



SSC8035GS6

P-Channel Enhancement Mode MOSFET

- **Features**

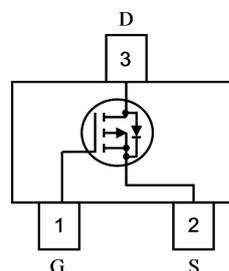
VDS	VGS	RDSon TYP	ID
-30V	±12V	51mR@-10V	-4A
		60mR@-4V5	
		98mR@-2V5	

- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

- **Pin configuration**

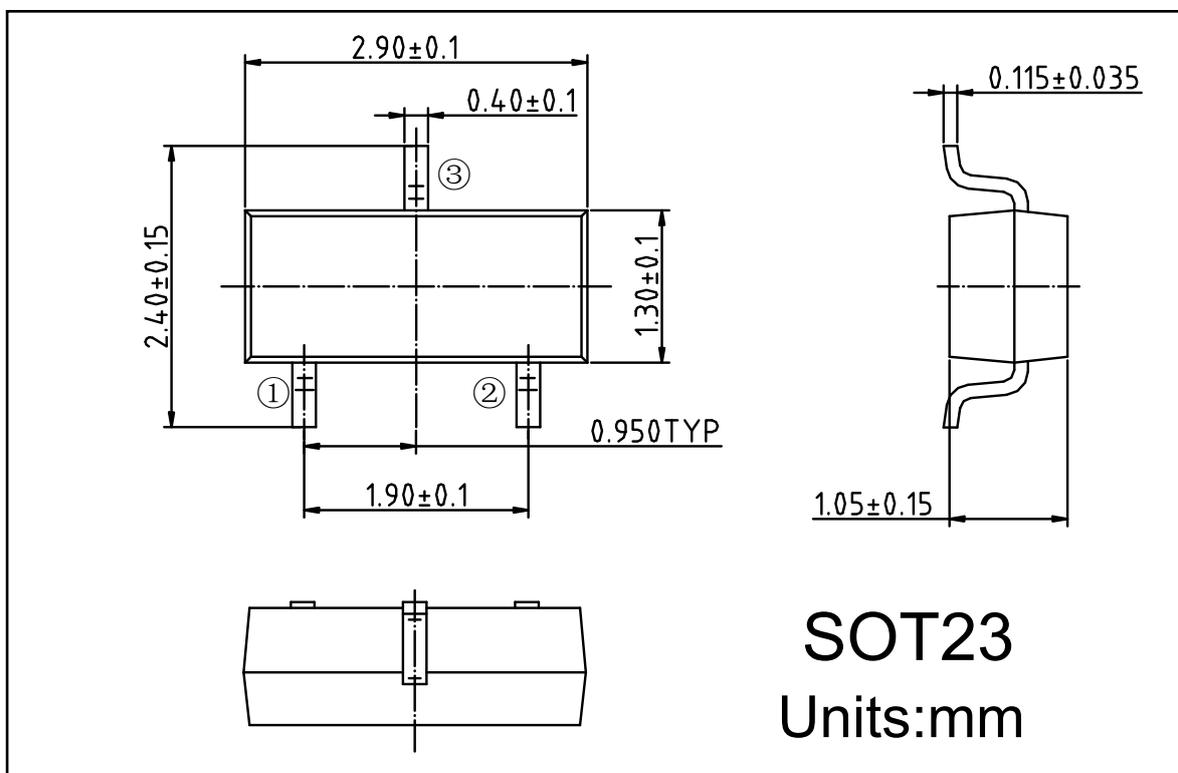
Top View



- **General Description**

This device is particularly suited for low voltage application 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 Excellent thermal and electrical capabilities.

- **Package Information**





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● **Absolute Maximum Ratings** @ $T_A=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GSS}	± 12	V
Maximum Drain Current – Continuous	I_D	-4	A
– Pulsed	I_{DM}	-17	A
Continuous Power Dissipation	P_D	250	mW
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^{\circ}\text{C}$

