

P-Channel Enhancement Mode MOSFET

- **Features**

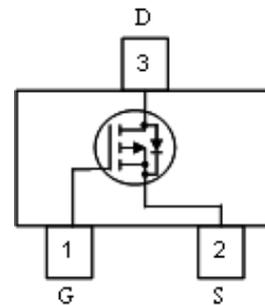
V _{DS}	V _{GS}	R _{DS(on)} TYP	I _D
-16V	±12V	25mR@-4V5 33mR@-2V5	-4.5A

- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

- **Pin Configuration**

Top View

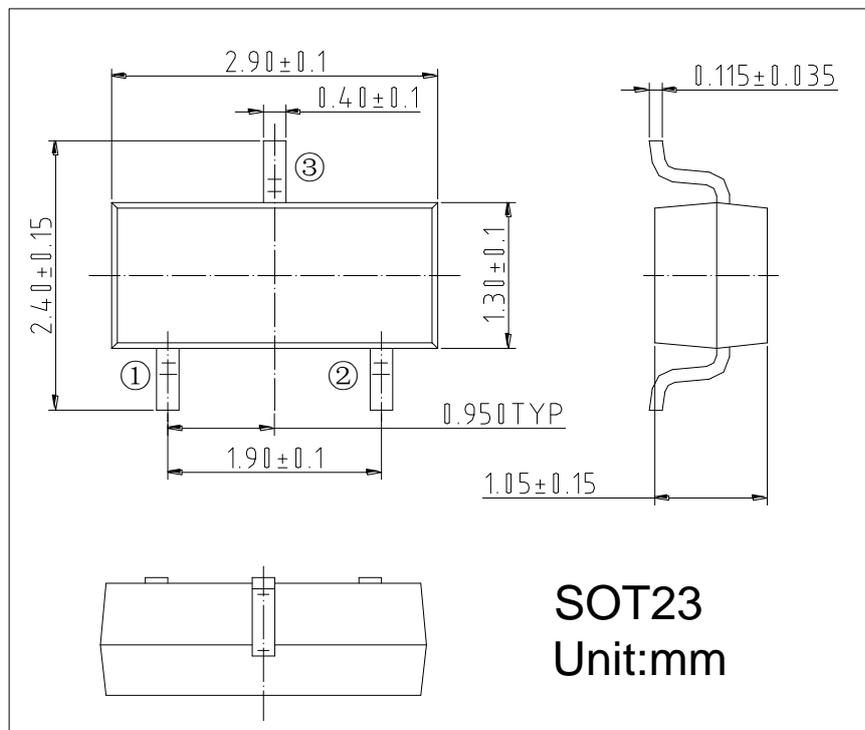


D: Drain; G: Gate; S: Source

- **General Description**

The SSC8015GS6 combines advanced trench MOSFET technology with a low resistance package to provide extremely low R_{DS(ON)}. This device is ideal for load switch and battery protection applications.

- **Package Information**





SSC8015GS6

● **Absolute Maximum Ratings @TA=25°C unless otherwise noted**

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	-16	V
Gate-Source Voltage	V_{GSS}	±12	V
Continuous Drain Current ^a $V_{GS}@4.5V$ TA = 25°C	I_D	-4.5	A
Continuous Drain Current ^a $V_{GS}@4.5V$ TA = 70°C		3.8	A
Pulsed Drain Current ^b	I_{DM}	-23	A
Power Dissipation ^a T _C = 25°C	P_D	0.55	W
Power Dissipation ^a T _C = 70°C		0.35	W
Storage and Junction Temperature	T _J T _{STG}	-55~150	°C

● **Thermal Characteristics**

Parameter	Symbol	Typ	Max	Units	
Maximum Junction-to-Ambient ^a	$R_{\theta JA}$	t ≤ 10S	--	183	°C/W
		Steady-State	--	225	°C/W
Maximum Junction-to-Case	$R_{\theta JC}$	--	109	°C/W	

● **Electrical Characteristics @TA=25°C unless otherwise noted**

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -10\mu A$	-16	--	--	V
Drain Cut-off Current	I_{DSS}	$V_{DS} = -16V, V_{GS} = 0V$	--	--	-1	uA
Gate-Source Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	--	--	±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	$I_D = -250\mu A, V_{DS} = V_{GS}$	-0.4	-0.55	-0.9	V
Drain-Source On-state Resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -3.5A$	--	25	45	mR
		$V_{GS} = -2.5V, I_D = -3A$	--	33	55	mR
Forward Transconductance	g_{FS}	$V_{DS} = -5V, I_D = -3.5A$	--	9.2	--	S
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	$V_{DS} = -4V, V_{GS} = 0V$ $f = 1\text{ MHz}$	--	757	--	pF
Output Capacitance	C_{oss}		--	227	--	pF
Feedback Capacitance	C_{riss}		--	184	--	pF
SWITCHING CHARACTERISTICS						
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = -6V, R_L = 6R, I_D = -1.0A,$	--	12	24	ns
Turn-off Delay Time	$t_{d(off)}$	$V_{GEN} = -4.5V, R_G = 6R$	--	45	73	ns
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Drain-Source Diode Forward Voltage	V_{SD}	$I_S = -1.6A, V_{GS} = 0V$	-0.5	-0.75	-1.2	V

a: Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper

b: Pulse width < 380μs, Duty Cycle < 2%

c: Maximum junction temperature T_J = 150°C.

