SSC8036GS6B

N-Channel Enhancement Mode MOSFET

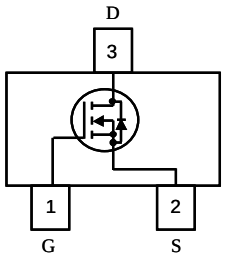
- **Features**

VDS	VGS	RDSon TYP	ID
30V	±20V	19mR@10V	5A
		23mR@4V5	

- **Applications**
  - Load Switch
  - Portable Devices
  - DCDC conversion

- **Pin configuration**

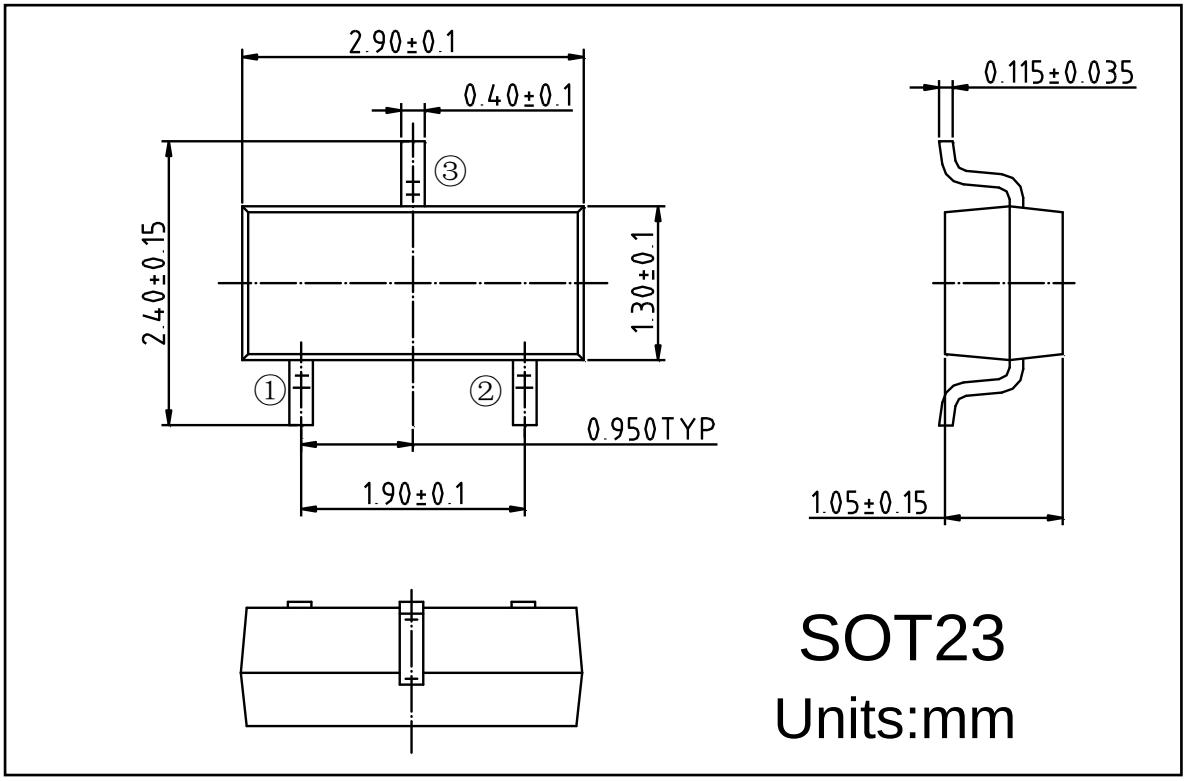
Top View



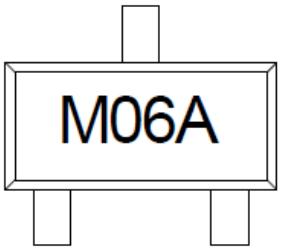
- **General Description**

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

- **Package Information**



Order information

Device	Package	Marking	Shipping
SSC8036GS6B	SOT23		3000/Tape&Reel

Absolute Maximum Ratings @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	30	V
Gate-Source Voltage	V_{GSS}	±20	V
Continuous Drain Current [a] V_{GS}@4.5V TA = 25°C	I_D	5	A
Continuous Drain Current [a] V_{GS}@4.5V TA = 70°C		4	A
Plused Drain Current [b]	I_{DM}	35.5	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	℃

