

N-Channel Enhancement Mode MOSFET

- **Features**

VDS	VGS	RDSon TYP	ID
20V	±8V	140mR@4V5	750mA
		180mR@2V5	
		270mR@1V8	

- **General Description**

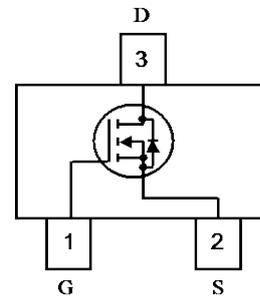
This device is a N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

- **Applications**

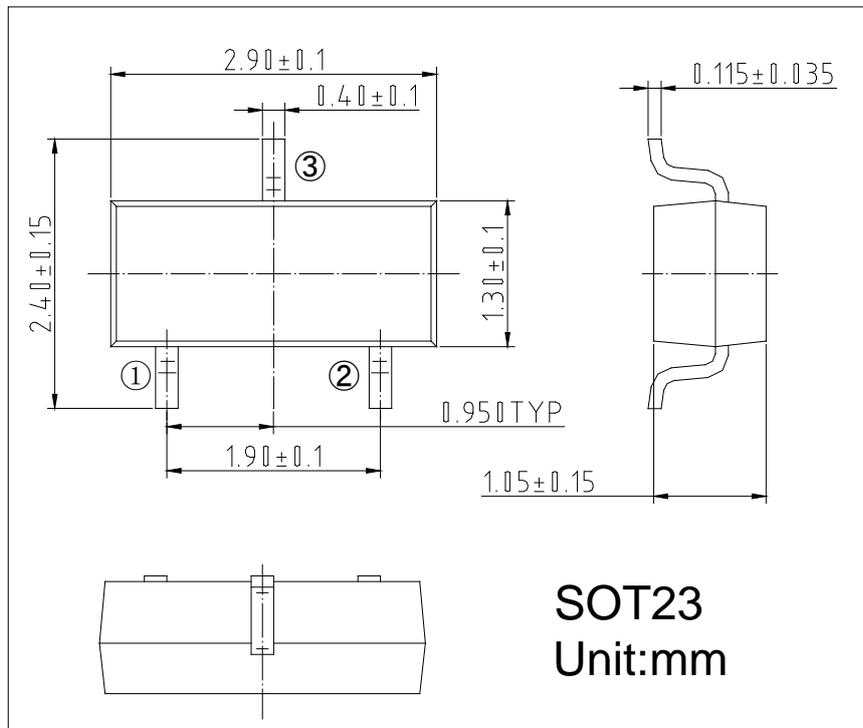
- Replace Digital Transistor
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

- **Pin configuration**

Top View



- **Package Information**





SSC8020GS6

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

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	
Drain Current ^(Note 1)	Continuous	I_D	0.75	A
	Pulsed		2	
Power Dissipation Derating above $T_A = 25^\circ\text{C}$ ^(Note 1)		P_d	350	mW
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Note1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inches. The rating is for each chip in the package.

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

Parameter ^(Note 2)	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 16\text{V}, V_{GS} = 0\text{V}$	--	--	1	uA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 8\text{V}, V_{DS} = 0\text{V}$	--	--	±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.35	--	1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$I_D = 600\text{mA}, V_{GS} = 4.5\text{V}$	--	140	450	mR
		$I_D = 500\text{mA}, V_{GS} = 2.5\text{V}$	--	180	765	
		$I_D = 350\text{mA}, V_{GS} = 1.8\text{V}$	--	270	850	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = -6\text{V}, R_L = 6\text{R}, I_D = -1\text{A},$ $V_{GEN} = -4.5\text{V}, R_G = 6\text{R}$	--	6	--	ns
Turn-Off Delay Time	$t_{d(off)}$		--	28	--	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{ISS}	$V_{DS} = -16\text{V}, V_{GS} = 0\text{V},$ $f = 200\text{KHz}$	--	130	--	pF
Output Capacitance	C_{OSS}		--	20	--	
Reverse Transfer Capacitance	C_{RSS}		--	16	--	
BODY DIODE CHARACTERISTICS						
Diode Forward Voltage ⁽¹⁾	V_{SD}	$V_{GS} = 0\text{V}, I_S = 150\text{mA}$	--	0.68	1.2	V

