

N-Channel Enhancement Mode MOSFET

Features

VDS	VGS	RDSon TYP	ID
20V	±8V	240mR@4V5	0.4A
		280mR@2V5	
		410mR@1V8	
		450mR@1V5	

General Description

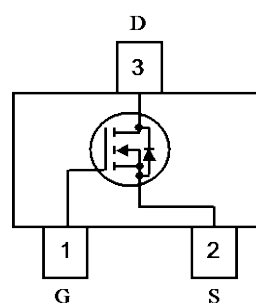
This device is a N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology .This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

Applications

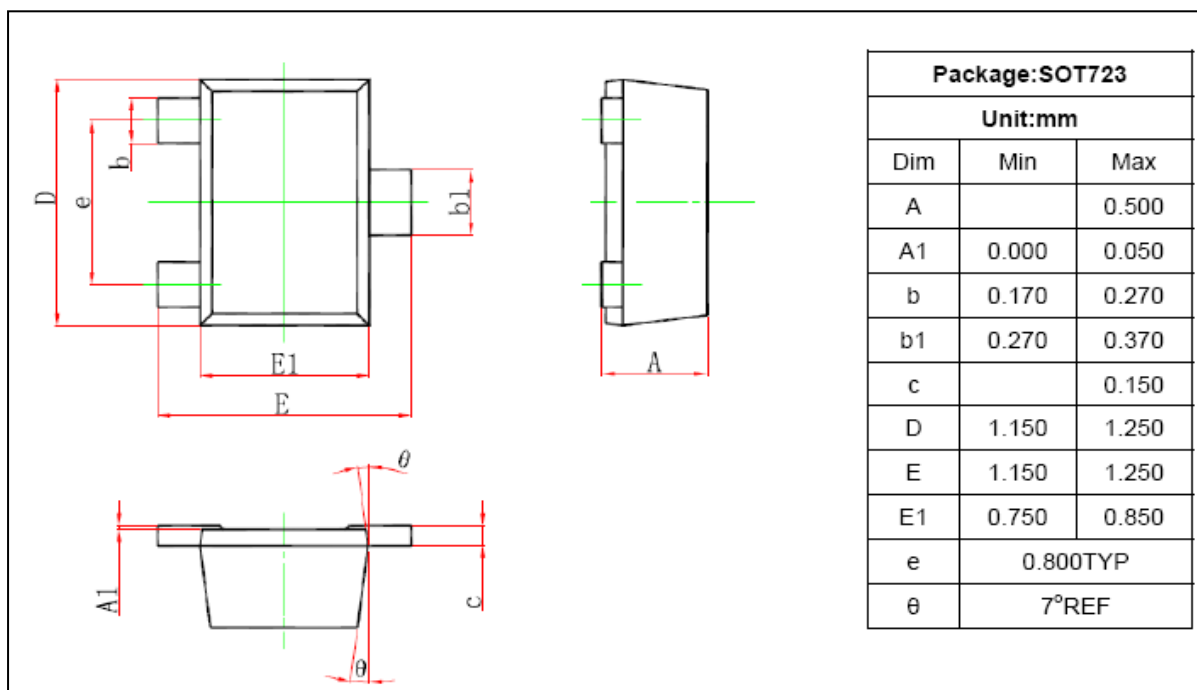
- Replace Digital Transistor
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

Pin Configuration

Top View



Package Information





SSC8020GS9

● 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	0.4	A
	Pulsed		1.2	
Power Dissipation Derating above TA = 25°C ^(Note 1)		P_d	175	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 V, I _D = 250μA	20	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 16V, V _{GS} = 0V	--	--	1	uA
Gate-Body Leakage	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V	--	--	±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} = V _{GS} , I _D = 250uA	0.35	--	1	V
Static Drain-Source On-Resistance	R _{DS (ON)}	I _D = 400mA, V _{GS} = 4.5V	--	240	450	mR
		I _D = 300mA, V _{GS} = 2.5V	--	280	765	
		I _D = 200mA, V _{GS} = 1.8V	--	410	850	
		I _D = 100mA, V _{GS} = 1.5V	--	450	950	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t _{d(on)}	V _{DD} = -6V, R _L = 6R, I _D = -1A, V _{GEN} = -4.5V, R _G = 6R	--	6	--	ns
Turn-Off Delay Time	t _{d(off)}		--	28	--	
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{ISS}	V _{DS} = -16V, V _{GS} = 0V, f = 200KHz	--	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 V, I _S = 150mA	--	0.68	1.2	V

