

N-Channel Enhancement Mode MOSFET

- **Features**

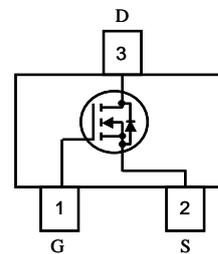
VDS	VGS	RDSon TYP	ID
40V	±12V	30mR@10V	6A
		35mR@4V5	

- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

- **Pin configuration**

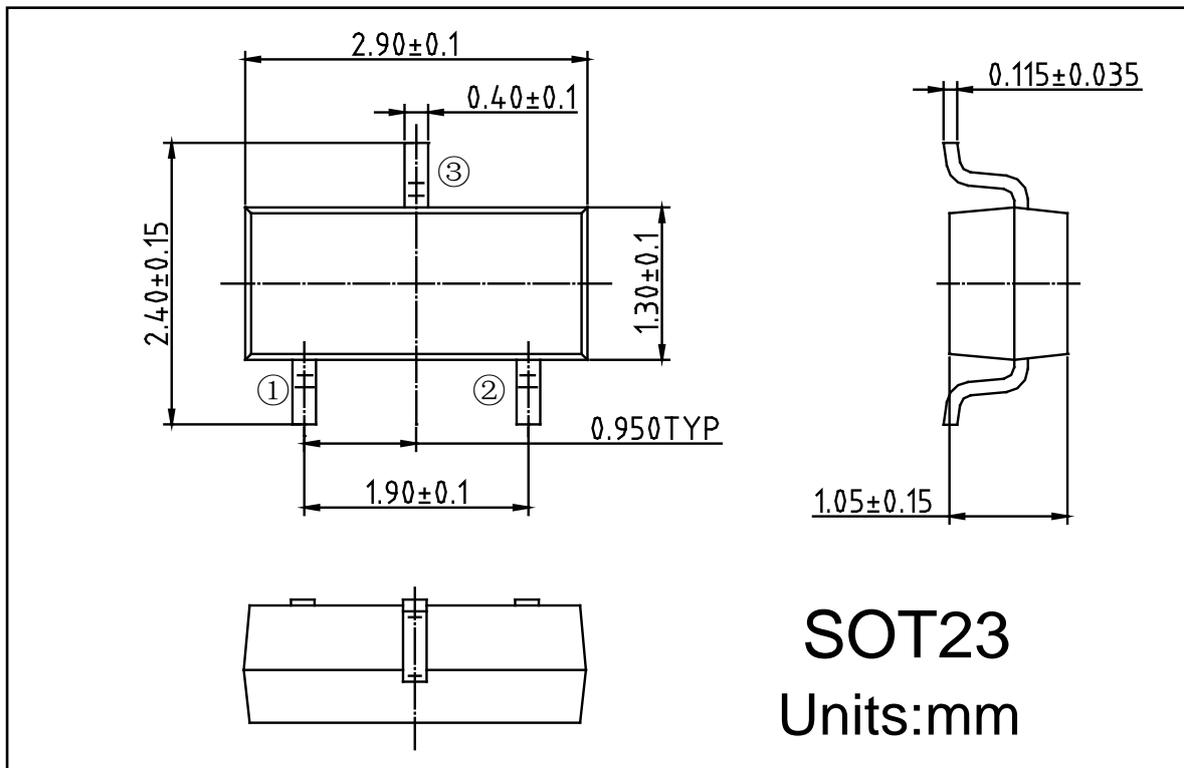
Top View



- **General Description**

This device uses advanced trench technology to provide excellent RDS(ON) and 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**





SSC8042GS6

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

Parameter	Symbol	N-channel	Unit
Drain-Source Voltage	V_{DSS}	40	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current (Note 1)	I_D	6	A
Pulsed Drain Current (Note 2)	I_{DM}	16	A
Total Power Dissipation (Note 1)	P_D	450	mW
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