● **Electrical Characteristics** @ $T_A=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	-30	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = -30\text{V}, V_{GS} = 0\text{V}$	--	--	-1	μA
Gate - Body Leakage, Forward	I_{GSSF}	$V_{GS} = -12\text{V}$	--	--	-100	nA
Gate - Body Leakage, Reverse	I_{GSSR}	$V_{GS} = 12\text{V}$	--	--	100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-0.7	-1.0	-1.3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -10\text{V}, I_D = -4.2\text{A}$	--	51	65	mR
		$V_{GS} = -4.5\text{V}, I_D = -4\text{A}$	--	60	75	
		$V_{GS} = -2.5\text{V}, I_D = -1\text{A}$	--	98	120	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS} = -30\text{V}, V_{GS} = 0\text{V},$ $F = 200\text{KHz}$	--	600	--	pF
Output Capacitance	C_{OSS}		--	85	--	pF
Reverse Transfer Capacitance	C_{RSS}		--	66	--	pF
SWITCHING CHARACTERISTICS						
Turn-on Delay Time	$T_{D(ON)}$	$V_{GS} = -10\text{V}, V_{DS} = -15\text{V},$ $R_L = 3.6\text{R}, R_{GEN} = 6\text{R}$	--	6.5	--	ns
Rise Time	T_R		--	3.5	--	
Turn-off Delay Time	$T_{D(OFF)}$		--	40	--	
Fall Time	T_F		--	13	--	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{V}, I_S = -1\text{A}$	--	-0.78	-1	V

Note:

- $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. $R_{\theta JC}$ is guaranteed by design while $R_{\theta CA}$ is determined by the user's board design.
- Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$, Duty Cycle $\leq 2.0\%$