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

● Typical Performance Characteristics

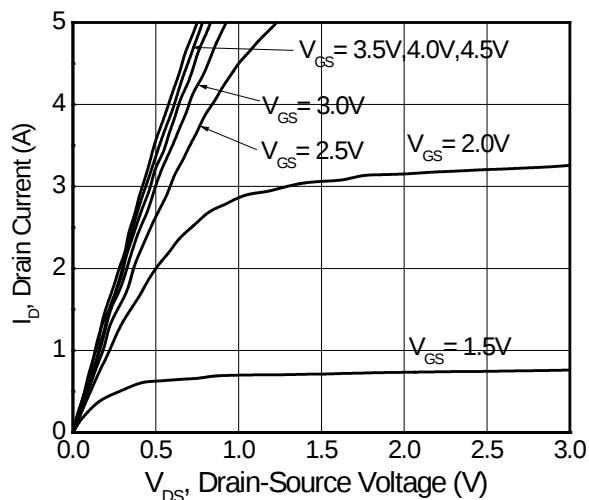


Figure 1. Output Characteristics

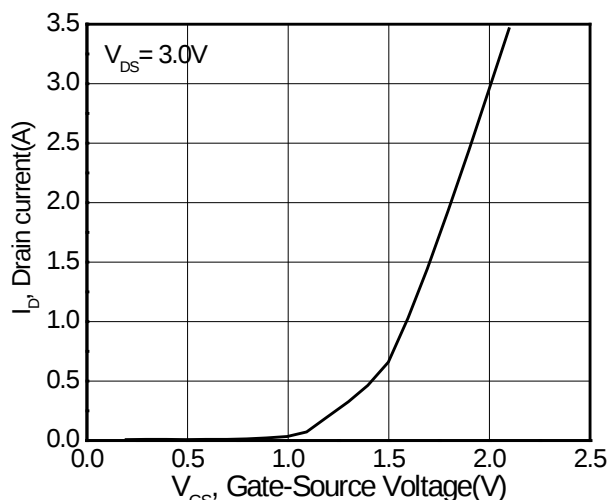


Figure 2. Transfer Characteristics

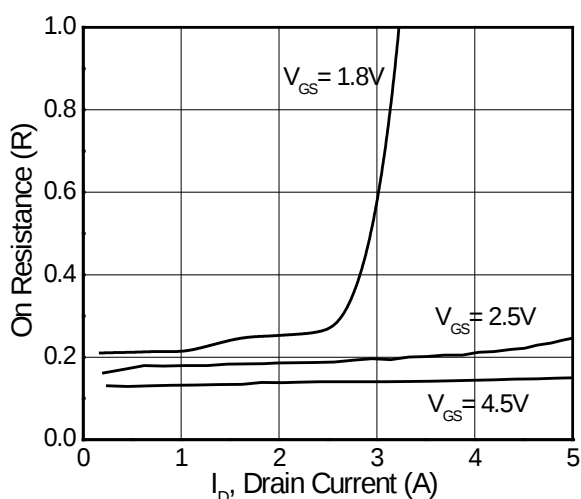


Figure 3. On Resistance vs. Drain Current

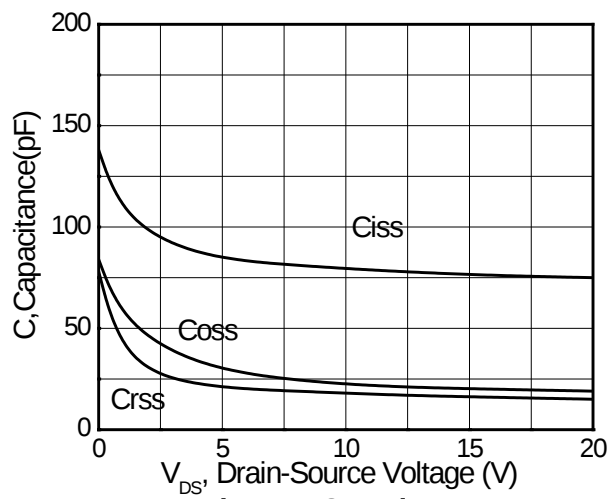


Figure 4. Capacitance

