



# SSC8131GS6

## P-Channel Enhancement Mode MOSFET

- **Features**

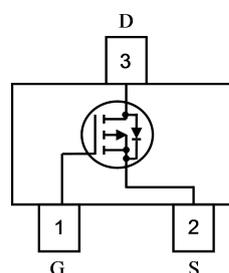
VDS	VGS	RDSon TYP	ID
-30V	±12V	45mR@-10V	-4A
		52mR@-4V5	
		63mR@-2V5	

- **Applications**

- Load Switch
- Portable Devices
- DC/DC conversion

- **Pin configuration**

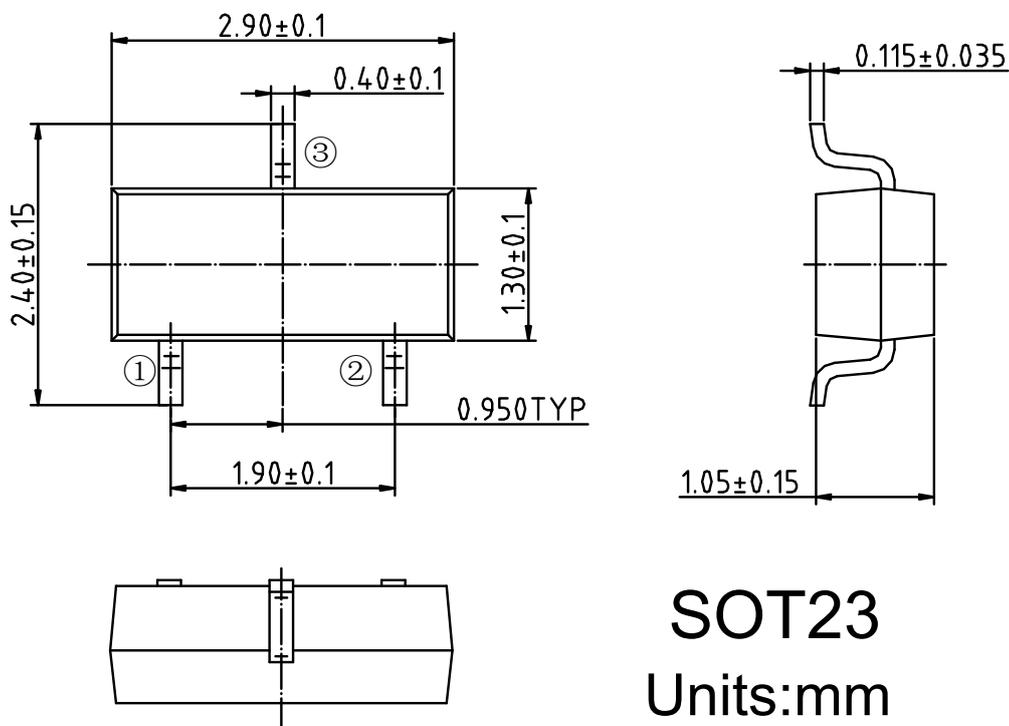
Top View



- **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	$V_{GSS}$	$\pm 12$	V
Maximum Drain Current – Continuous	$I_D$	-4	A
– Pulsed	$I_{DM}$	-15	A
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	$^{\circ}\text{C}$