Thermal Characteristics

Parameter		Symbol	Typ	Max	Units
Maximum Junction-to-Ambient [a]	t≤10S	$R_{\theta JA}$	71	95	°C/W
	Steady-State		92	116	°C/W
Maximum Junction-to-Case	Steady-State	$R_{\theta JC}$	67	87	°C/W

- **Electrical Characteristics** @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 250 uA	30	--	--	V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D =250 uA	1	1.5	3	V
Gate–Body Leakage Current	I_{GSS}	V_{GS} = ± 20 V, V_{DS} = 0 V	--	--	±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 24 V, V_{GS} = 0 V	--	--	1	uA
Drain–Source On–State Resistance	$R_{DS(ON)}$	V_{GS} = 10 V, I_D = 5.8 A	--	19	24	mR
		V_{GS} = 4.5 V, I_D = 5 A	--	23	30	
Forward Transconductance	G_{FS}	V_{DS} = 5 V, I_D = 5 A	10	15	--	S
Diode Forward Voltage	V_{SD}	V_{GS} = 0 V, I_S = 1 A	--	0.71	1	V
Input Capacitance	C_{ISS}	V_{DS} = 15 V, V_{GS} = 0 V, f = 1.0 MHz	--	545	--	pF
Output Capacitance	C_{OSS}		--	103	--	
Reverse Transfer Capacitance	C_{RSS}		--	80	--	
Turn–On Delay Time	$T_{D(ON)}$	V_{DS} = 15 V, R_L = 2.3ℝ, V_{GS} = 10V, R_{GEN}=3ℝ	--	--	18	ns
Turn–Off Delay Tim	$T_{D(OFF)}$		--	--	70	

Notes:

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.

