



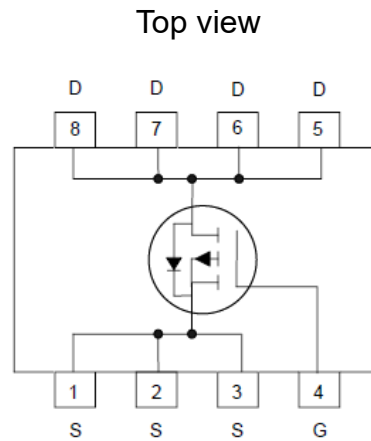
SSC8039GS1

P-Channel Enhancement Mode MOSFET

➤ Features

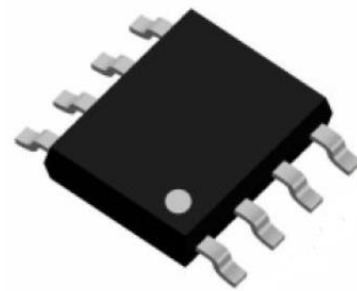
VDS	VGS	RDSON Typ.	ID
-30V	±20V	12.5mR@-10V	-14A
		15mR@-4V5	

➤ Pin configuration



➤ Description

This device is produced with high cell density, DMOS trench technology, which is especially used to minimize on-state resistance. This device is particularly suited for low voltage power management requiring a wide range of given voltage ratings(4.5V-25V) such as load switch and battery protection.



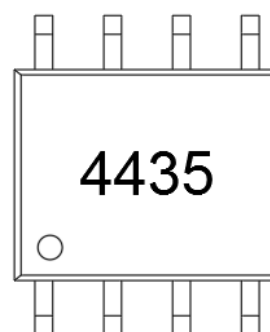
SOP8

➤ Applications

- Load Switch
- NB battery
- DCDC conversion

➤ Ordering Information

Device	Package	Shipping
SSC8039GS1	SOP8	4000/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	-14	A
I_{DM}	Pulsed Drain Current ^b	-50	A
P_D	Power Dissipation ^c	5.5	W
P_{DSM}	Power Dissipation ^a	2.5	W
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	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a		55	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		25	

