [d]	T_C=25℃	38	A
		T_C=100℃	20	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	11.5	A
		T_A=70℃	8.4	
I_{DM}	Pulsed Drain Current [b]		152	A
P_D	Power Dissipation [c]	T_C=25℃	29	W
		T_C=100℃	11.6	
P_{DSM}	Power Dissipation [a]	T_A=25℃	2.8	W
		T_A=70℃	1.8	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		18	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		82	mJ
T_J	Operation junction temperature		-55~150	℃
T_{STG}	Storage temperature range		-55~150	

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	4.3	℃/W

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 power dissipation is based on the t≤10s thermal resistance rating.

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

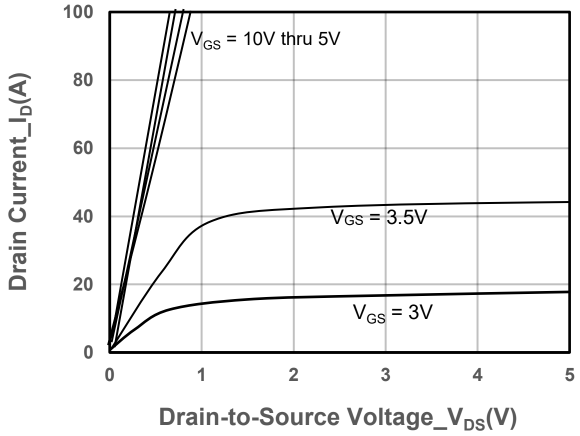
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

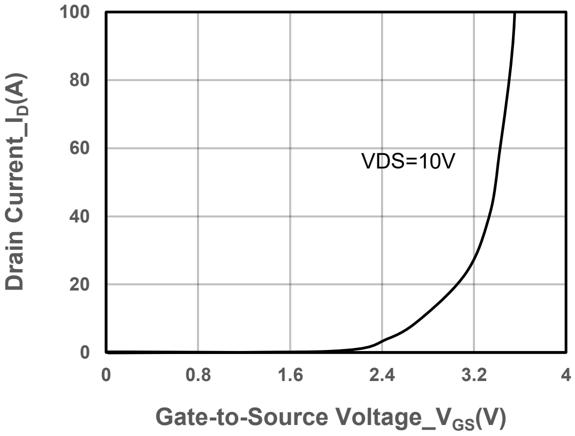
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = 250uA	60			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250uA	1	1.6	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = 10V, I_D = 15A		13	18	mΩ
		V_{GS} = 4.5V, I_D = 10A		15	21	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 60V, V_{GS} = 0V			1	uA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	nA
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = 5A		0.75	1.3	V
Gate Resistance	R_G	V_{DS} = 0V, f = 1MHz		3		Ω
Input Capacitance	C_{ISS}	V_{DS} = 25V, V_{GS} = 0V, f = 1MHz		2056		pF
Output Capacitance	C_{OSS}			125		
Reverse Transfer Capacitance	C_{RSS}			112		
Total Gate Charge	Q_G	V_{GS} = 10V, V_{DS} = 30V, I_D = 20A		42		nC
Gate to Source Charge	Q_{GS}			8		
Gate to Drain Charge	Q_{GD}			11		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = 10V, V_{DS} = 30V, I_D = 20A, R_G = 1.8Ω		12		ns
Rise Time	T_r			80		
Turn-off Delay Time	$T_{D(OFF)}$			31		
Fall Time	T_f			110		
Diode Recovery Time	T_{rr}	I_F=20A, di/dt=100A/us		14		ns
Diode Recovery Charge	Q_{rr}	I_F=20A, di/dt=100A/us		10		nC

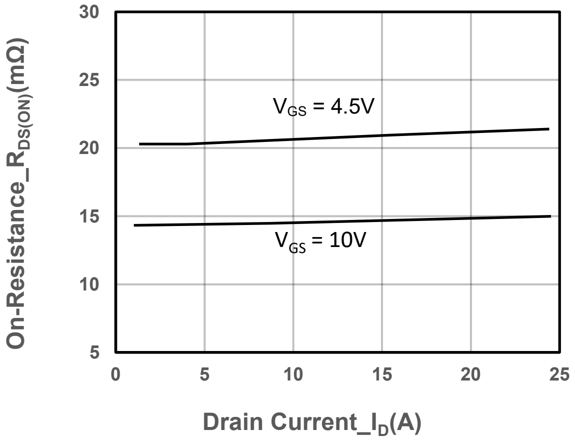
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



