

## N-channel Small Switching MOSFET

- **Features**

VDS	VGS	RDSon TYP	ID	ESD
60V	±20V	2R@10V	300mA	3kV
		3R@4V5		

- **General Description**

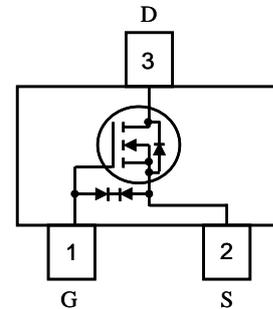
This device is an N-Channel enhancement mode MOSFET, with low on-resistance, fast switching speed and low threshold voltage (2V), it is ideal for portable equipment.

- **Applications**

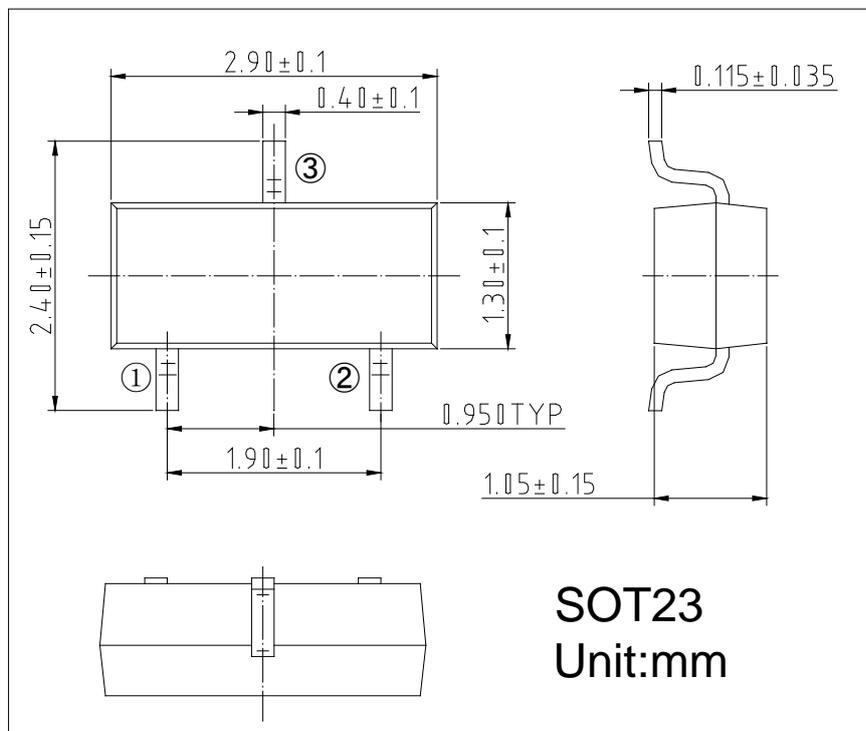
- Direct Logic-Level Interface: TTL/CMOS
- Drivers: Relays, Solenoids, Lamps, Hammers,
- Display, Memories, Transistors, etc.
- Battery Operated Systems
- Solid-State Relays

- **Pin configuration**

Top View



- **Package Information**





# SSC8160GS6

● **Absolute Maximum Ratings @ TA = 25°C unless otherwise specified**

Parameter		Symbol	Ratings	Unit
Drain-source voltage		$V_{DSS}$	60	V
Gate-source voltage		$V_{GSS}$	$\pm 20$	V
Drain current	- Continuous	$I_D$	300	mA
	- Pulse	$I_{DM}$	800	
Total power dissipation (Tc=25°C)		$P_D^{*1}$	350	mW
Channel temperature		$T_{CH}$	-55 ~ +150	°C
Storage temperature		$T_{STG}$	-55 ~ +150	°C

Note1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inches. The rating is for each chip in the package.

● **Electrical Characteristics @ TA = 25°C unless otherwise specified**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 10\mu A$	60	--	--	V
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = 60V, V_{GS} = 0V$	--	--	1	$\mu A$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$	--	--	$\pm 10$	$\mu A$
<b>ON CHARACTERISTICS</b>						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	--	2.5	V
Drain-Source On-state Resistance	$R_{DS(ON)}$	$I_D = 500mA, V_{GS} = 10V$	--	2	6.6	R
		$I_D = 50mA, V_{GS} = 4.5V$	--	3	8	
Forward Transconductance	$G_{FS}$	$V_{DS} = 10V, I_D = 200mA$	80	--	--	ms
Body Diode Forward Voltage	$V_{SD}$	$I_S = 200mA, V_{GS} = 0V$		0.7	1.3	V
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	$C_{ISS}$	$V_{DS} = 25V, V_{GS} = 0V$ $F = 1MHz$	--	32	--	pF
Output Capacitance	$C_{OSS}$		--	7	--	
Feedback Capacitance	$C_{RSS}$		--	3	--	
<b>SWITCHING CHARACTERISTICS</b>						
Turn-on Delay Time	$T_{D(ON)}$	$V_{GS} = 5V, I_D = 10mA$ $V_{DD} = 5V, R_L = 500R,$ $R_{GS} = 10R$	--	15	--	ns
Rise Time	$T_R$		--	35	--	
Turn-off Delay Time	$T_{D(OFF)}$		--	35	--	
Fall Time	$T_F$		--	35	--	

Note 2. Short duration test pulse used to minimize self-heating effect.