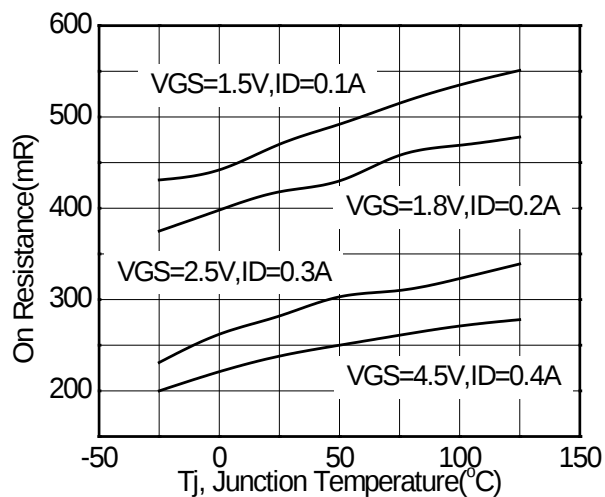


Figure 5. On resistance vs. Temperature

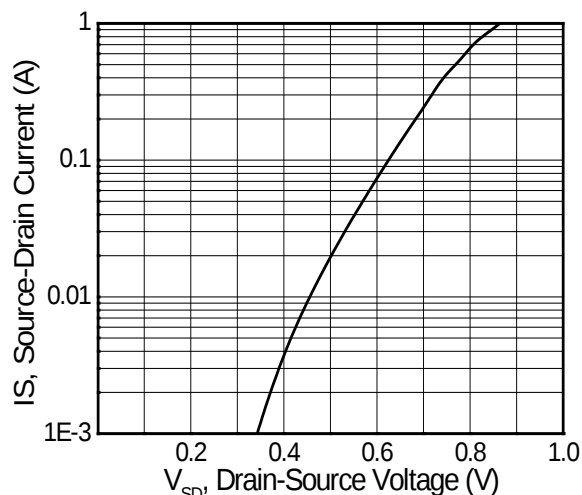


Figure 6. Diode Forward Characteristics

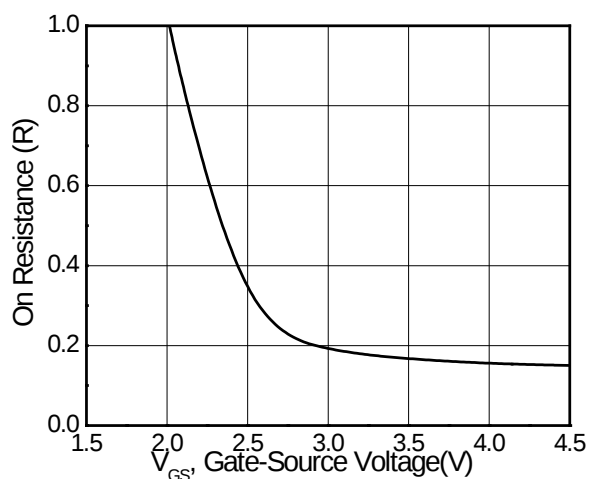


Figure 7. On Resistance vs. Gate-Source Voltage

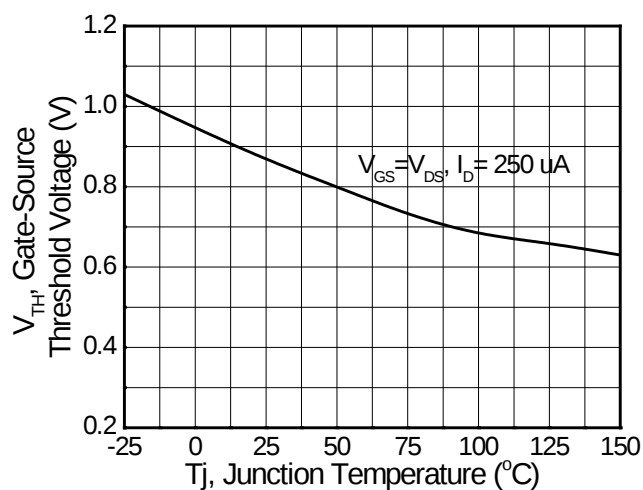


Figure 8. Gate Threshold vs. Temperature



SSC8020GS9

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