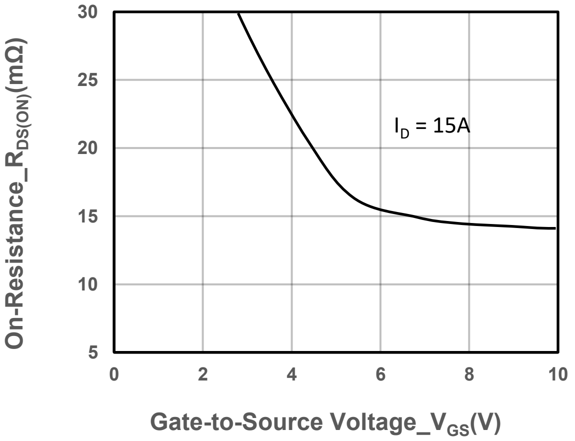
Output Characteristics



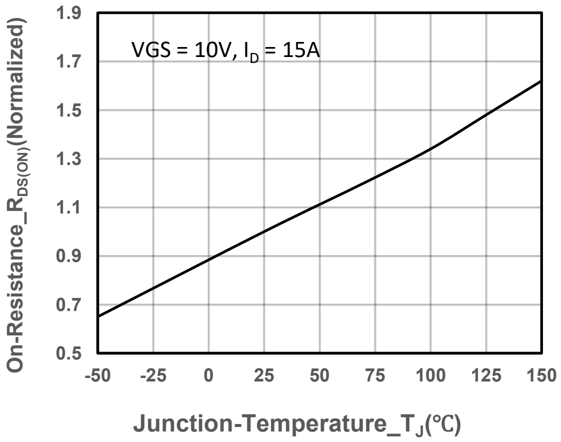
Transfer Characteristics



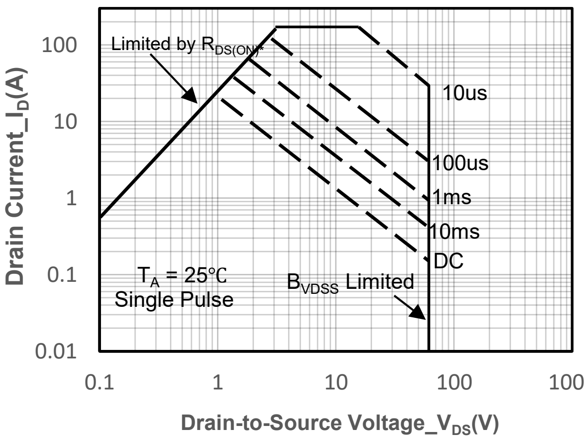
On-Resistance vs. Drain Current and Gate Voltag



On-Resistance vs. Gate-to-Source Voltage



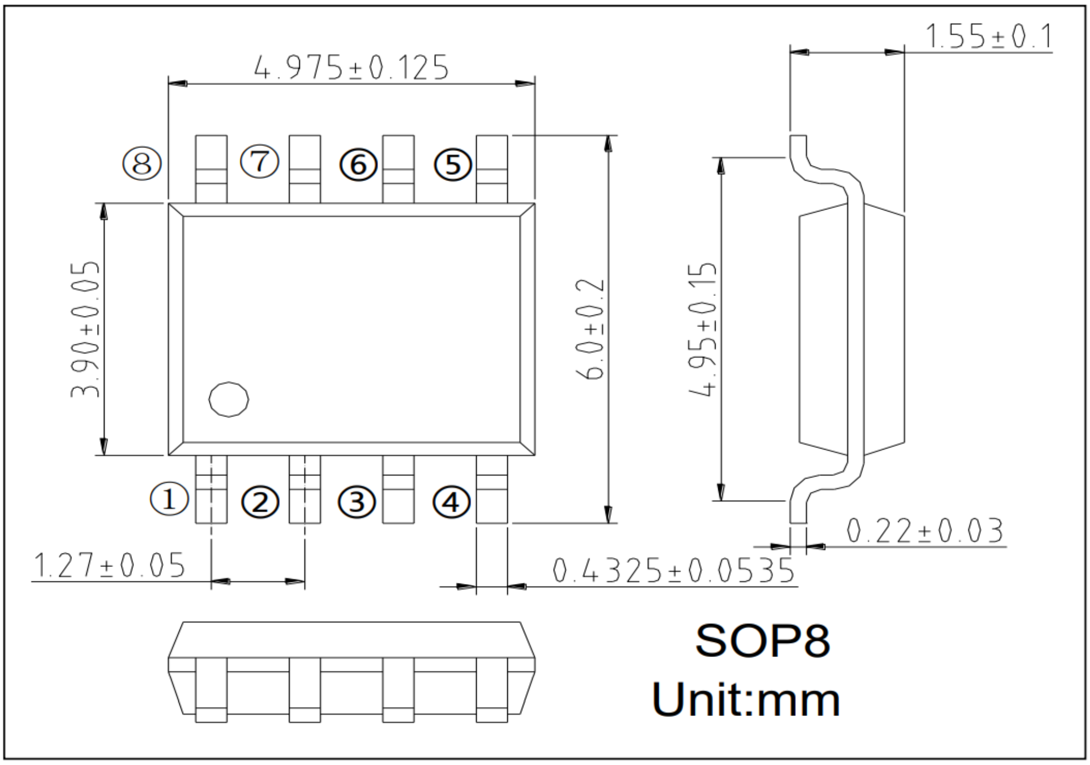
On-Resistance vs. Junction Temperature



*V_{GS}>mininum V_{GS} at which $R_{DS(ON)}$ is specified

Safe Operating Area vs. Junction-to-Ambient

➢ Package Information



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