



# SSC8313GS1

## Dual P-Channel Enhancement Mode MOSFET

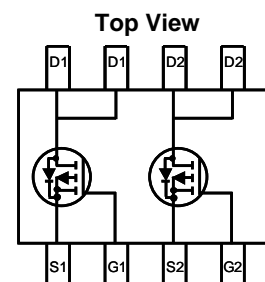
- **Features**

VDS	VGS	RDSon TYP	ID
-12V	±8V	38mR@-4V5 47mR@-2V5 61mR@-1V8	-6A

- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

- **Pin Configuration**

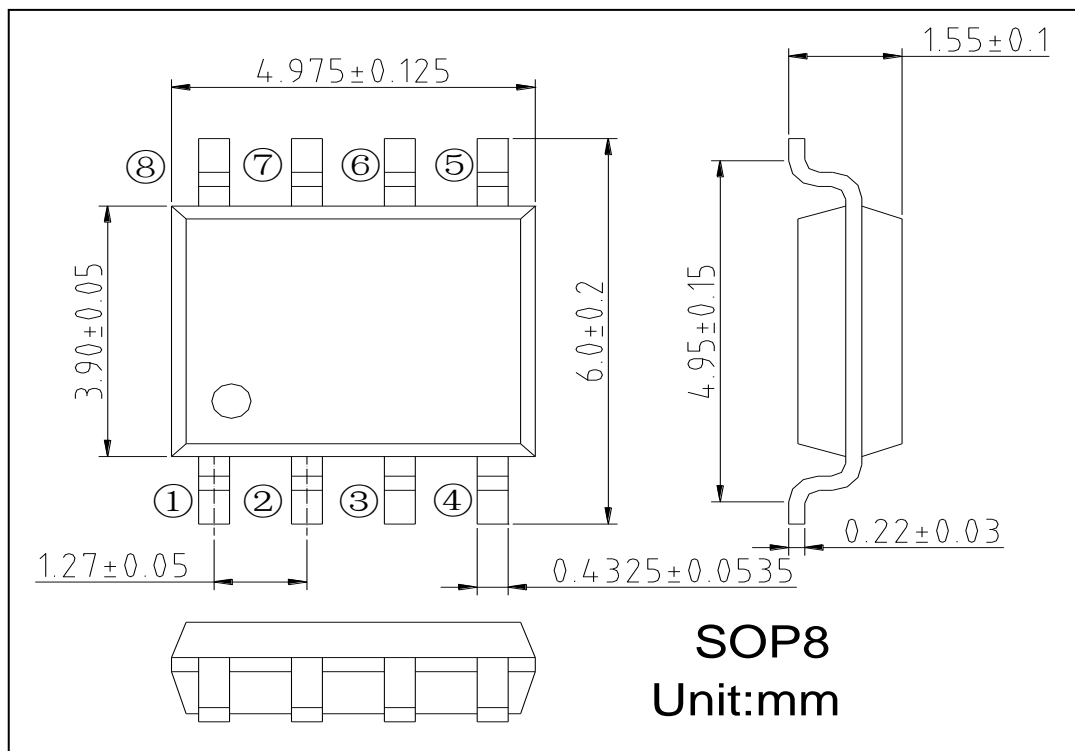


D: Drain; G: Gate; S: Source

- **General Description**

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. 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	$V_{DSS}$	-12	V
Gate-Source Voltage	$V_{GSS}$	$\pm 8$	V
Drain Current (Continuous)	$I_D$	-6	A
Drain Current (Pulse)	$I_{DM}$	-20	A
Power Dissipation	$P_D$	1.5	W
Operating Temperature/ Storage Temperature	$T_J/T_{STG}$	-55~150	$^\circ\text{C}$

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -10\mu\text{A}$	-12	--	--	V
Drain Cut-off Current	$I_{DSS}$	$V_{DS} = -12V, V_{GS} = 0V$	--	--	-1	$\mu\text{A}$
Gate-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8V, V_{DS} = 0V$	--	--	$\pm 100$	nA
<b>ON CHARACTERISTICS</b>						
Gate Threshold Voltage	$V_{GS(th)}$	$I_D = -250\mu\text{A}, V_{DS} = V_{GS}$	-0.45	-0.62	-1.2	V
Drain-Source On-state Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.5A$	--	38	60	mR
		$V_{GS} = -2.5V, I_D = -3A$	--	47	90	mR
		$V_{GS} = -1.8V, I_D = -2A$	--	61	100	mR
Forward Transconductance	$g_{FS}$	$V_{DS} = -5V, I_D = -3.5A$	--	9.5	--	S
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	$C_{iss}$	$V_{DS} = -4V, V_{GS} = 0V$ $f = 1\text{MHz}$	--	1060	--	pF
Output Capacitance	$C_{oss}$		--	273	--	pF
Feedback Capacitance	$C_{riss}$		--	252	--	pF
<b>SWITCHING CHARACTERISTICS</b>						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = -6V, R_L = 6R, I_D = -1.0A,$	--	13	25	ns
Turn-off Delay Time	$t_{d(off)}$	$V_{GEN} = -4.5V, R_G = 6R$	--	42	70	ns
<b>DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS</b>						
Drain-Source Diode Forward Voltage	$V_{SD}$	$I_S = -1.6A, V_{GS} = 0V$	-0.5	-0.75	-1.2	V

Notes:

1. Pulse width limited by maximum junction temperature.
2. Pulse test:  $PW \leq 300\mu\text{s}$ , duty cycle  $\leq 2\%$ .
3. For design AID only, not subject to production testing.
4. Switching time is essentially independent of operating temperature.