1. Typical Performance Characteristics

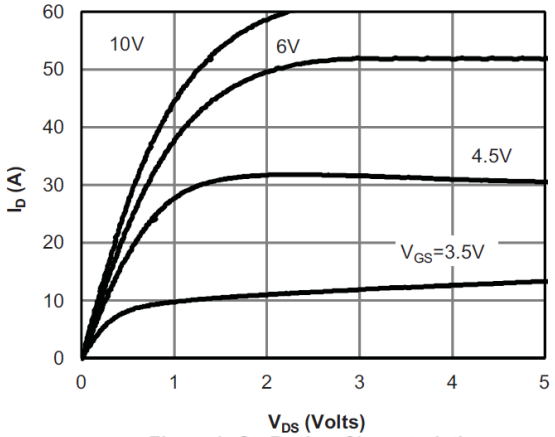


Figure 1: On-Region Characteristics

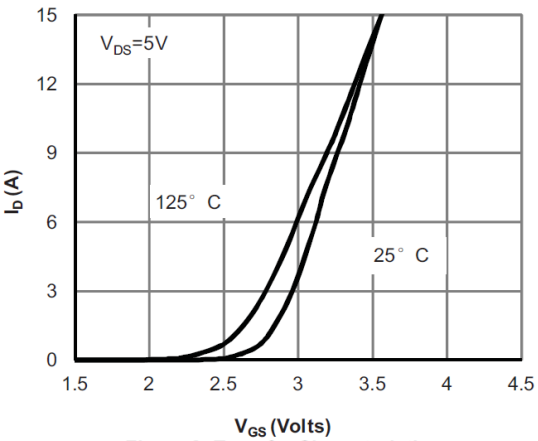


Figure 2: Transfer Characteristics

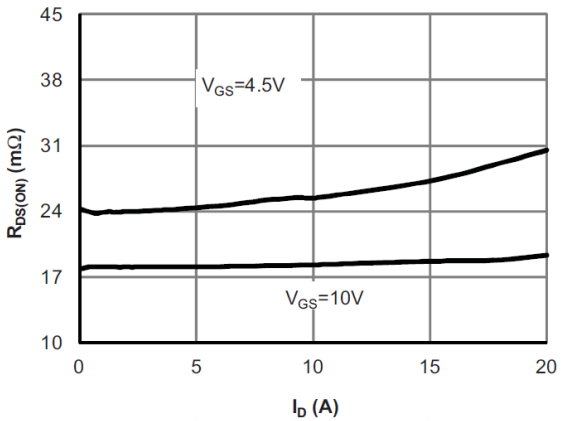


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

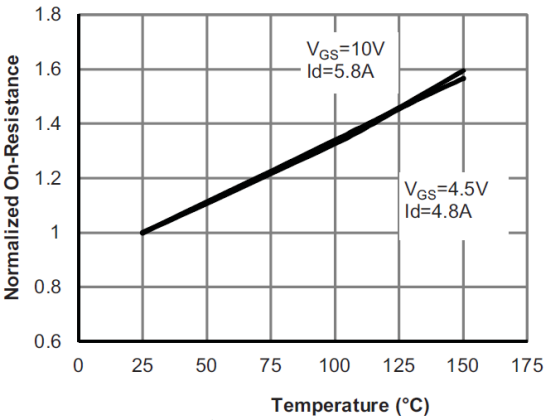


Figure 4: On-Resistance vs. Junction Temperature

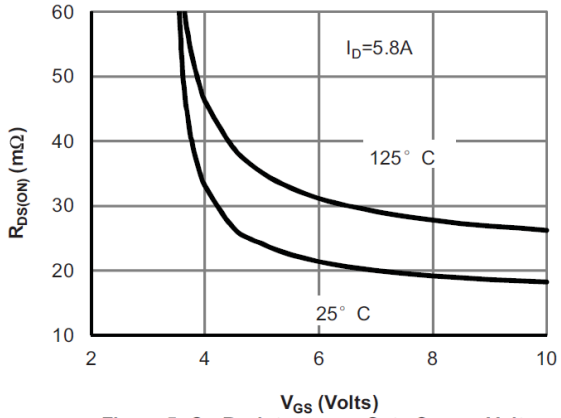


Figure 5: On-Resistance vs. Gate-Source Voltage

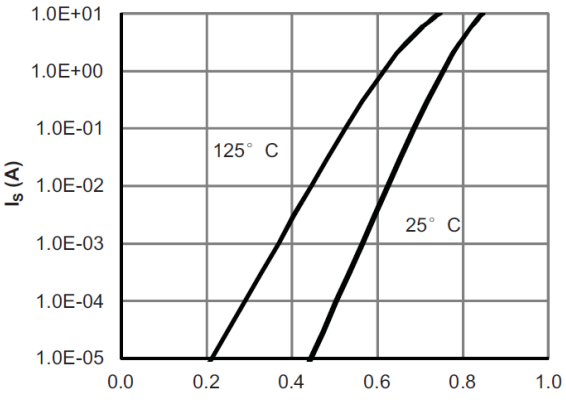


