

Dual N-Channel Enhancement Mode MOSFET

- **Features**

VDS	VGS	RDSon TYP	ID
20V	±12V	21mR@4V5	6A
		22mR@3V8	
		26mR@2V5	

- **General Description**

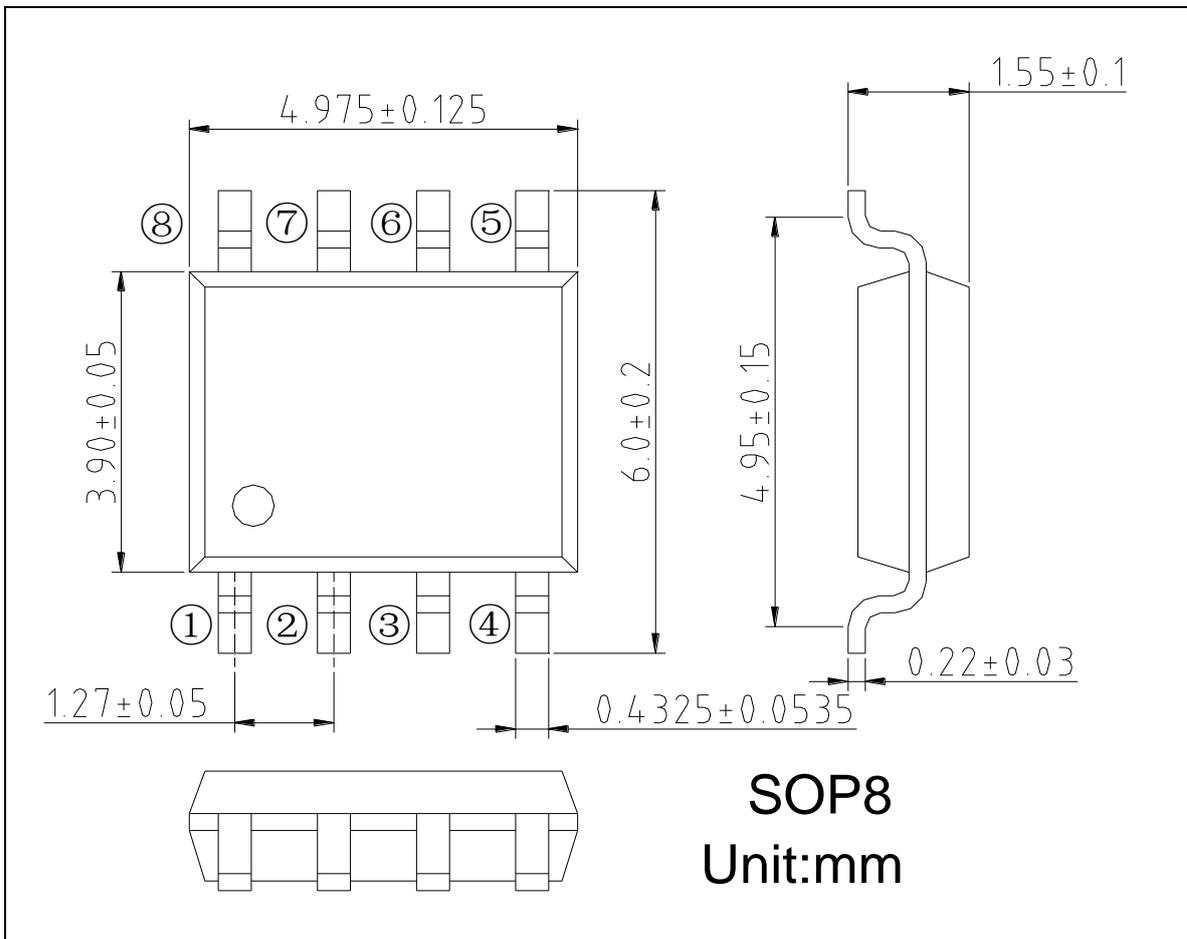
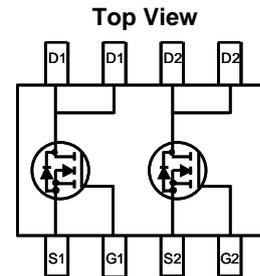
This device combines 2 N-channel enhancement mode MOSFETs, which use advanced trench technology to provide excellent RDS(ON), low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a load switch or in PWM applications.

- **Package Information**

- **Applications**

- Li-ion battery;
- Load switch;
- Battery charger

- **Pin configuration**





SSC9926GS1

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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	20	V
Gate-Source Voltage	V_{GSS}	± 12	
Drain Current (Note 1)	I_D	6	A
	I_{DM}	30	
Total Power Dissipation (Note 1)	P_D	800	mW
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note: 1. Mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch, for each single die.

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS (Note 2)						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu\text{A}$	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	--	--	1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	--	--	± 100	nA
ON CHARACTERISTICS (Note 2)						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.5	0.75	1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 2A$	--	21	24	mR
		$V_{GS} = 3.8V, I_D = 2A$	--	22	25	
		$V_{GS} = 2.5V, I_D = 2A$	--	26	34	
Forward Transconductance	G_{FS}	$V_{DS} = 10V, I_D = 6A$	--	5	--	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS} = 10V, V_{GS} = 0V$ $F = 1.0\text{MHz}$	--	600	--	pF
Output Capacitance	C_{OSS}		--	330	--	
Reverse Transfer Capacitance	C_{RSS}		--	140	--	
Total Gate Charge	Q_G	$V_{DS} = 10V, I_D = 6A,$ $V_{GS} = 4.5V$	--	10	--	nC
Gate-Source Charge	Q_{GS}		--	2.3	--	
Gate-Drain	Q_{GD}		--	2.9	--	
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = 1.7A$	--	0.74	1.3	V
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$T_{D(ON)}$	$V_{DD} = 10V, I_D = 1A,$ $V_{GEN} = 4.5V, R_G = 6R$	--	8	--	ns
Turn-Off Delay Time	$T_{D(OFF)}$		--	35	--	