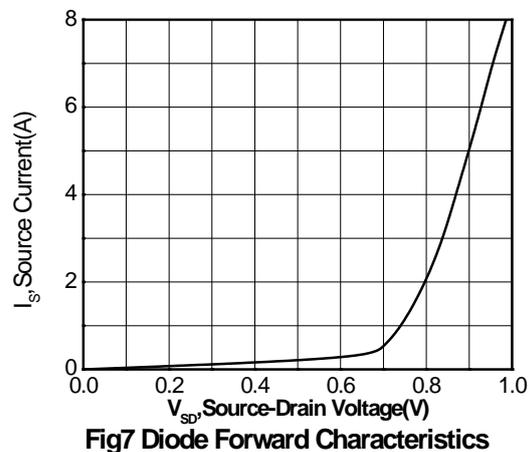
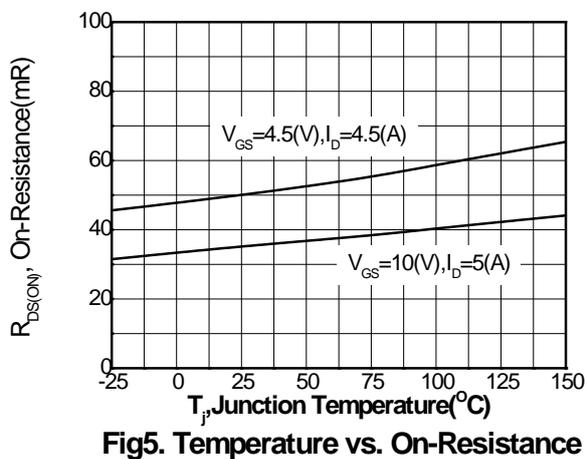
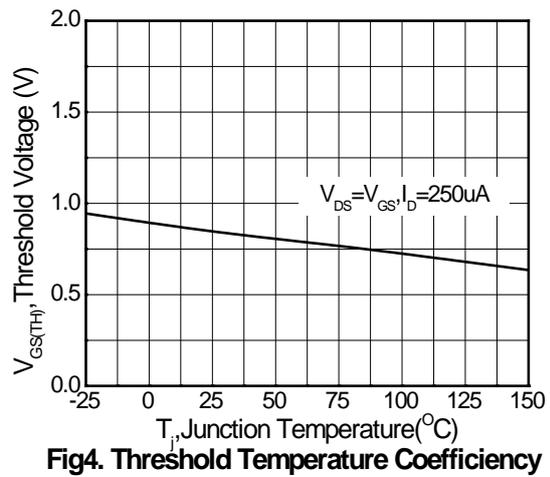
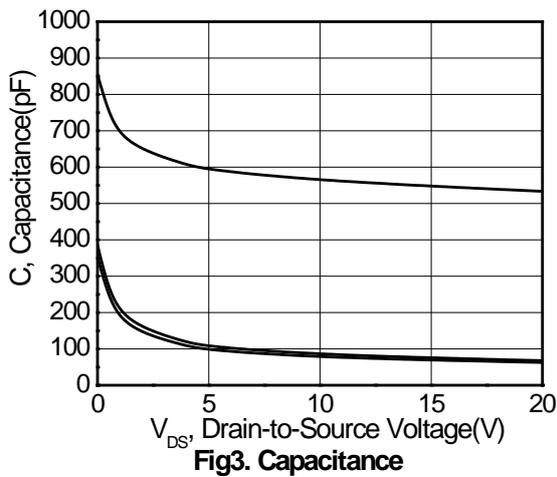
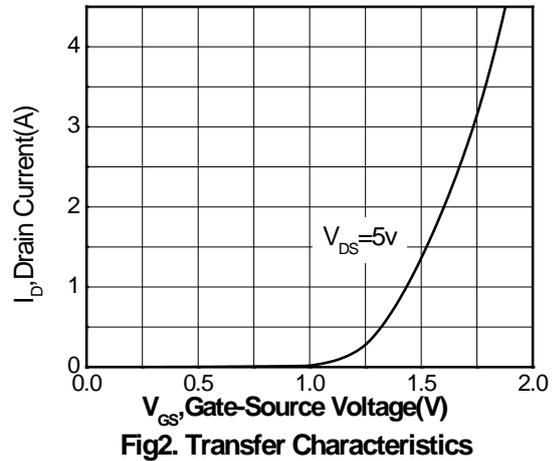
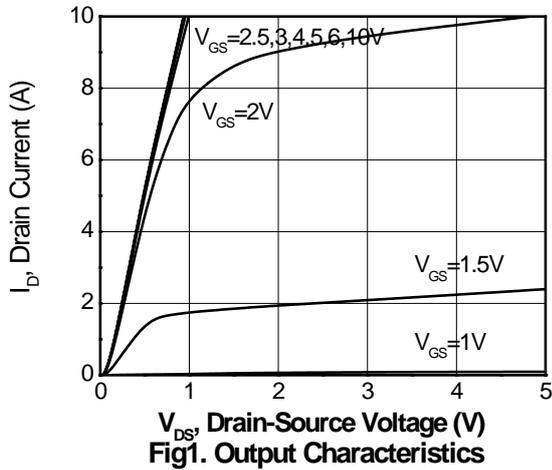
● **Electrical Characteristics** @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\ \mu\text{A}$	40	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\ \mu\text{A}$	1	--	2	V
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 32\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 10\text{ V}, I_D = 5\text{ A}$	--	30	32	mR
		$V_{GS} = 4.5\text{ V}, I_D = 4.5\text{ A}$	--	35	37	
Forward Transconductance	G_{FS}	$V_{DS} = 15\text{ V}, I_D = 5\text{ A}$	10	18	--	S
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 1.7\text{ A}$	--	0.75	1.2	V
Input Capacitance	C_{ISS}	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	450	--	pF
Output Capacitance	C_{OSS}		--	97	--	
Reverse Transfer Capacitance	C_{RSS}		--	75	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{DS} = 15\text{ V}, R_L = 2.3\text{ R},$	--	--	18	ns
Turn-Off Delay Time	$T_{D(OFF)}$	$V_{GS} = 10\text{ V}, R_{GEN} = 3\text{ R}$	--	--	70	

Note :

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

● Typical Performance Characteristics





SSC8042GS6

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