

## N-Channel Enhancement Mode MOSFET

- **Features**

VDS	VGS	RDSon TYP	ID
20V	±8V	8.5mR@10V	11A
		10.5mR@4V5	

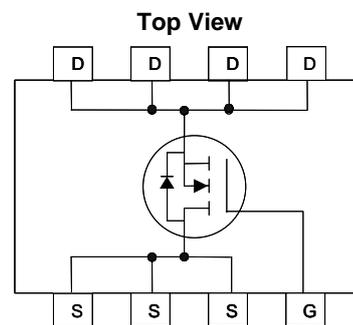
- **Applications**

- Load Switch
- PC/NB
- DCDC conversion

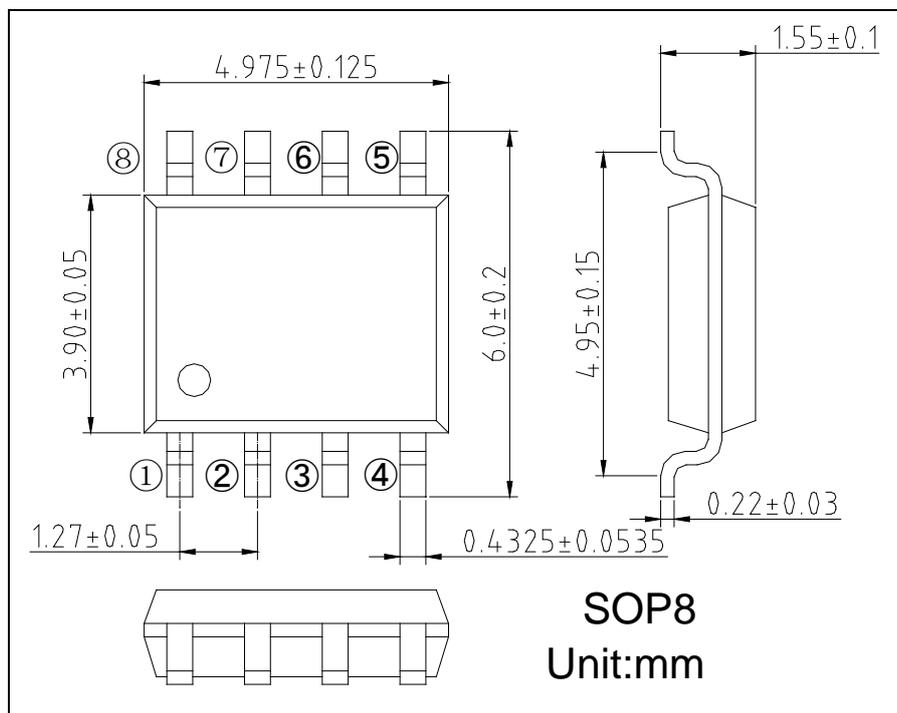
- **General Description**

This device uses advanced trench technology to provide excellent RDS(ON) and low gate charge. This device is suitable for use as a load switch or in PWM applications.

- **Pin configuration**



- **Package Information**





# SSC8424GS1

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

Parameter	Symbol	N-channel	Unit
Drain-Source Voltage	$V_{DSS}$	20	V
Gate-Source Voltage	$V_{GSS}$	$\pm 8$	V
Continuous Drain Current (Note 1)	$I_D$	11	A
Plused Drain Current (Note 2)	$I_{DM}$	44	A
Total Power Dissipation (Note 1)	$P_D$	2	W
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

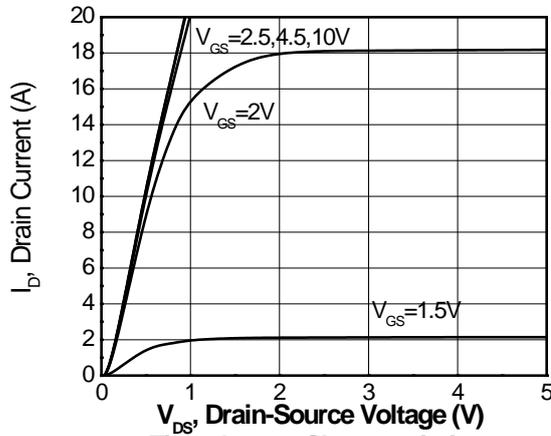
● **Electrical Characteristics** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	20	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	0.40	--	1.1	V
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8\text{ V}, V_{DS} = 0\text{ V}$	--	--	$\pm 100$	nA
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 20\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	$\mu\text{A}$
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 10\text{ V}, I_D = 10\text{ A}$	--	8.5	11	mR
		$V_{GS} = 4.5\text{ V}, I_D = 8\text{ A}$	--	10.5	15	
		$V_{GS} = 2.5\text{ V}, I_D = 5\text{ A}$	--	14	17	
Forward Transconductance	$G_{FS}$	$V_{DS} = 15\text{ V}, I_D = 12\text{ A}$	8	16	--	S
Diode Forward Voltage	$V_{SD}$	$V_{GS} = 0\text{ V}, I_S = 1\text{ A}$	--	0.8	1.5	V
Input Capacitance	$C_{ISS}$	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	1200	--	pF
Output Capacitance	$C_{OSS}$		--	200	--	
Reverse Transfer Capacitance	$C_{RSS}$		--	105	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{DS} = 15\text{ V}, R_L = 2.3R,$	--	--	18	ns
Turn-Off Delay Time	$T_{D(OFF)}$	$V_{GS} = 4.5\text{ V}, R_{GEN} = 3R$	--	--	70	

