



SSC8169GS6

P-Channel Enhancement Mode MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)} Typ.	I _D
-60V	±20V	155mΩ@-10V	-2.1A
		185mΩ@-4V5	

➤ Description

The This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package.

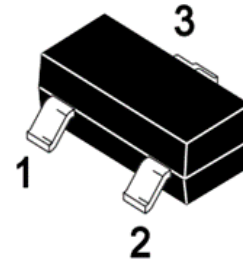
➤ Applications

- Load Switch
- Portable Devices
- DCDC Conversion

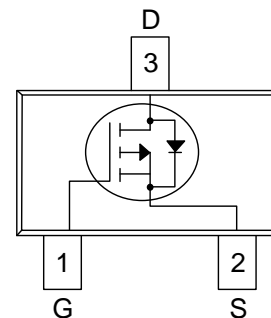
➤ Ordering Information

Device	Package	Shipping
SSC8169GS6	SOT-23	3000/Reel

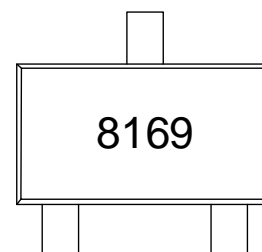
➤ Pin configuration



SOT-23



Pin Configuration (Top View)



Marking



➤ **Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ 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 ^a	-2.1	A
I_{DM}	Pulsed Drain Current ^b	-8	A
P_D	Power Dissipation ^a	1.14	W
T_J	Operation junction temperature	-55~150	$^\circ\text{C}$
T_{STG}	Storage temperature range	-55~150	$^\circ\text{C}$

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

Symbol	Parameter	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	110	$^\circ\text{C}/\text{W}$

Note:

- a. 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 power dissipation is based on the $t \leq 10\text{s}$ thermal resistance rating.
- b. Repetitive rating, pulse width limited by junction temperature.

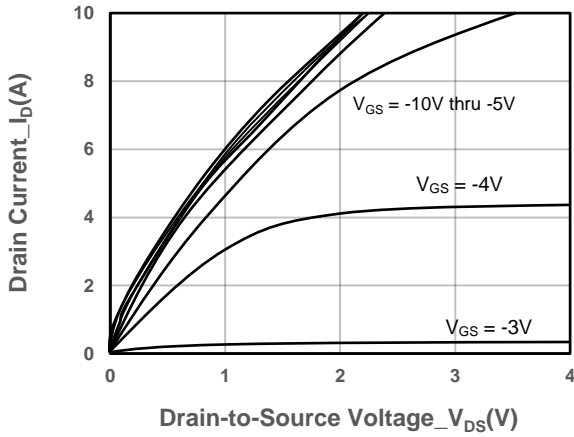


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

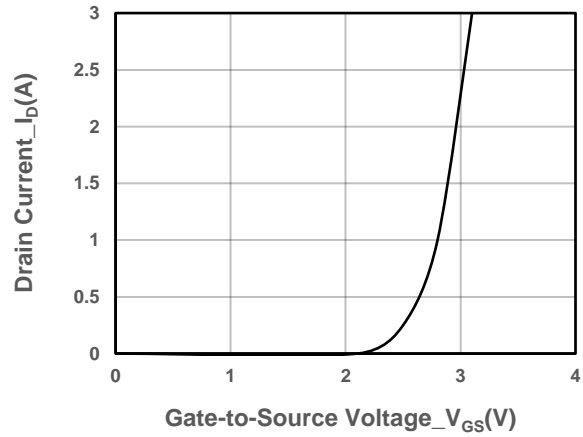
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-1	-2	-3	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -1A		155	215	mΩ
		V _{GS} = -4.5V, I _D = -1A		185	260	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -60V, V _{GS} = 0V			-1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = -1.2A		-0.8	-1.3	V
Input Capacitance	C _{ISS}	V _{DS} = -30V, V _{GS} = 0V, f = 1MHz		510		pF
Output Capacitance	C _{OSS}			31		
Reverse Transfer Capacitance	C _{RSS}			21		
Turn-on Delay Time	T _{D(ON)}	V _{DS} = -30V, I _D = -1.2A, R _L = 6Ω, V _{GS} = -10V, R _G = 3Ω		7.2		ns
Rise Time	T _r			21		
Turn-off Delay Time	T _{D(OFF)}			37		
Fall Time	T _f			12		
Total Gate Charge	Q _G	V _{DS} = -30V, V _{GS} = -10V, I _D = -1.2A		12		nC
Gate to Source Charge	Q _{GS}			2.1		
Gate to Drain Charge	Q _{GD}			2.4		



