



SSC8239GS1

P-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
-35V	±20V	6mR@-10V	-68A
		8mR@-4V5	

➤ 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.

100% UIS Tested.

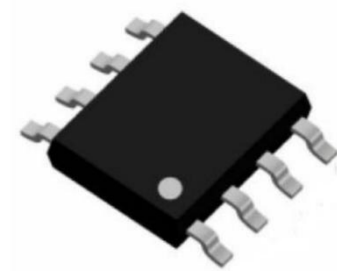
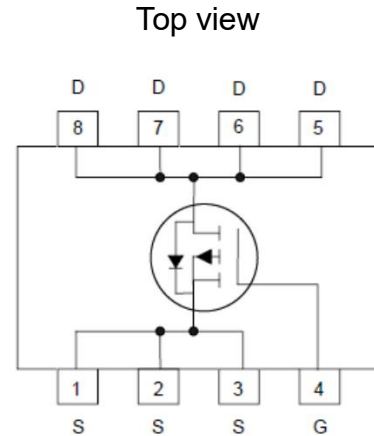
➤ Applications

- Load Switch
- NB battery
- DCDC conversion

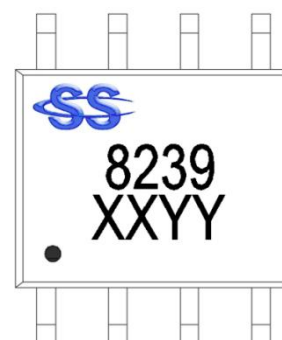
➤ Ordering Information

Device	Package	Shipping
SSC8239GS1	SOP8	2500/Reel

➤ Pin configuration



Bottom View



(Y: year/W: week)

Marking



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	-35	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_{D}	Continuous Drain Current ^d	$\text{TC}=25^{\circ}\text{C}$	A
		$\text{TC}=100^{\circ}\text{C}$	
I_{DSM}	Continuous Drain Current ^a	$\text{TA}=25^{\circ}\text{C}$	A
		$\text{TA}=70^{\circ}\text{C}$	
I_{DM}	Pulsed Drain Current ^b	-272	A
I_{AS}	Avalanche Current ^b L=0.5mH	-34	A
E_{AS}	Avalanche Energy ^b L=0.5mH	289	mJ
P_{D}	Power Dissipation ^d	$\text{TC}=25^{\circ}\text{C}$	W
		$\text{TC}=100^{\circ}\text{C}$	W
P_{DSM}	Power Dissipation ^a	$\text{TA}=25^{\circ}\text{C}$	W
		$\text{TA}=70^{\circ}\text{C}$	W
T_{J}	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	

➤ **Thermal Resistance Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta\text{JA}}$	Junction-to-Ambient Thermal Resistance ^a	50	$^{\circ}\text{C}/\text{W}$
$R_{\theta\text{JC}}$	Junction-to-Case Thermal Resistance ^c	22	
	Junction-to-Case Thermal Resistance ^d	2.8	

Note:

- The value of $R_{\theta\text{JA}}$ is measured with the device mounted on 1 in² FR-4 board with 2oz.copper,in a still air environment with $\text{TA}=25^{\circ}\text{C}$.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 $T_{\text{J}}(\text{MAX})=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.
- The value of $R_{\theta\text{JC}}$ has been determined of the temperature difference between junction and the case surface in contact with water cooled copper heat sink .