● **Typical Performance Characteristics**

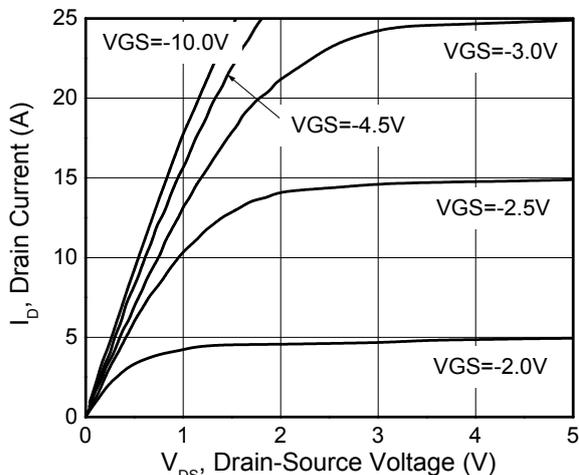


Figure 1. Output Characteristics

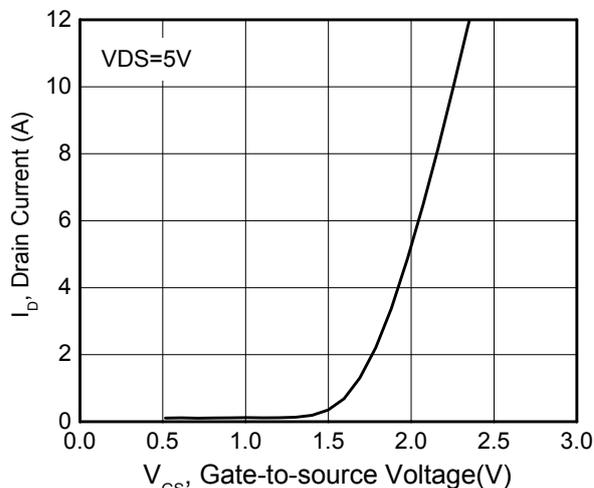


Figure 2. Transfer Characteristics

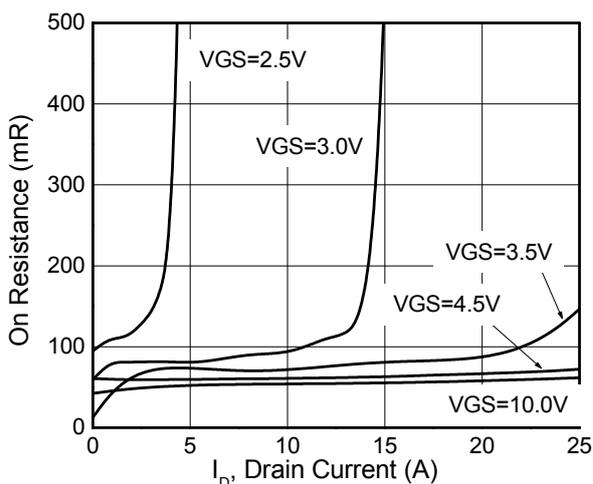


Figure 3. On Resistance vs. Drain Current

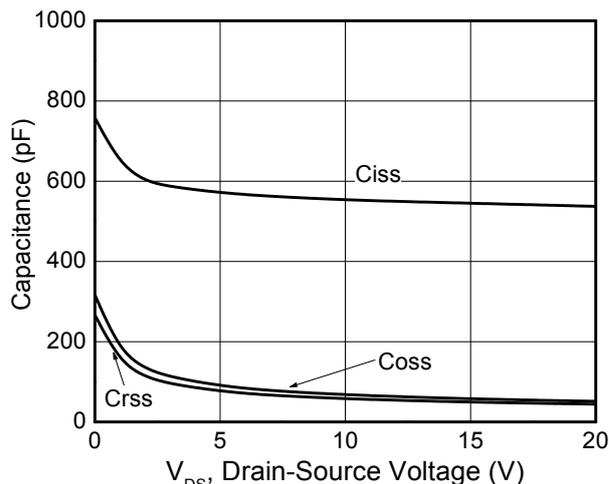


Figure 4. Capacitance

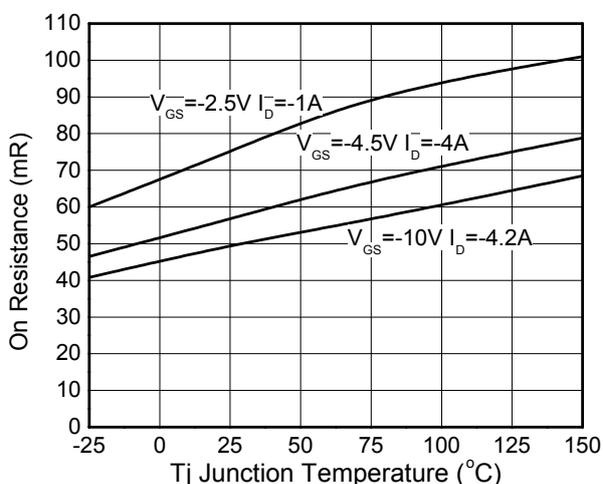


Figure 5. On resistance vs. Temperature

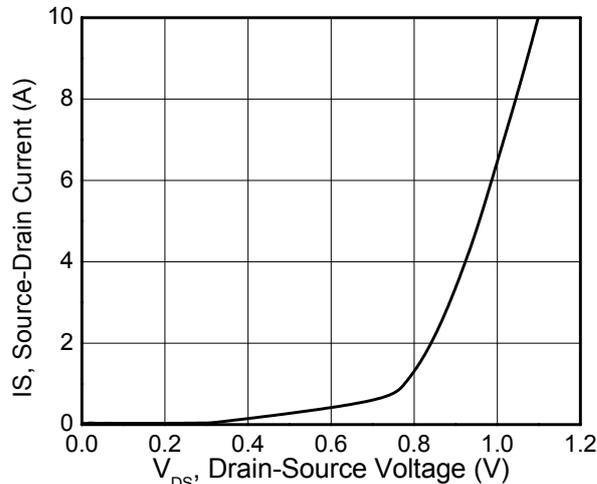


Figure 6. Diode Forward Characteristics



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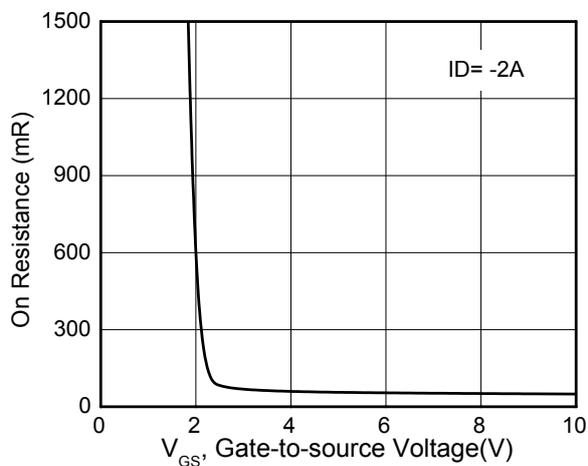


Figure 7. On Resistance vs. G-S Voltage

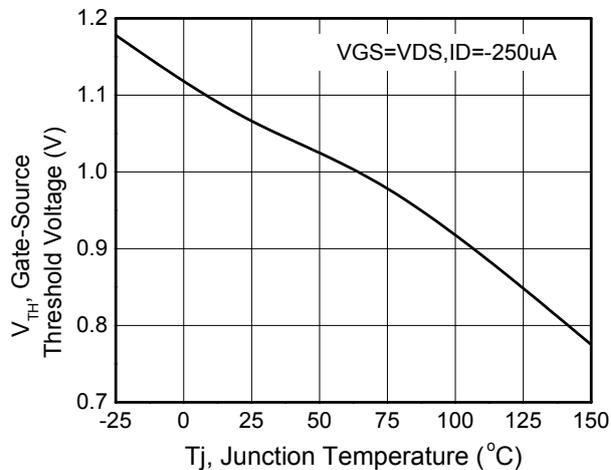


Figure 8. Gate Threshold vs. Temperature



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