● Typical Performance Characteristics

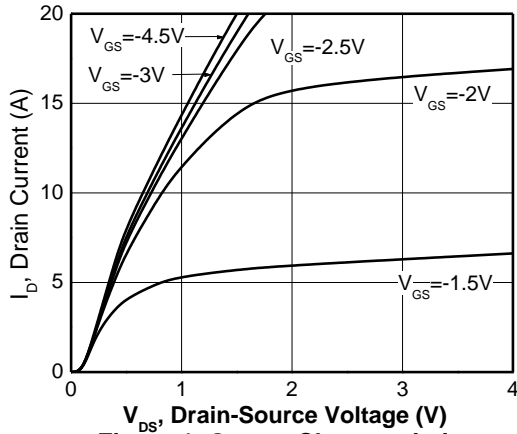


Figure 1. Output Characteristics

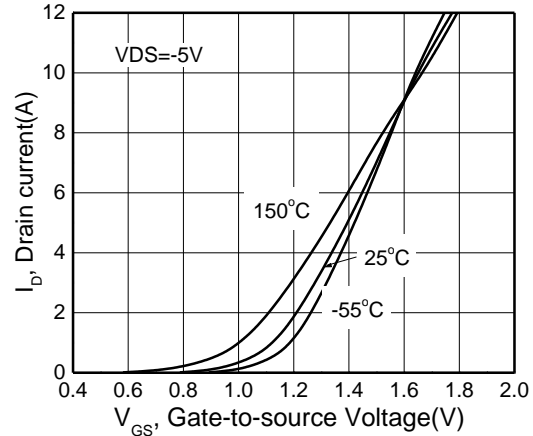


Figure 2. Transfer Characteristics

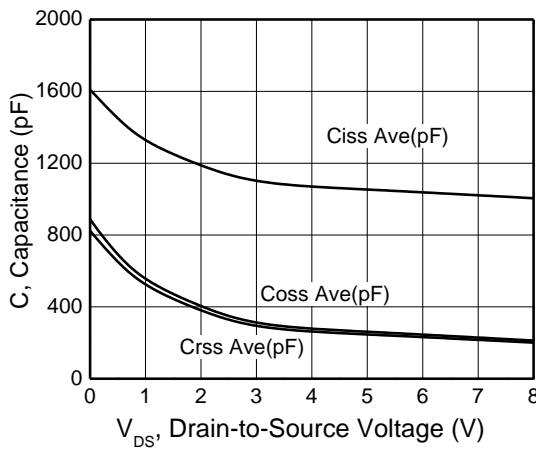


Figure 3. Capacitance

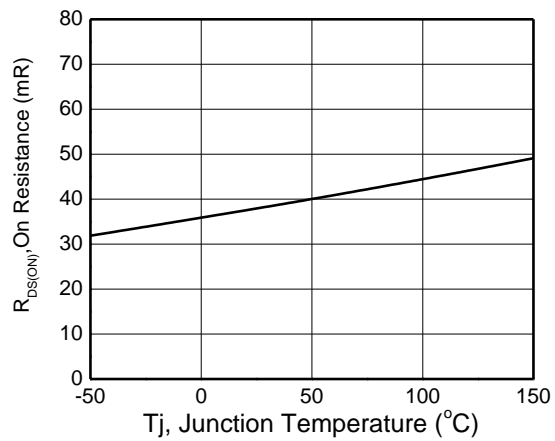


Figure 4. On Resistance vs. Temperature

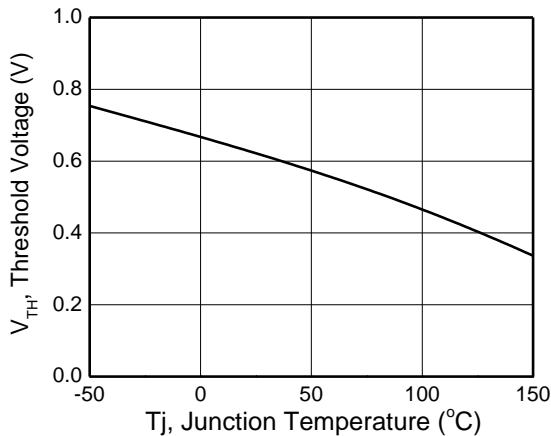


Figure 5. Gate Threshold vs. Temperature

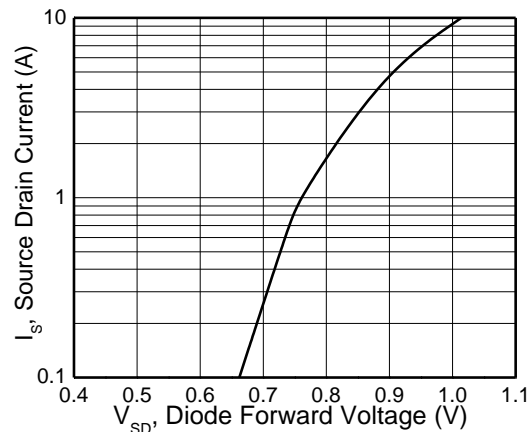


Figure 6. Diode Forward Characteristics



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