Figure 6: Body-Diode Characteristics

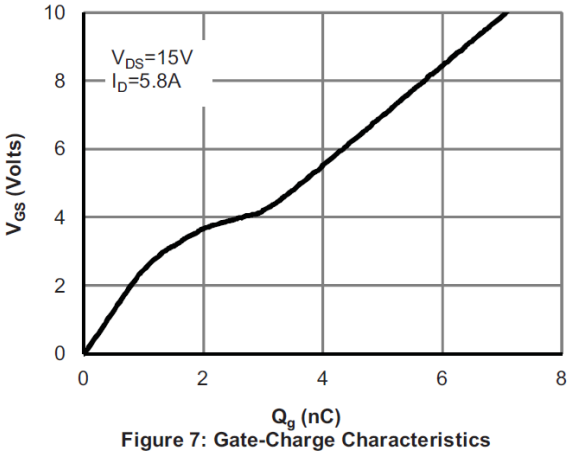


Figure 7: Gate-Charge Characteristics

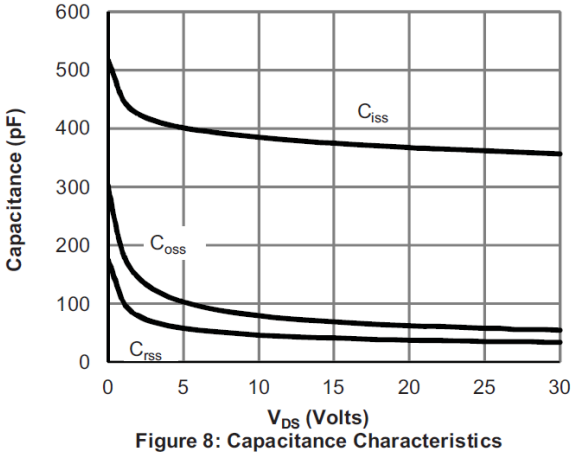


Figure 8: Capacitance Characteristics

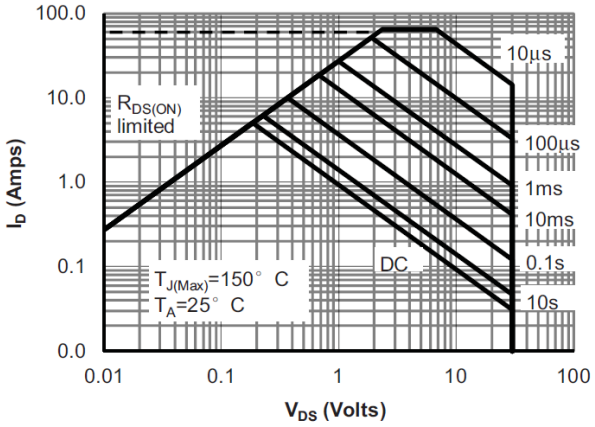


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

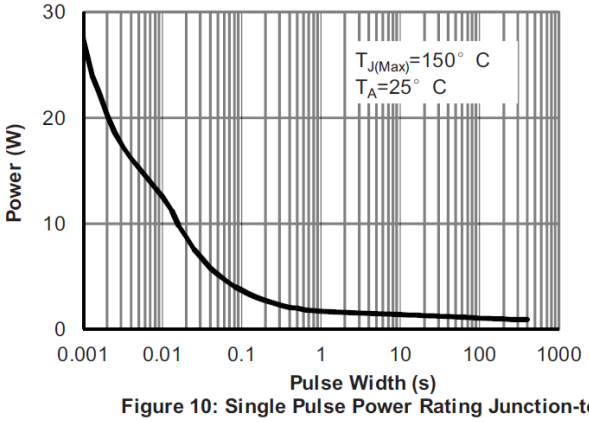


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

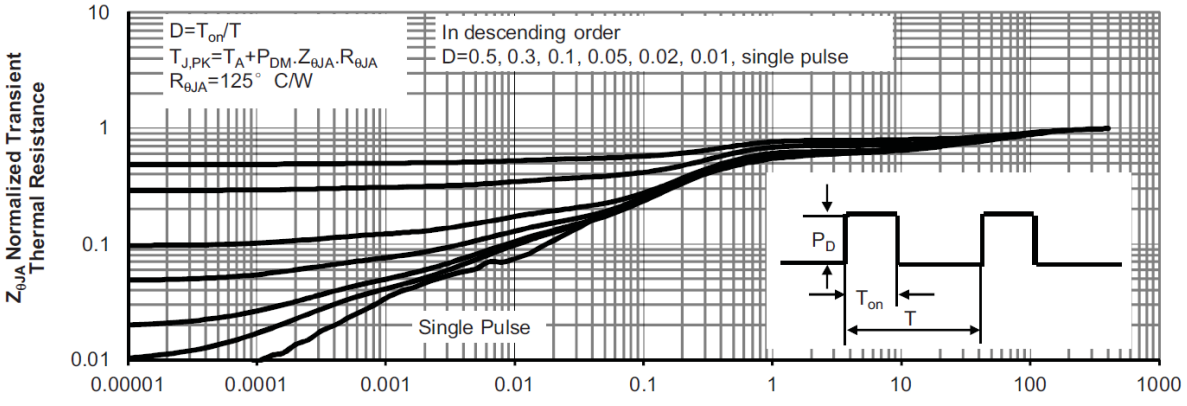


Figure 11: Normalized Maximum Transient Thermal Impedance

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