

N-Channel Enhancement Mode MOSFET

● Features

VDS	VGS	RDSon TYP	ID
30V	±12V	24mR@10V	6A
		27mR@4V5	
		39mR@2V5	

● General Description

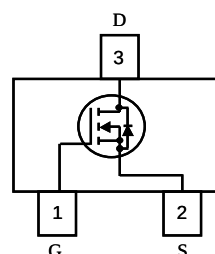
This device uses advanced trench technology to provide excellent RDS(ON) and low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a load switch or in PWM applications.

● Applications

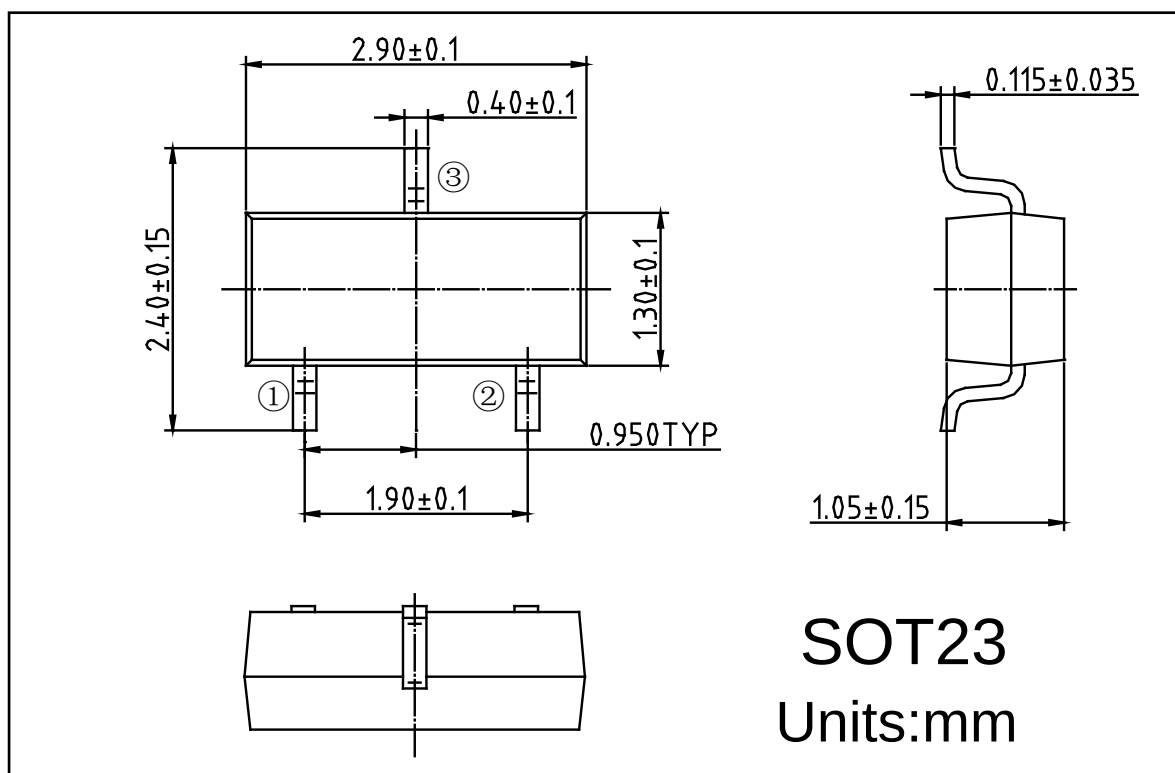
- Load Switch
- Portable Devices
- DCDC conversion

● Pin configuration

Top View



● Package Information





SSC8034GS6

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

Parameter	Symbol	N-channel	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	± 12	V
Continuous Drain Current (Note 1)	I_D	6	A
Pulsed Drain Current (Note 2)	I_{DM}	30	A
Total Power Dissipation (Note 1)	P_D	850	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	$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}, I_D = 250\text{ }\mu\text{A}$	30	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu\text{A}$	0.7	0.8	1.0	V
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12\text{ V}, V_{DS} = 0\text{ V}$	--	--	± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 24\text{ V}, V_{GS} = 0\text{ V}$	--	--	1	μA
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS} = 10\text{ V}, I_D = 5.8\text{ A}$	--	28	41	mR
		$V_{GS} = 4.5\text{ V}, I_D = 5\text{ A}$	--	32	46	
		$V_{GS} = 2.5\text{ V}, I_D = 4\text{ A}$	--	45	60	
Forward Transconductance	G_{FS}	$V_{DS} = 5\text{ V}, I_D = 5\text{ A}$	10	15	--	S
Diode Forward Voltage	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 1\text{ A}$	--	0.71	1.75	V
Input Capacitance	C_{ISS}	$V_{DS} = 15\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	697	--	pF
Output Capacitance	C_{OSS}		--	259	--	
Reverse Transfer Capacitance	C_{RSS}		--	308	--	
Turn-On Delay Time	$T_{D(ON)}$	$V_{DS} = 15\text{ V}, R_L = 2.3R,$ $V_{GS} = 10\text{ V}, R_{GEN} = 3R$	--	--	18	ns
Turn-Off Delay Time	$T_{D(OFF)}$		--	--	70	