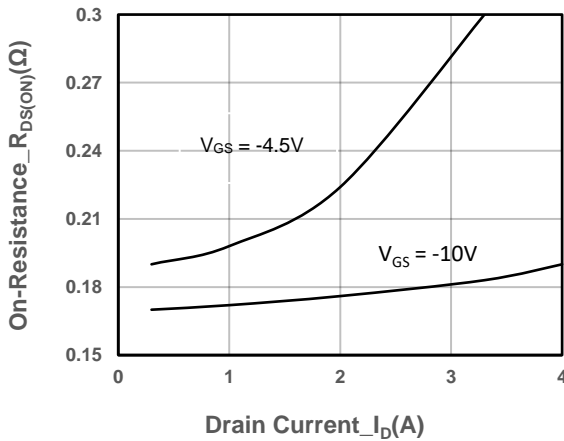
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



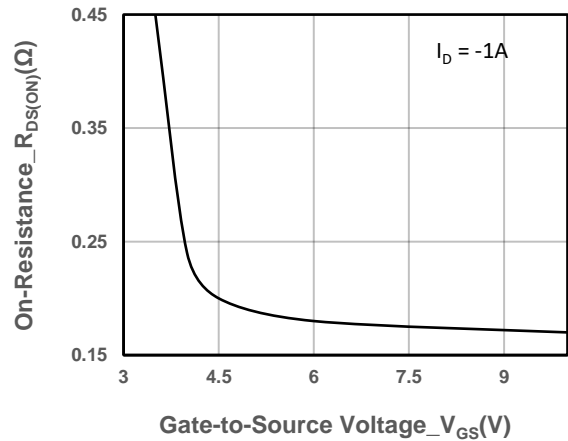
Output Characteristics



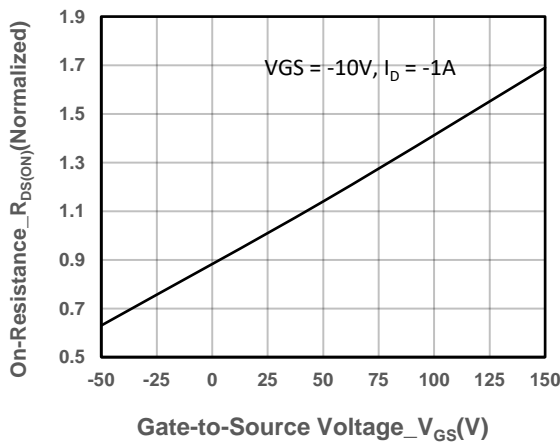
Transfer Characteristics



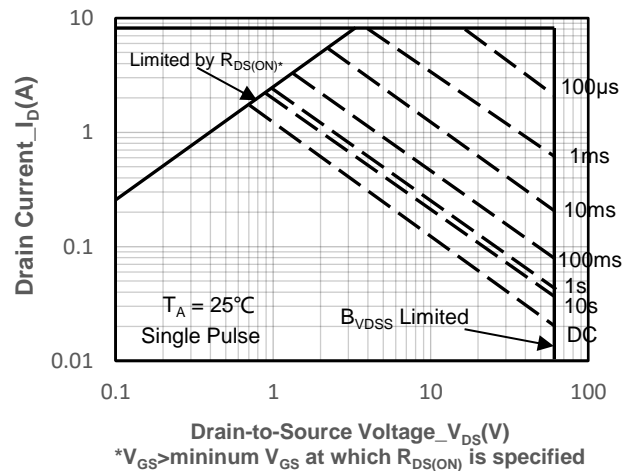
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