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

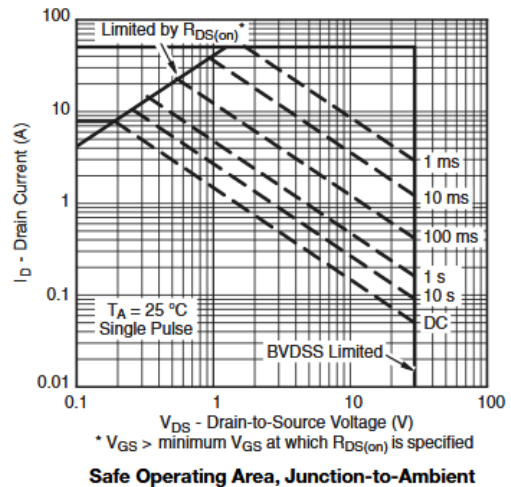
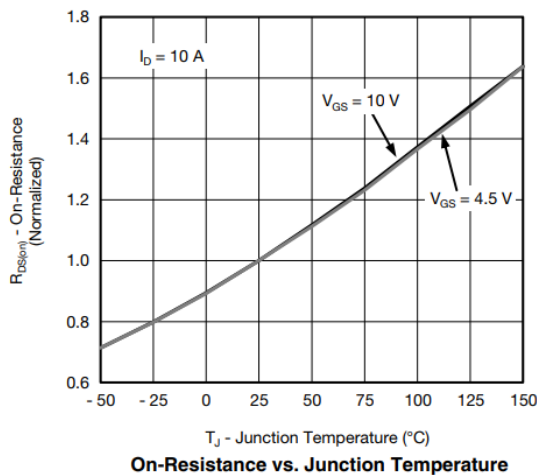
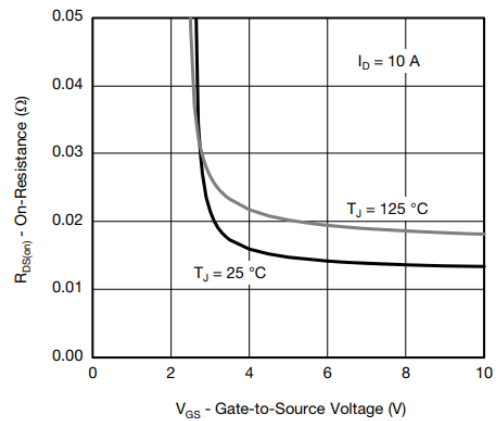
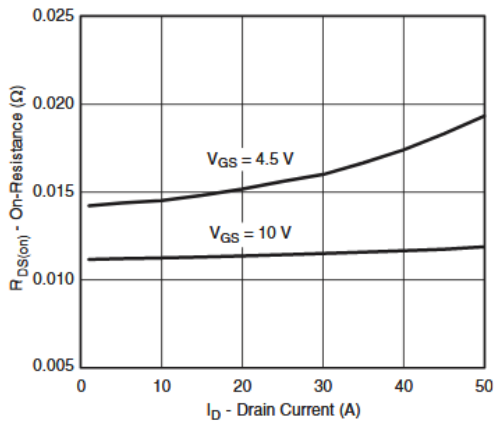
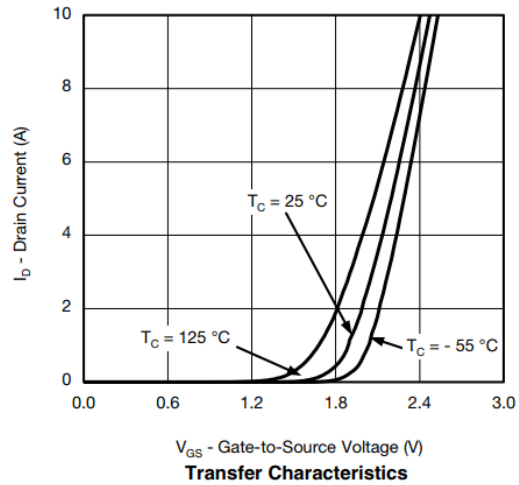
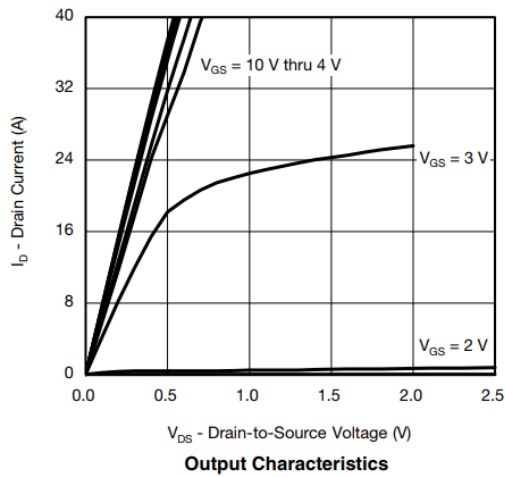


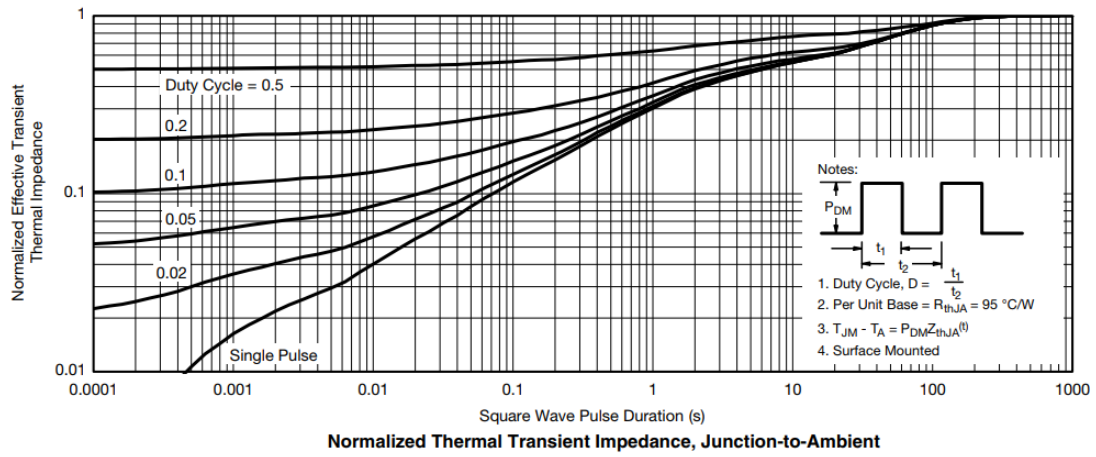
➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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	-1.3	-3	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-10V, I_D=-10A$		12.5	18	mR
		$V_{GS}=-4.5V, I_D=-7A$		15	22	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
GFS	Transconductance	$V_{DS}=-5V, I_D=-10A$		18		S
VSD	Forward Voltage	$V_{GS}=0V, I_S=-1A$		-0.7	-1.6	V
Ciss	Input Capacitance	$V_{DS}=-20V, V_{GS}=0V,$ $f=1MHz$		2000		pF
Coss	Output Capacitance			550		
Crss	Reverse Transfer Capacitance			800		
Qg	Total Gate charge	$V_{GS}=-4.5V, V_{DS}=-15V,$ $I_D=-7A$		14		nC
Qgs	Gate to Source charge			4.4		
Qgd	Gate to Drain charge			2.7		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=-10V,$ $V_{DS}=-15V, R_L=1.5R,$ $R_G=3R$		9		ns
Tr	Rise time			7		
$T_{D(OFF)}$	Turn-off delay time			39		
Tf	Fall time			14		



