SSC8229GS1

P-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-20V	±12V	21mΩ@-4V5	-29A
		30mΩ@-2V5	

➢ Description

This device is from Advanced Power innovated design and silicon process technology to achieve the lowest possible on-resistance and fast switching performance. It provides the designer with an extreme efficient device for use in a wide range of power applications.

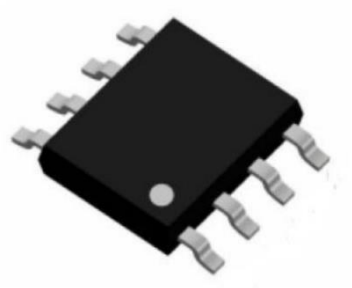
➢ Applications

- Load Switch
- NB battery
- DCDC conversion

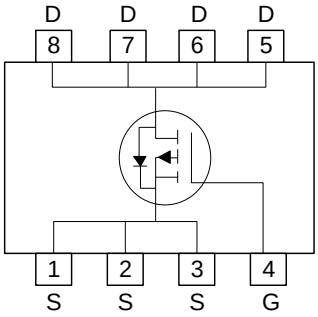
➢ Ordering Information

Device	Package	Shipping
SSC8229GS1	SOP-8	4000/Reel

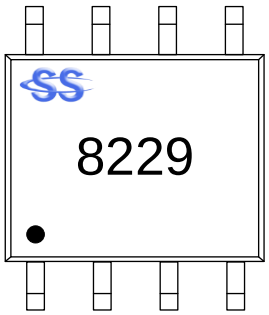
➢ Pin configuration



SOP-8



Pin Configuration (Top View)



Marking (Top View)

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

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSS}	-20	V
Gate-to-Source Voltage	V_{GSS}	±12	V
Continuous Drain Current [C]	I_D	-29	A
Continuous Drain Current [a]	I_{DSM}	-7.9	A
Pulsed Drain Current [b]	I_{DM}	-119	A
Power Dissipation [c]	P_D	29.8	W
Power Dissipation [a]	P_{DSM}	2.1	W
Operation junction temperature	T_J	-55 to 150	℃
Storage temperature range	T_{STG}	-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]	60	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	4.2	

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

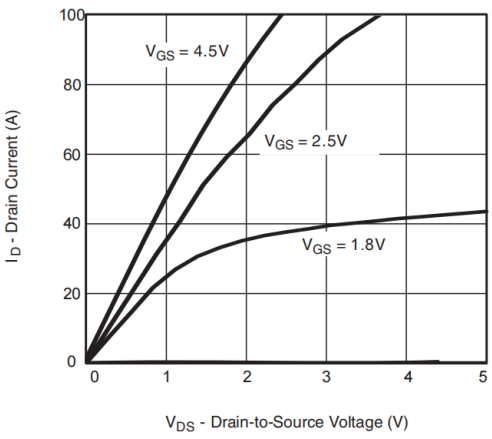
b. Repetitive rating, pulse width limited by junction temperature.

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.

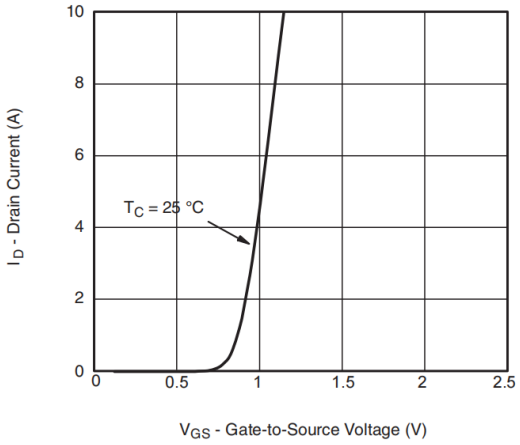
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-20			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250uA	-0.5	-0.7	-1	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -12A		21	28	mΩ
		V_{GS} = -2.5V, I_D = -8A		30	40	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -20V, V_{GS} = 0V			-1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±100	nA
Transconductance	G_{FS}	V_{DS} = -5V, I_D = -10A		25		s
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -1A		-0.75	-1.3	V
Input Capacitance	C_{ISS}	V_{DS} = -10V, V_{GS} = 0V, f = 1MHz		1831		pF
Output Capacitance	C_{OSS}			207		
Reverse Transfer Capacitance	C_{RSS}			199		
Total Gate Charge	Q_G	V_{GS} = -4.5V, V_{DS} = -10V, I_D = -12A		84		nC
Gate to Source Charge	Q_{GS}			12		
Gate to Drain Charge	Q_{GD}			20		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = -4.5V, V_{DS} = -10V, R_L = 3Ω, R_G = 1Ω, I_D = -12A		15		ns
Rise Time	T_r			12		
Turn-off Delay Time	$T_{D(OFF)}$			81		
Fall Time	T_f			68		