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

● **Typical Performance Characteristics**

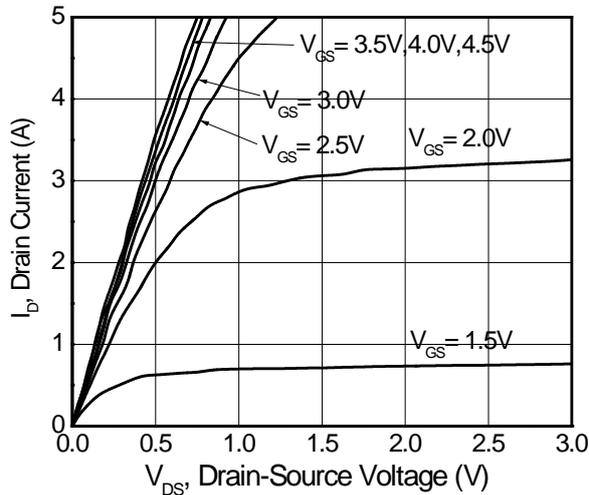


Figure 1. Output Characteristics

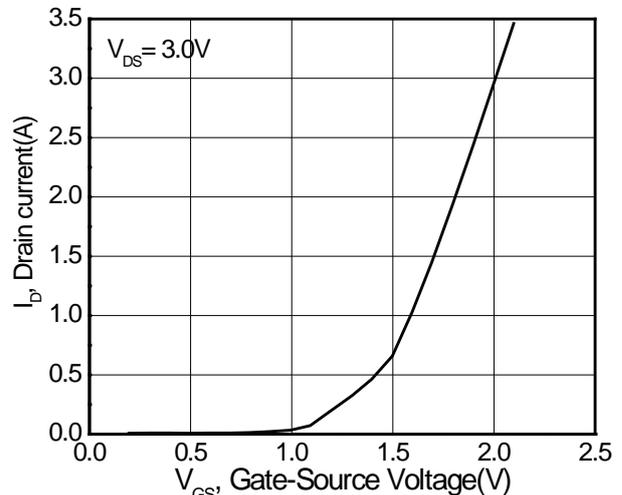


Figure 2. Transfer Characteristics

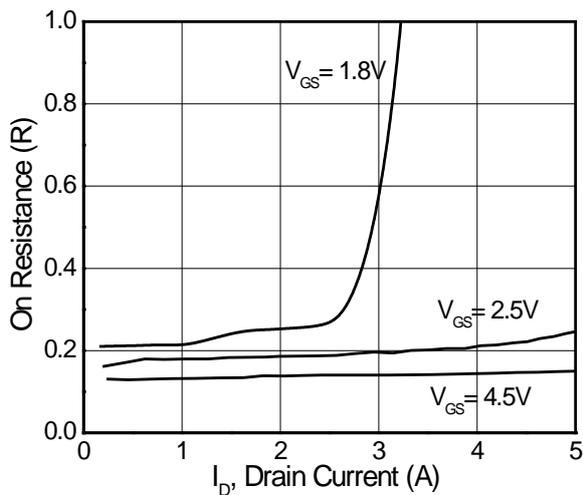


Figure 3. On Resistance vs. Drain Current

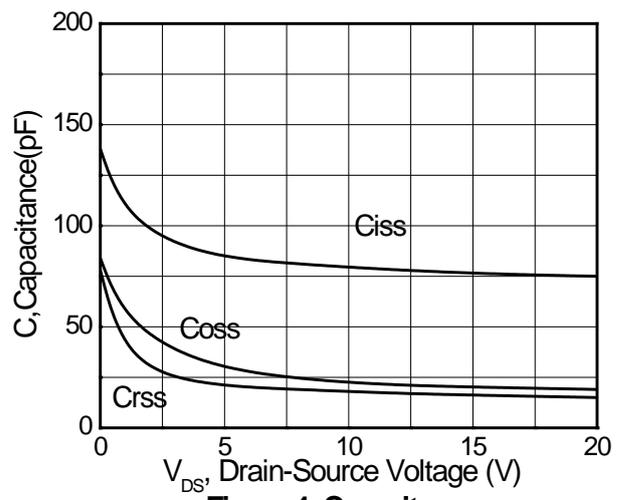


Figure 4. Capacitance