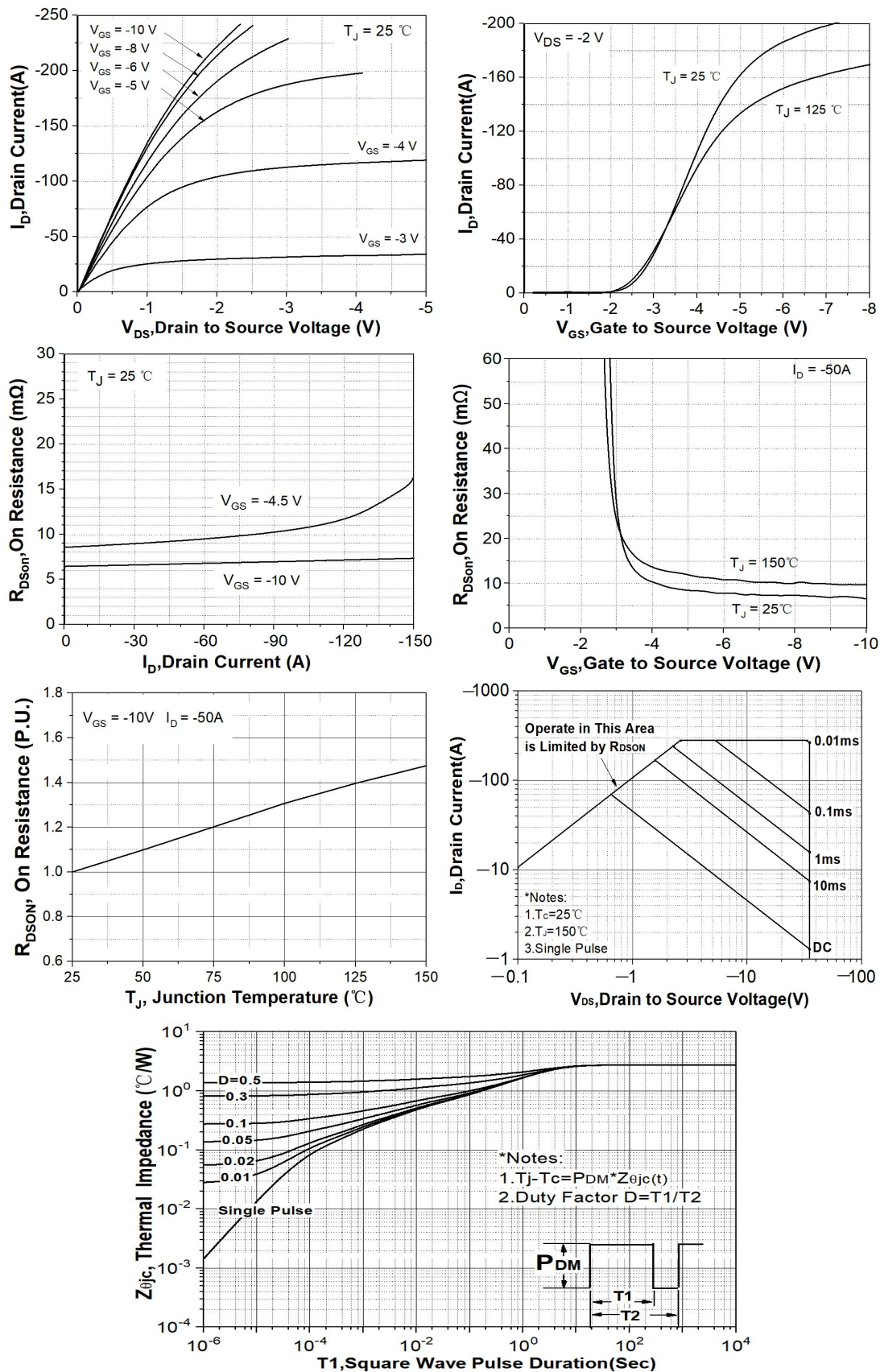


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=-250\mu A$	-35			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}$, $I_D=-250\mu A$	-1	-1.4	-3	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=-10V$, $I_D=-15A$		6	7.5	mR
		$V_{GS}=-4.5V$, $I_D=-10A$		8	10	
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
G_{FS}	Transconductance	$V_{DS}=-5V$, $I_D=-10A$		11		S
V_{SD}	Forward Voltage	$V_{GS}=0V$, $I_S=-10A$		-0.8	-1.3	V
C_{iss}	Input Capacitance	$V_{DS}=-15V$, $V_{GS}=0V$, $f=1MHz$		4800		pF
C_{oss}	Output Capacitance			510		
C_{rss}	Reverse Transfer Capacitance			410		
Q_G	Total Gate charge	$V_{GS}=-10V$, $V_{DS}=-15V$, $I_D=-20A$		80		nC
Q_{GS}	Gate to Source charge			10		
Q_{GD}	Gate to Drain charge			19		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=-10V$, $V_{DS}=-15V$, $R_L=0.75R$, $R_G=3R$		17		ns
T_r	Rise time			50		
$T_{D(OFF)}$	Turn-off delay time			110		
T_f	Fall time			25		
T_{rr}	Diode Recovery Time	$I_F=-20A$, $di/dt=500A/\mu s$		25		ns
Q_{rr}	Diode Recovery Charge			17		nC

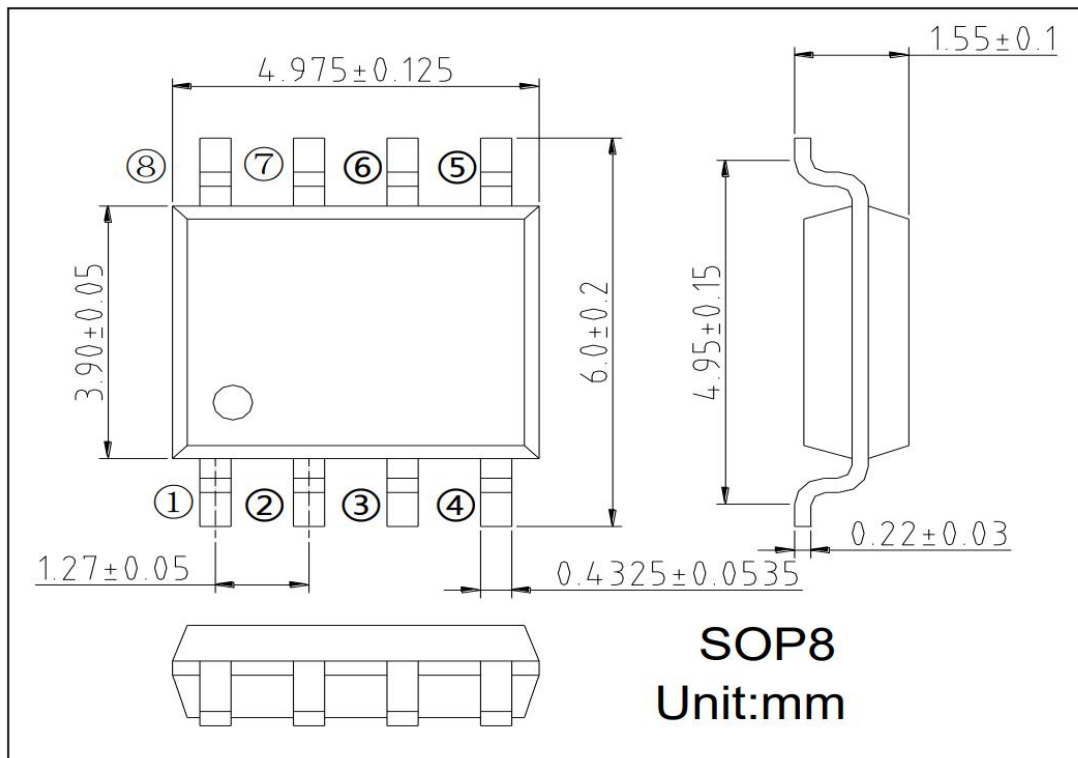


➤ **Typical Characteristics**($T_A=25^\circ\text{C}$ unless otherwise noted)





➤ **Package Information**



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