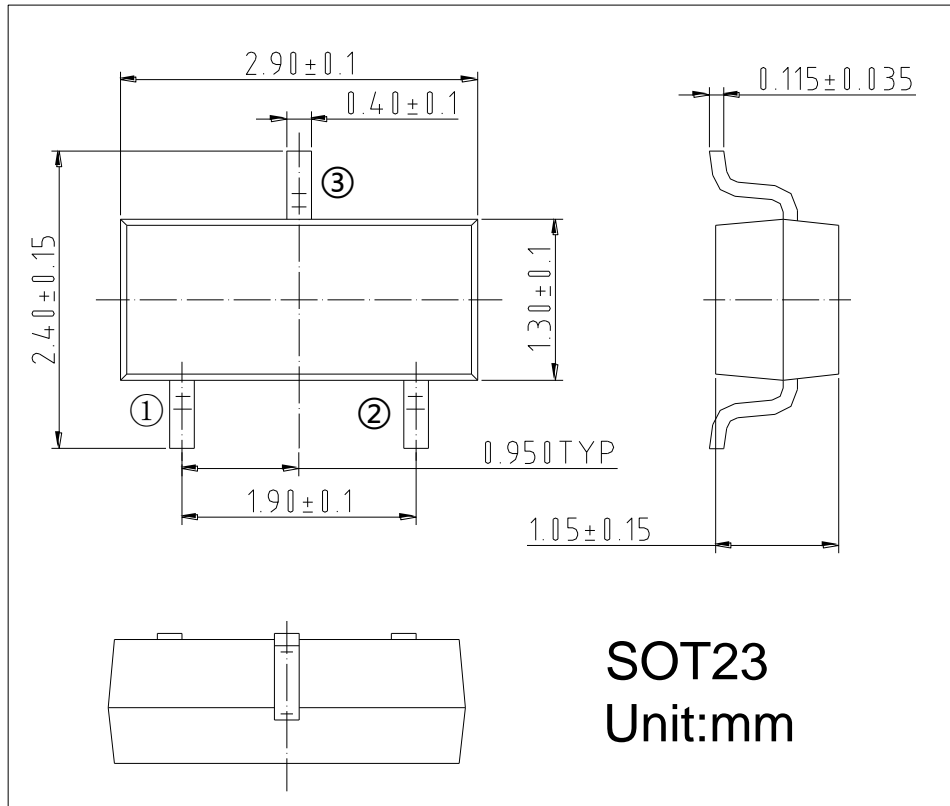


On-Resistance vs. Junction Temperature

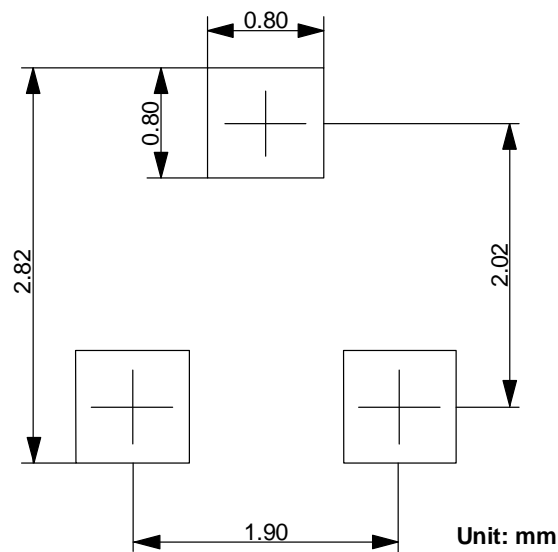


Safe Operating Area vs. Junction-to-Ambient

➤ Package Information



➤ Suggested Pad Layout





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