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

● **Typical Performance Characteristics**

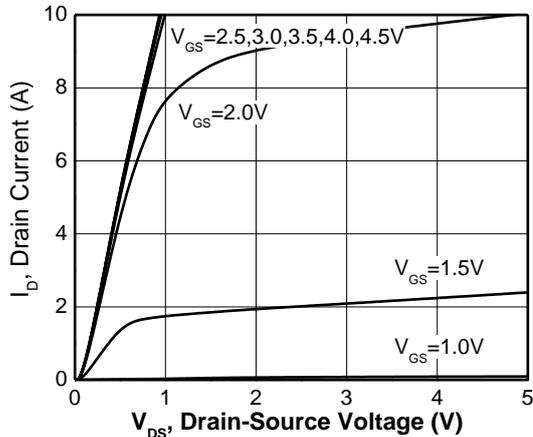


Figure 1. Output Characteristics

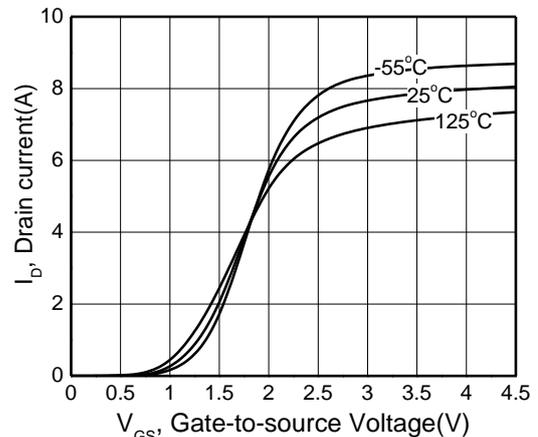


Figure 2. Transfer Characteristics

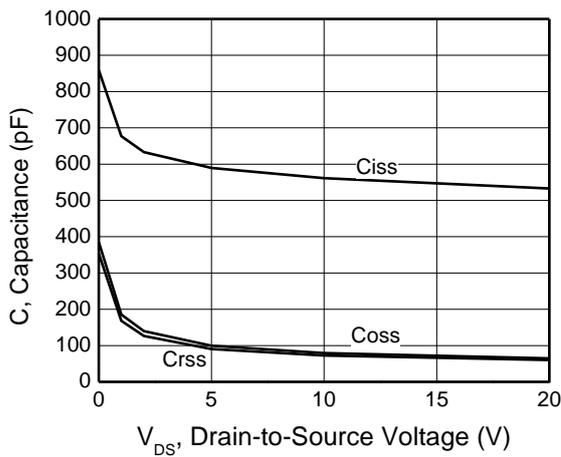


Figure 3. Capacitance

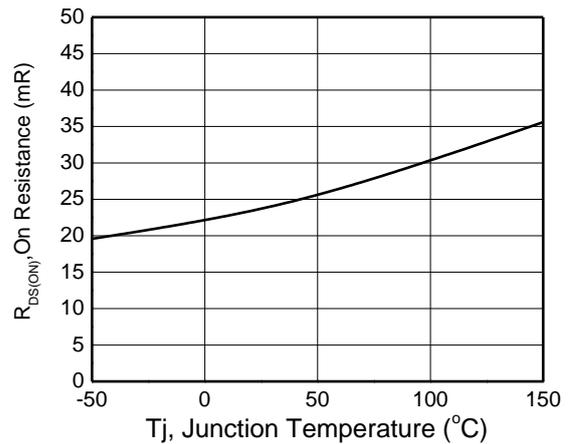


Figure 4. On Resistance Vs. Temperature

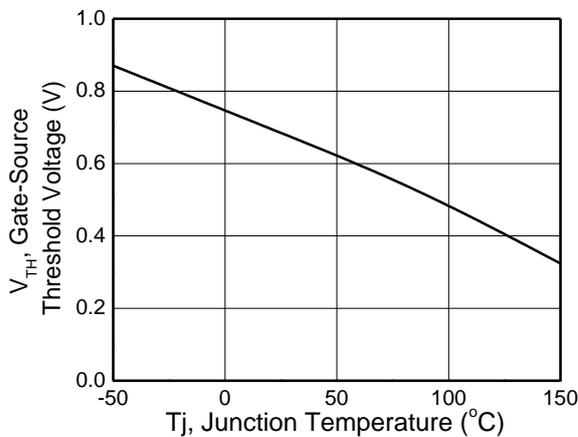


Figure 5. Gate Threshold Vs. Temperature

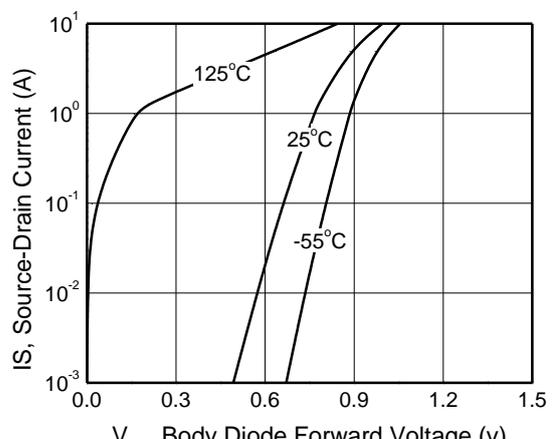


Figure 6. Body Diode Forward Voltage Vs. Source Current



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