



SSC8022GS6

N-Channel Enhancement Mode MOSFET

- **Features**

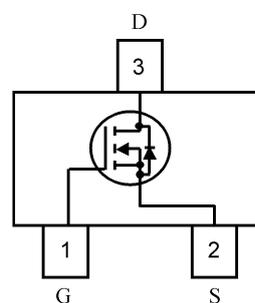
VDS	VGS	RDSon TYP	ID
20V	±12V	35mR@4V5	3.5A
		45mR@2V5	

- **Applications**

- Load Switch
- Portable Devices
- DCDC conversion

- **Pin configuration**

Top View

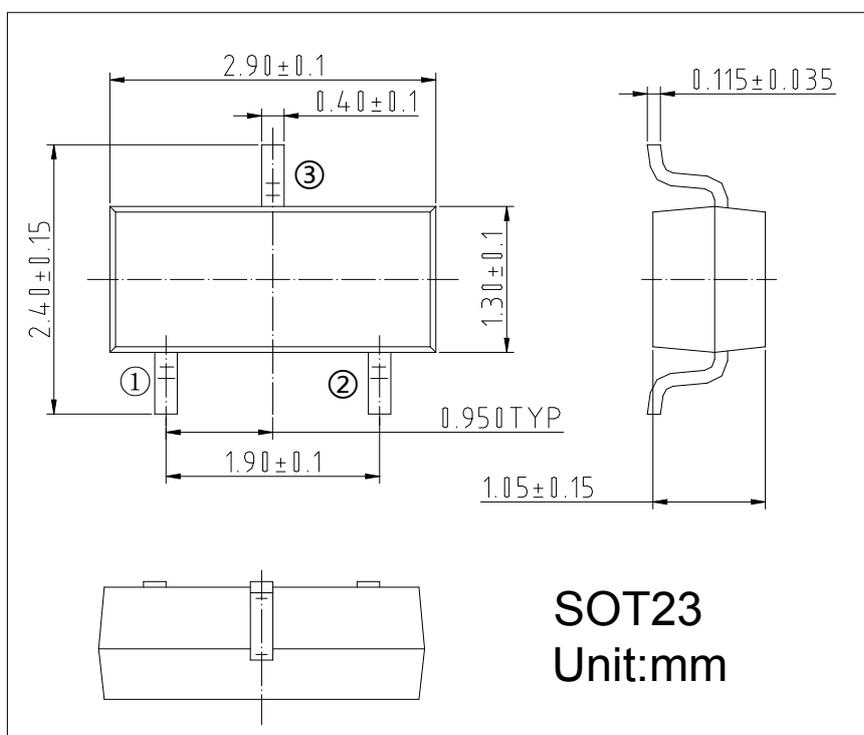


D: Drain; G: Gate; S: Source

- **General Description**

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package. Excellent thermal and electrical capabilities.

- **Package Information**





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● **Order information**

Device	Package	Marking	Shipping
SSC8022GS6	SOT23		3000/Tape&Reel

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

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V _{DSS}	20	V
Gate-Source Voltage	V _{GSS}	±12	V
Drain Current	Continuous	3.5	A
	Pulsed	10	
Power Dissipation ⁽¹⁾	P _D	550	mW
Operating and Storage Junction Temperature Range	T _J , T _{STG}	-55 to +150	°C

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 10uA	20	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20 V, V _{GS} = 0 V	--	--	1	uA
Gate-Body Leakage	I _{GSS}	V _{GS} = ±12 V, V _{DS} = 0 V	--	--	±100	nA
ON CHARACTERISTICS⁽²⁾						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} = V _{GS} , I _D = 50uA	0.4	0.7	1.2	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = 4.5 V, I _D = 3.6 A	--	35	80	mR
		V _{GS} = 2.5 V, I _D = 3.1 A	--	45	100	
Forward Transconductance	G _{FS}	V _{DS} = 5 V, I _D = 3.6 A	2	7.7	14	S



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DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS} = 10\text{ V}, V_{GS} = 0\text{ V},$ $f = 1.0\text{ MHz}$	--	450	--	pF
Output Capacitance	C_{OSS}		--	70	--	
Reverse Transfer Capacitance	C_{RSS}		--	43	--	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$T_{D(ON)}$	$V_{DD} = 5\text{ V}, I_D = 3.6\text{ A},$ $V_{GS} = 4.5\text{ V}, R_{GEN} = 6R$	--	--	15	nS
Turn-On Rise Time	T_R		--	--	80	
Turn-Off Delay Time	$T_{D(OFF)}$		--	--	60	
Turn-Off Fall Time	T_F		--	--	25	
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
Diode Forward Voltage ⁽²⁾	V_{SD}	$V_{GS} = 0\text{ V}, I_S = 1.1\text{ A}$	0.6	0.8	1.15	V

Notes :