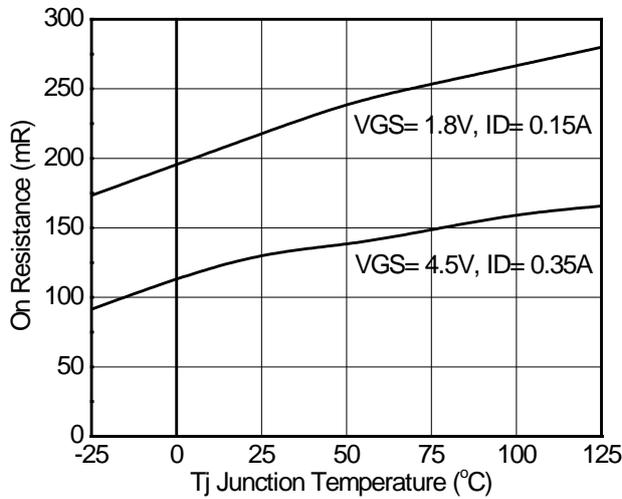


Figure 5 . On resistance vs. Temperature

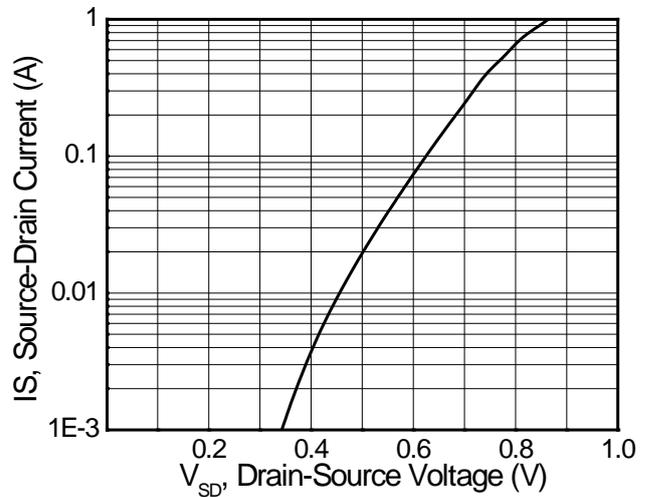


Figure 6. Diode Forward Characteristics

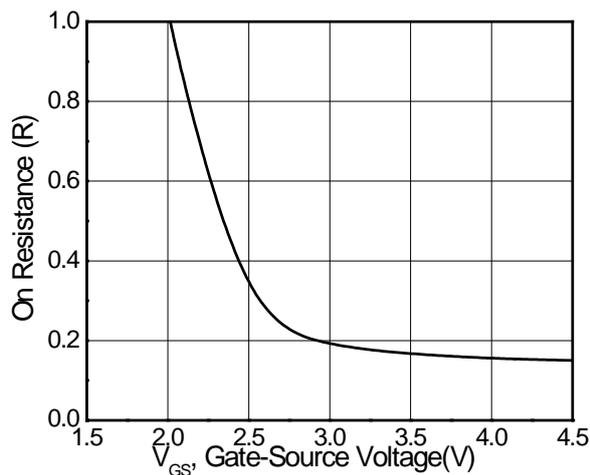


Figure 7. On Resistanc vs. Gate-Source Voltage

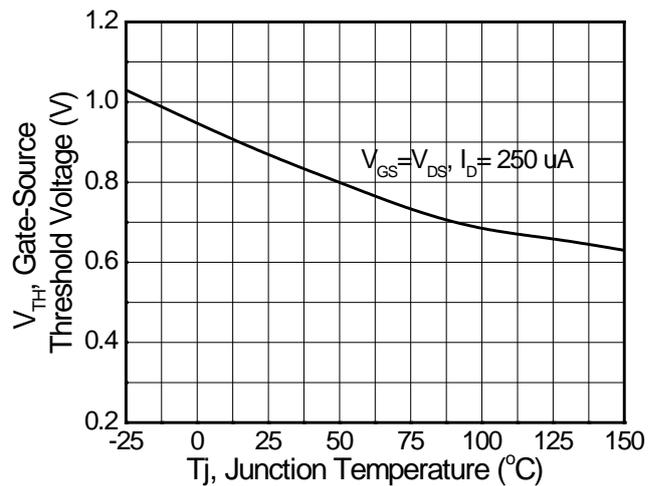


Figure 8. Gate Threshold vs. Temperature



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