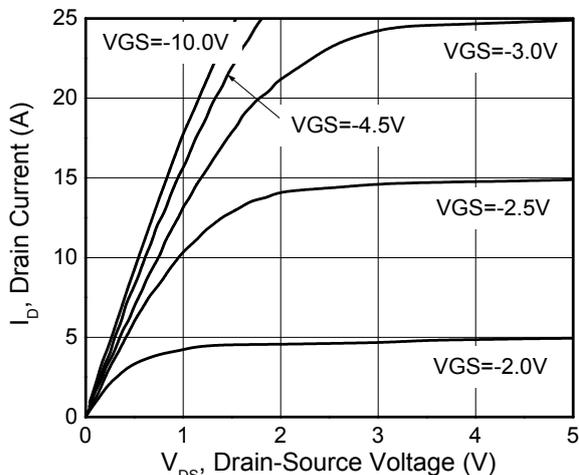
● **Electrical Characteristics @ $T_A=25^{\circ}\text{C}$  unless otherwise noted**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>						
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	$\mu\text{A}$
Gate - Body Leakage, Forward	$I_{GSSF}$	$V_{GS} = -12\text{V}, V_{DS}= 0\text{V}$	--	--	-100	nA
Gate - Body Leakage, Reverse	$I_{GSSR}$	$V_{GS} = 12\text{V}, V_{DS} = 0\text{V}$	--	--	100	nA
<b>ON CHARACTERISTICS</b>						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = -250\ \mu\text{A}$	-0.6	-0.75	-1.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = -10\text{V}, I_D = -0.5\text{A}$	--	45	58	mR
		$V_{GS} = -4.5\text{V}, I_D = -0.5\text{A}$	--	52	61	
		$V_{GS} = -2.5\text{V}, I_D = -0.5\text{A}$	--	63	71	
<b>DYNAMIC CHARACTERISTICS</b>						
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
<b>SWITCHING CHARACTERISTICS</b>						
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	--	
<b>DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS</b>						
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS} = 0\text{V}, I_S = -1\text{ A}$	--	-0.7	-1.3	V

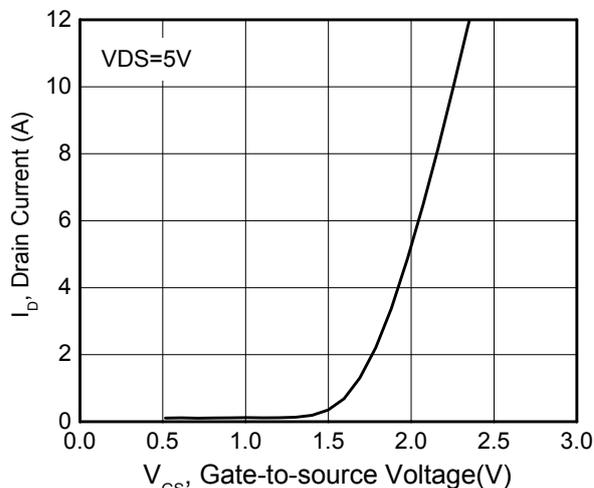
Note:

- $R_{\theta JA}$  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  $\leq 2.0\%$

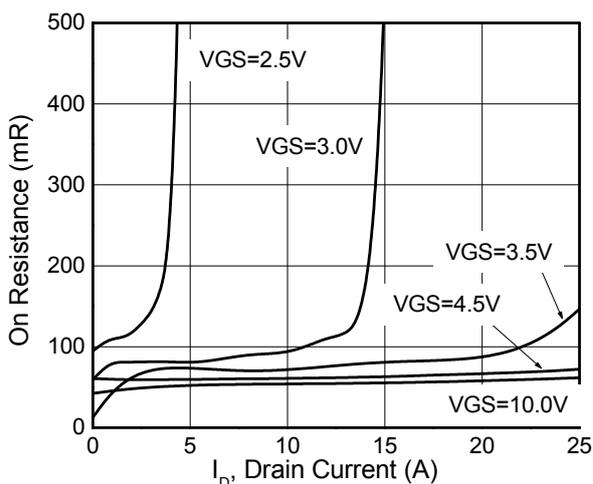
● **Typical Performance Characteristics**