1. Surface Mounted on FR4 Board, $t < 10\text{ sec.}$
2. Pulse Test: Pulse Width $< 300\mu\text{s}$, Duty Cycle $< 2\%$

● **Typical Performance Characteristics**

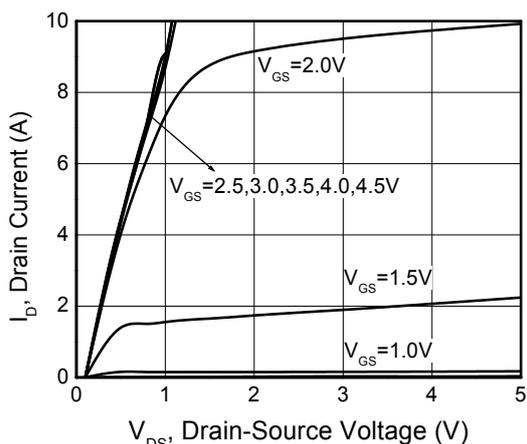


Figure 1. Output Characteristics

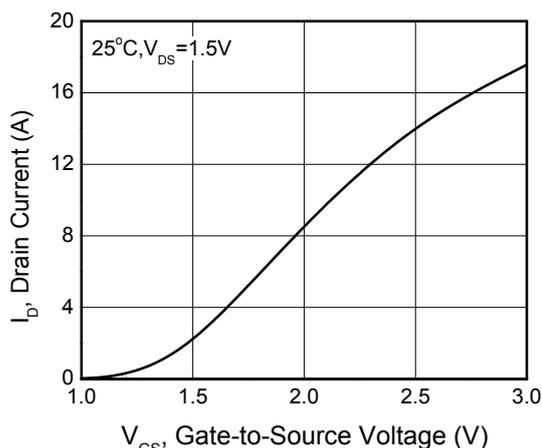


Figure 2. Transfer Characteristics

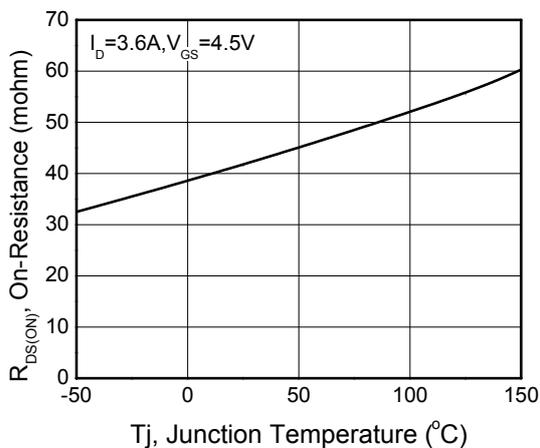


Figure 4. On-Resistance vs. Temperature

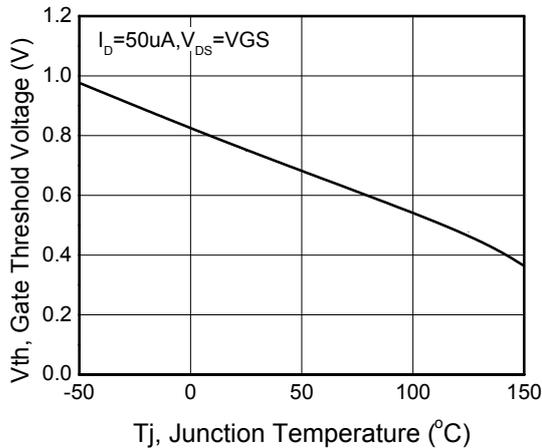


Figure 5. Gate Threshold Vs. Temperature

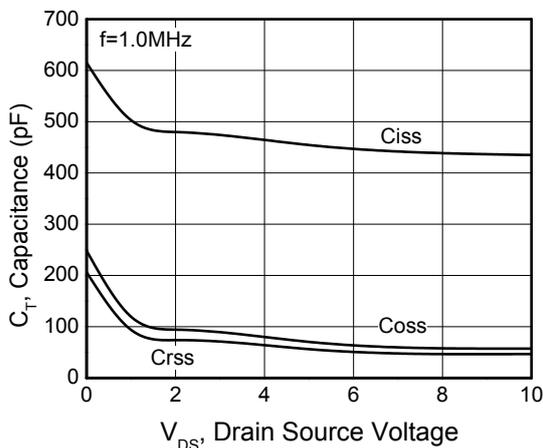


Figure 3. Capacitance

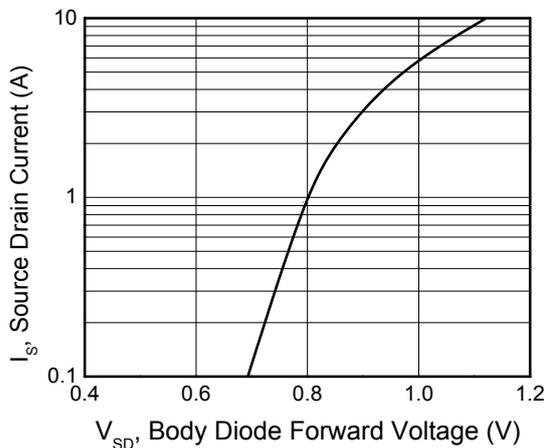


Figure 6. Body Diode Forward Voltage vs. Source Current



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