● Typical Performance Characteristics

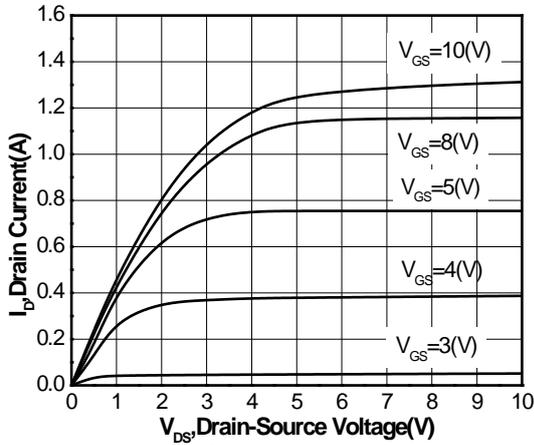


Figure 1. Output Characteristics

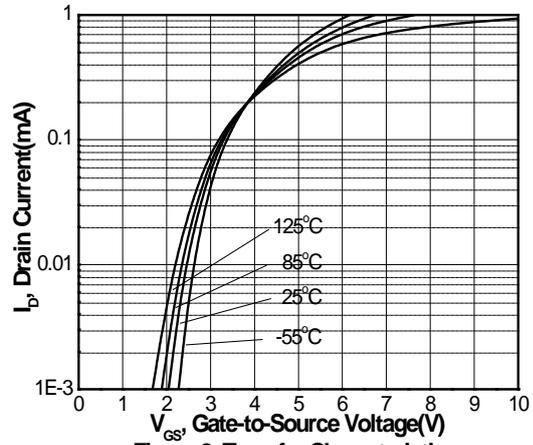


Figure 2. Transfer Characteristics

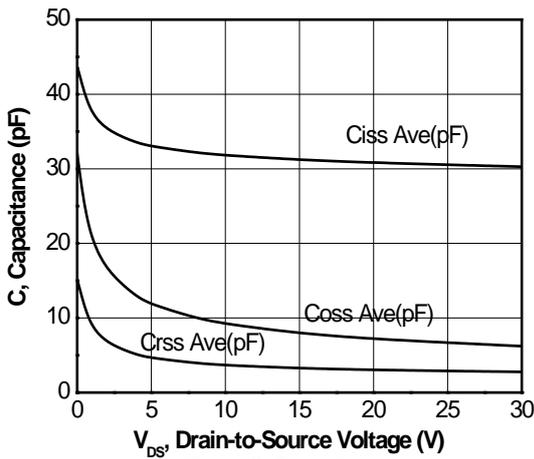


Figure 3. Capacitance

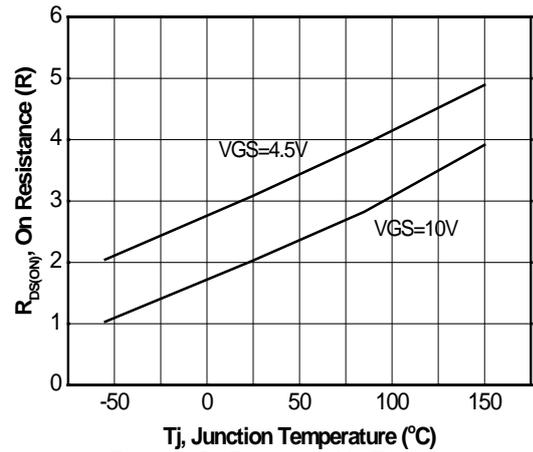


Figure 4. On Resistance Vs. Temperature

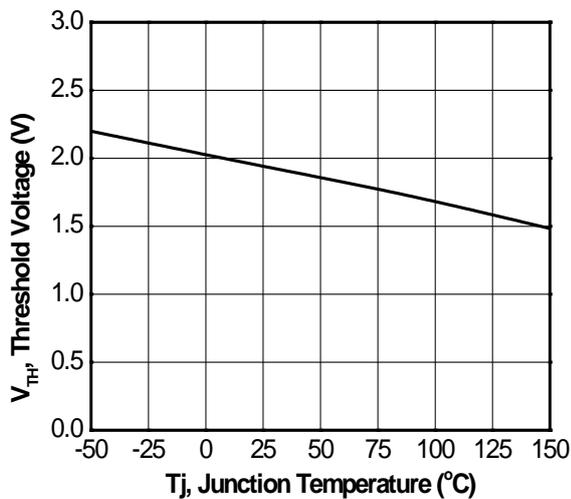


Figure 5. Gate Threshold Vs. Temperature

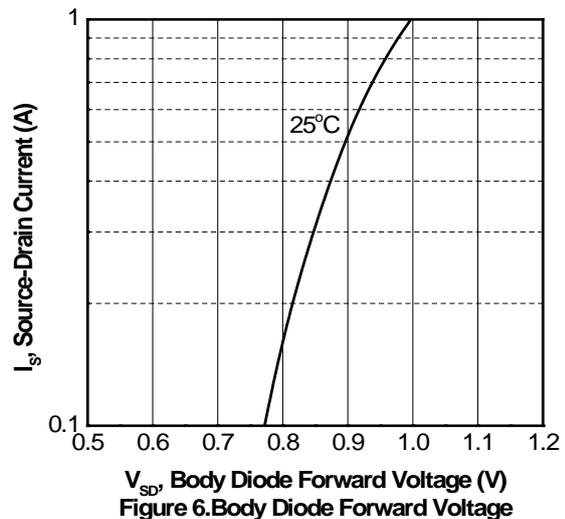


Figure 6. Body Diode Forward Voltage



# SSC8160GS6

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