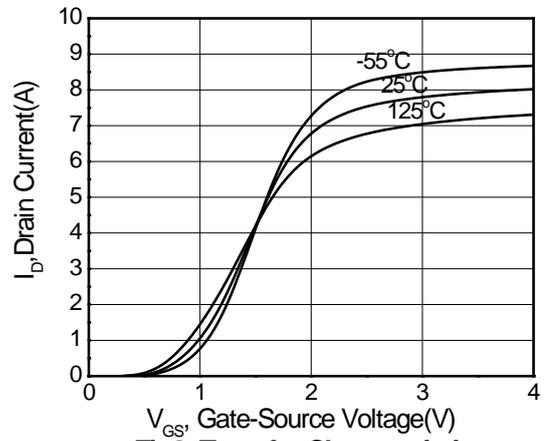
Note :

1. DUT is mounted on a  $1\text{ in}^2$  FR-4 board with 2oz. Copper in a still air environment at  $25^\circ\text{C}$ , the current rating is based on the DC (<10s) test conditions.
2. Repetitive rating, pulse width limited by junction temperature.

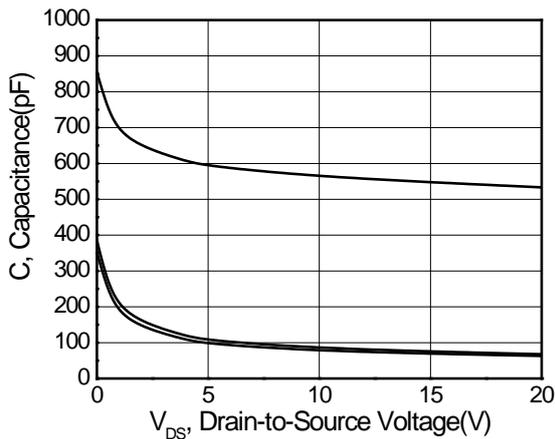
### 3. Typical Performance Characteristics



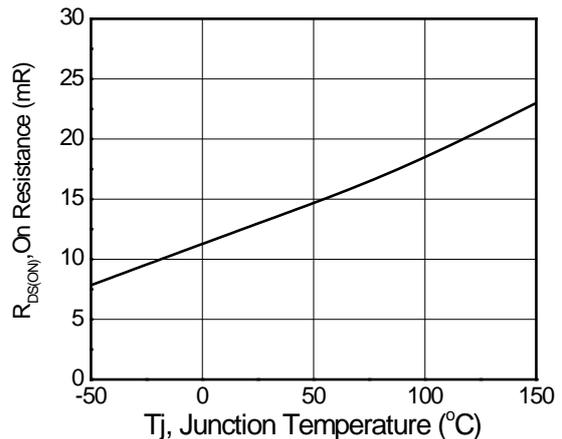
**Fig1. Output Characteristics**



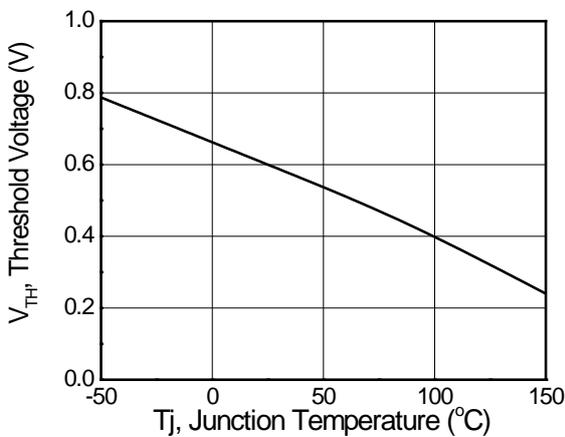
**Fig2. Transfer Characteristics**



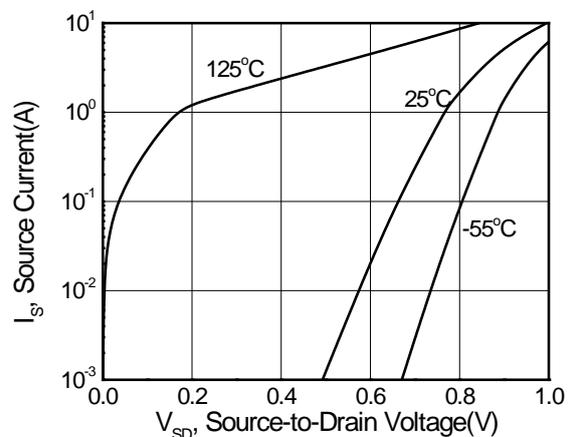
**Fig3. Capacitance**



**Fig4. On Resistance vs. Temperature**



**Fig5. Gate Threshold vs. Temperature**



**Fig6. Body Diode Forward Characteristics**



# SSC8424GS1

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