Typical Performance Characteristics

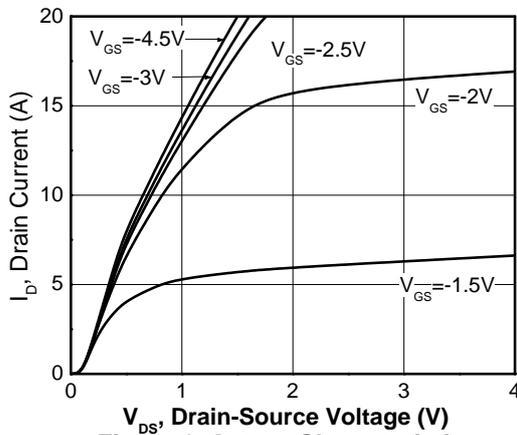


Figure 1. Output Characteristics

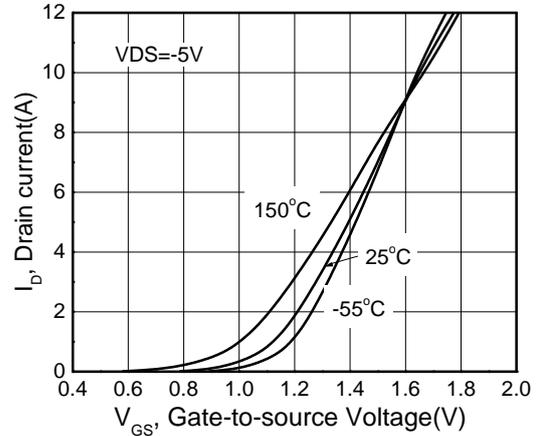


Figure 2. Transfer Characteristics

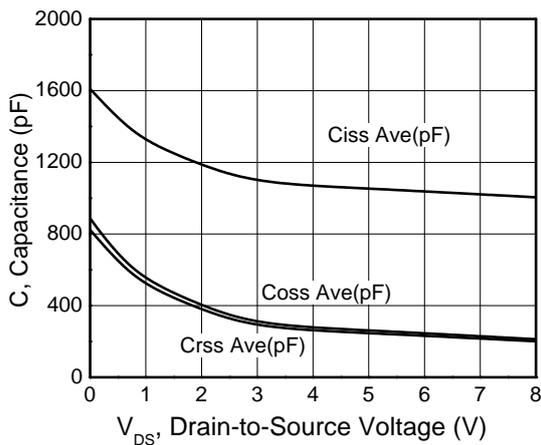


Figure 3. Capacitance

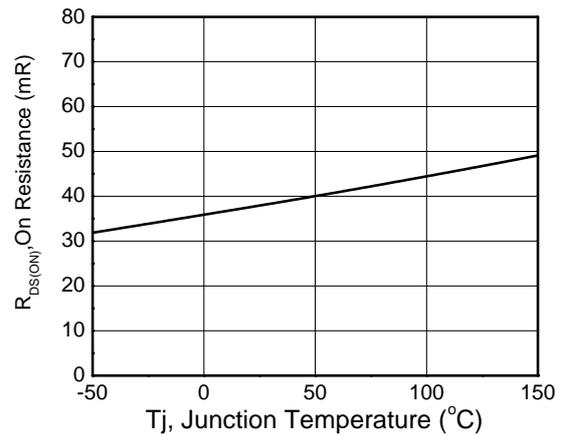


Figure 4. On Resistance vs. Temperature

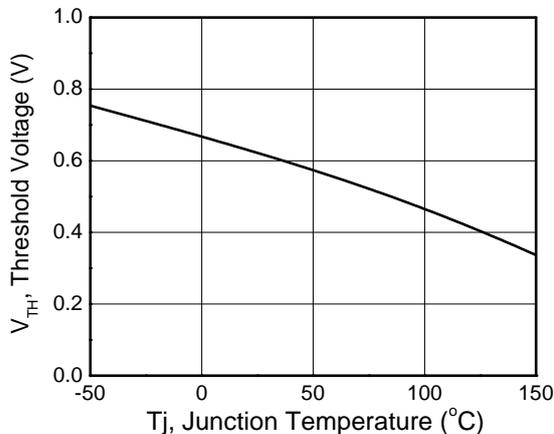


Figure 5. Gate Threshold vs. Temperature

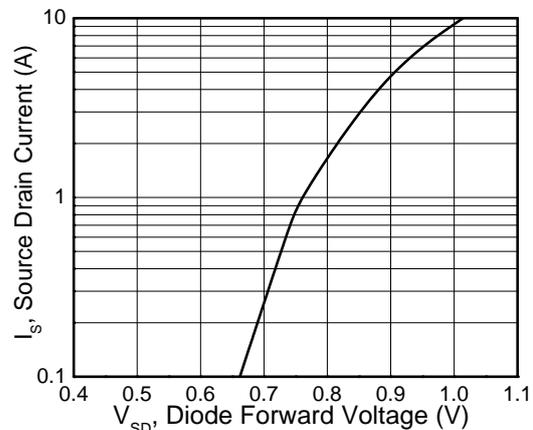


Figure 6. Diode Forward Characteristics



SSC8015GS6

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