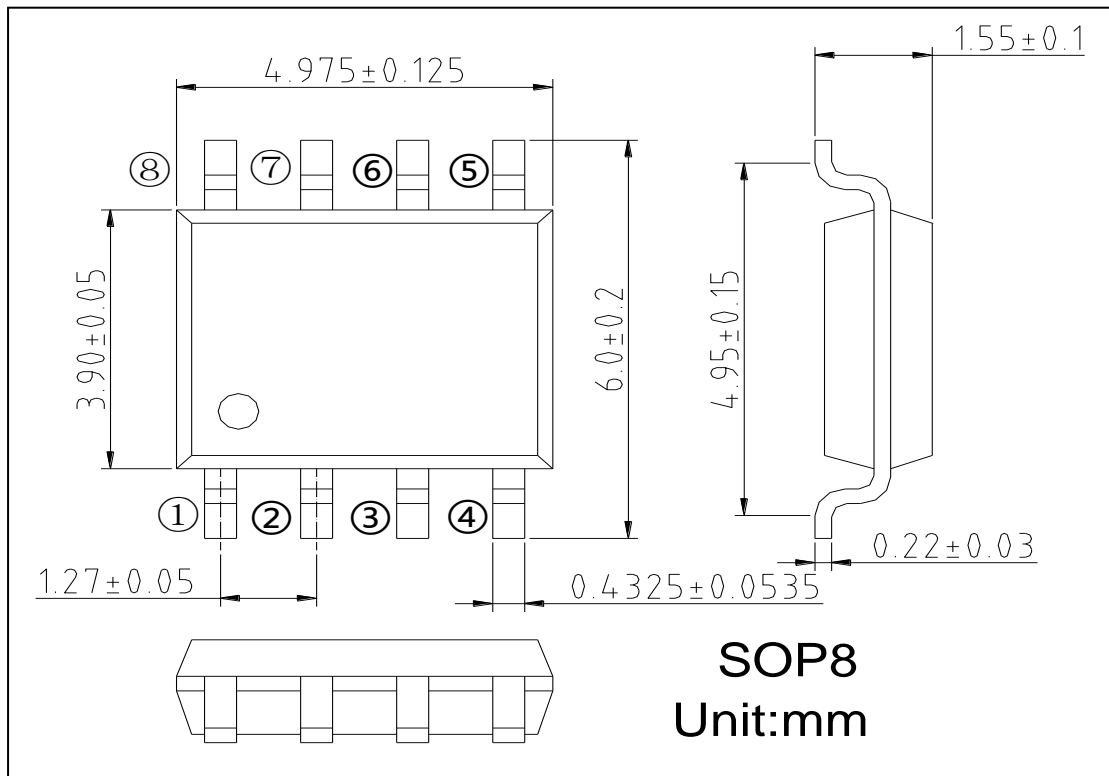
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)







➤ Package Information



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