Note :

1. DUT is mounted on a 1in² 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

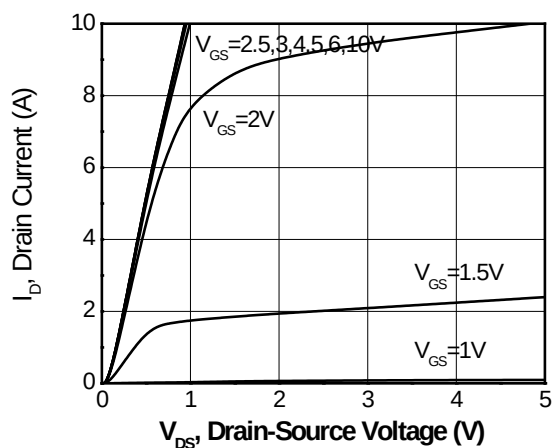


Fig1. Output Characteristics

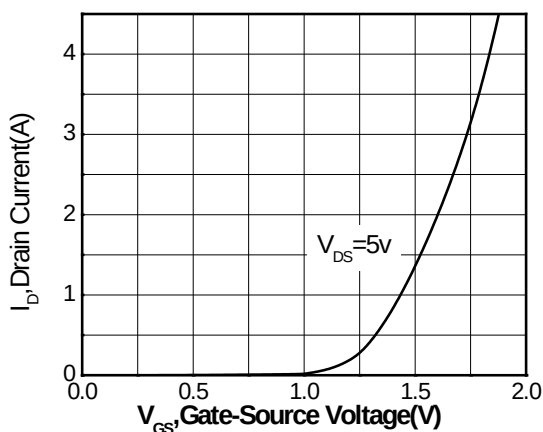


Fig2. Transfer Characteristics

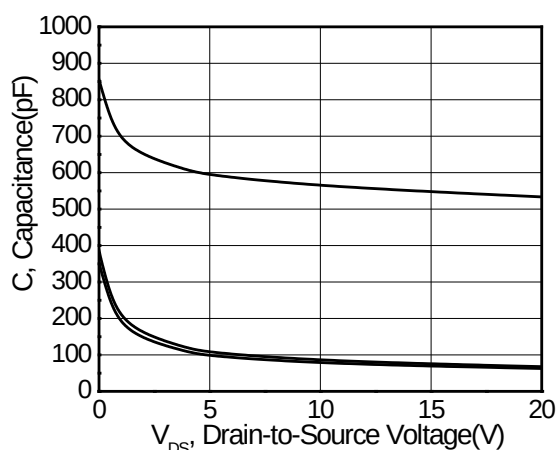


Fig3. Capacitance

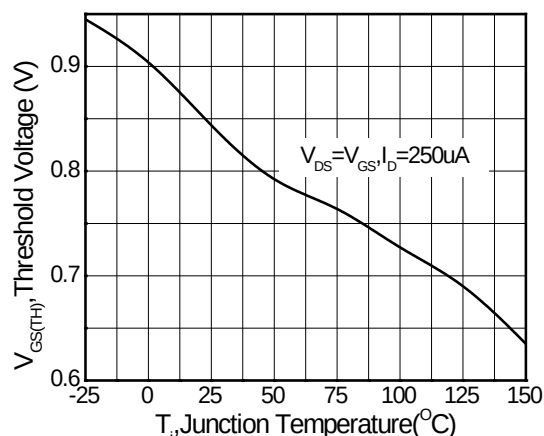


Fig4. Threshold Temperature Coefficiency

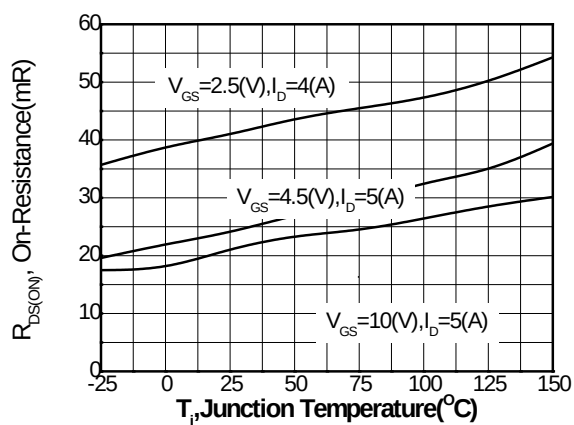


Fig5. Temperature vs. On-Resistance

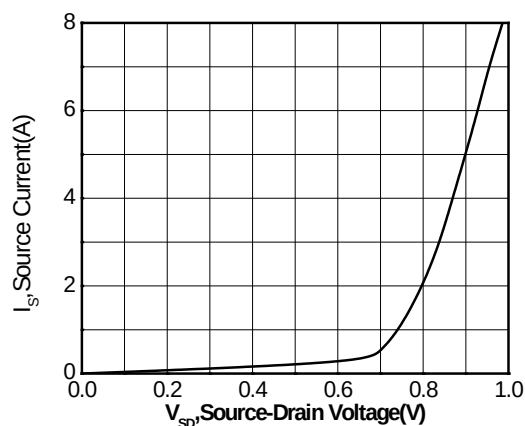


Fig7 Diode Forward Characteristics



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