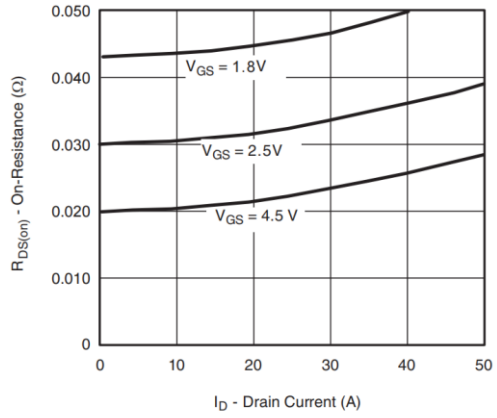
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



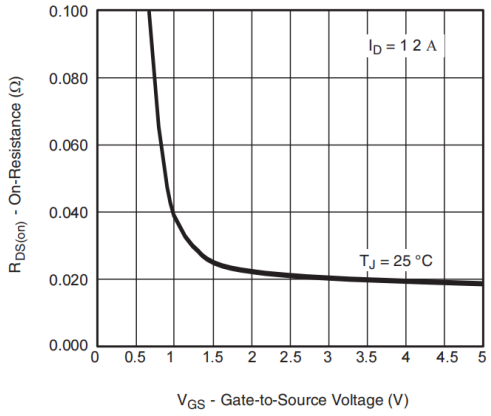
Output Characteristics



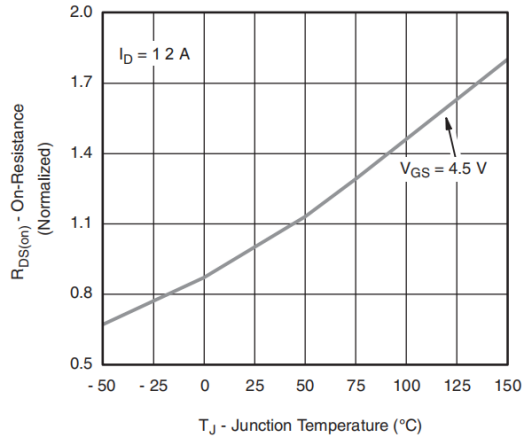
Transfer Characteristics



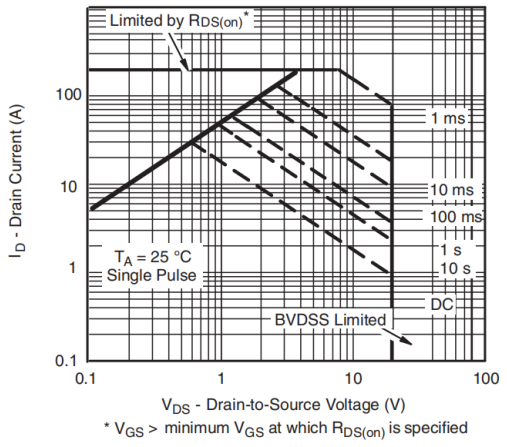
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

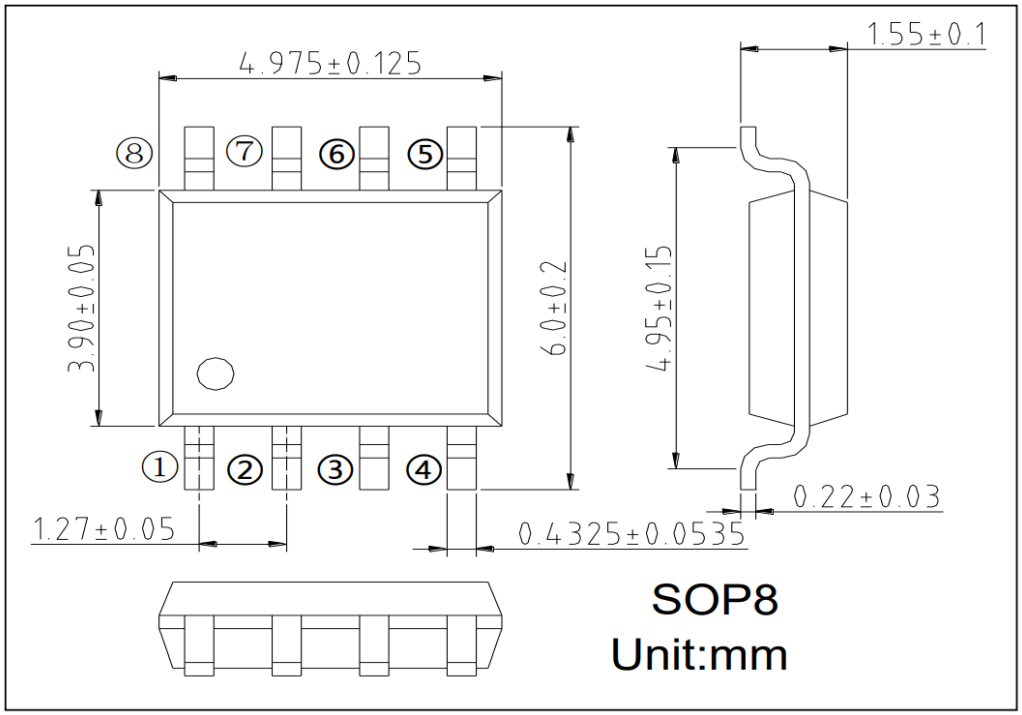


On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient

➢ Package Information



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