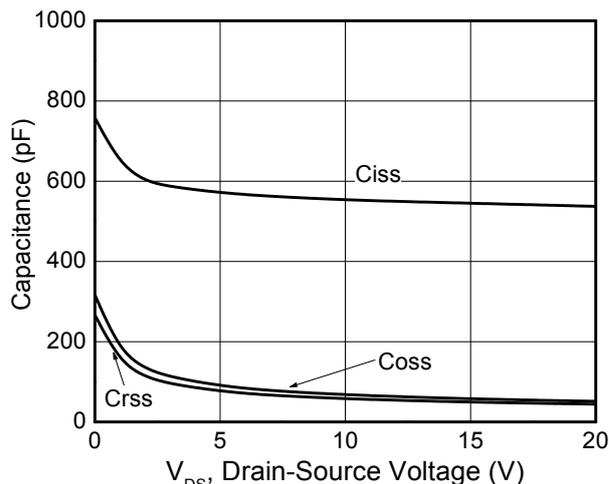
**Figure 1. Output Characteristics**



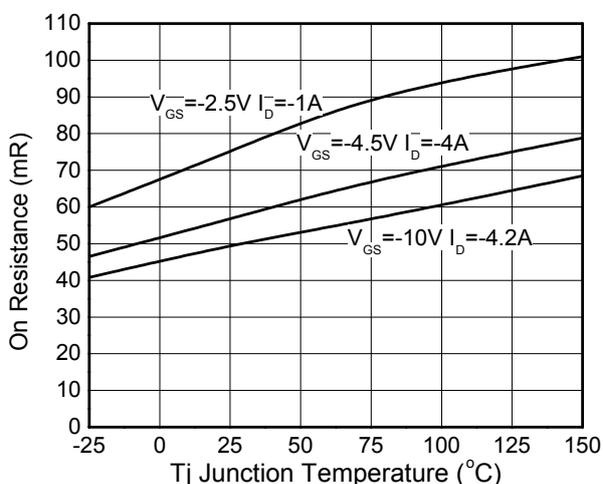
**Figure 2. Transfer Characteristics**



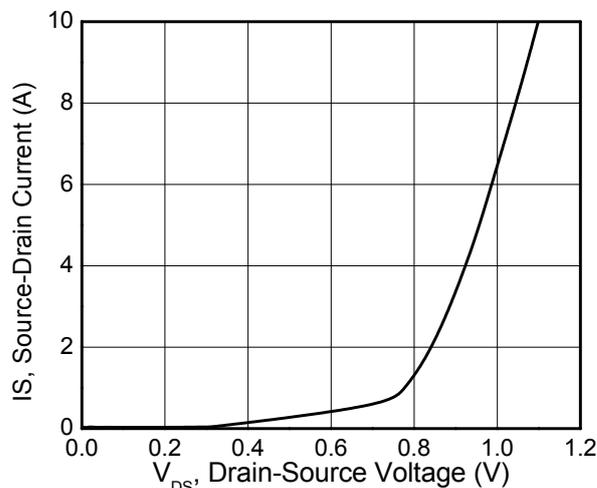
**Figure 3. On Resistance vs. Drain Current**



**Figure 4. Capacitance**



**Figure 5 . On resistance vs. Temperature**



**Figure 6. Diode Forward Characteristics**



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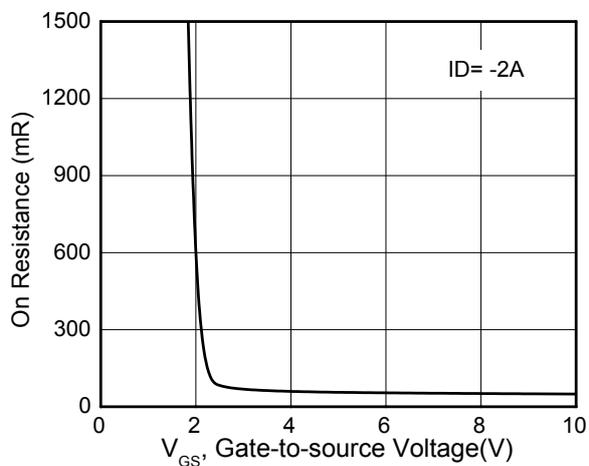


Figure 7. On Resistance vs. G-S Voltage

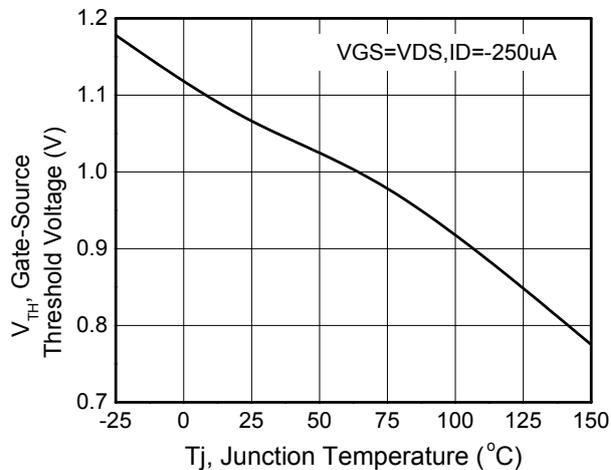


Figure 8. Gate Threshold vs. Temperature



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