



SSC8036GS6B

N-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	19mR@10V	5.5A
		23mR@4V5	

➤ Description

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

➤ Applications

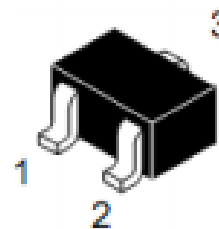
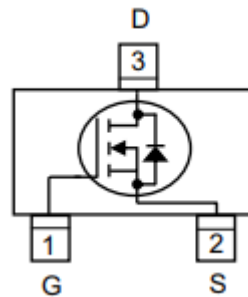
- Load Switch
- Portable Devices
- DCDC conversion

➤ Ordering Information

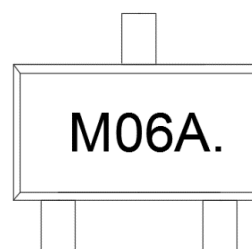
Device	Package	Shipping
SSC8036GS6B	SOT23	3000/Reel

➤ Pin configuration

Top view



SOT23



Marking



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	30	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current ^a	5.5	A
I_{DM}	Pulsed Drain Current ^b	35	A
P_D	Power Dissipation ^c	1.6	W
P_{DSM}	Power Dissipation ^a	0.8	W
T_J	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

➤ **Thermal Resistance Ratings**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a		165	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		85	

Note:

- The value of $R_{\theta JA}$ is measured with the device mounted on 1 in² FR-4 board with 2oz.copper, in a still air environment with $T_A=25^{\circ}\text{C}$. The value in any given application depends on the user is specific board design. The current rating is based on the $t \leq 10\text{s}$ thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P_D is based on $T_{J(MAX)}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

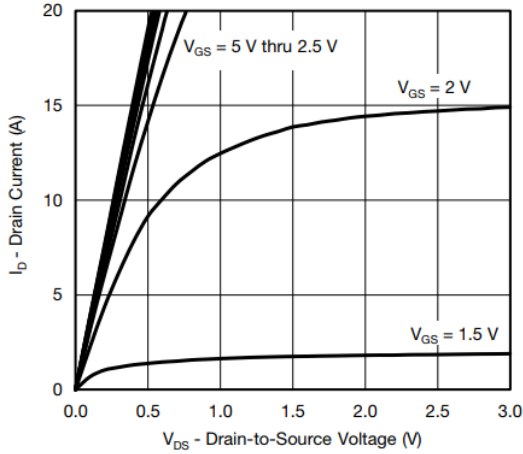


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

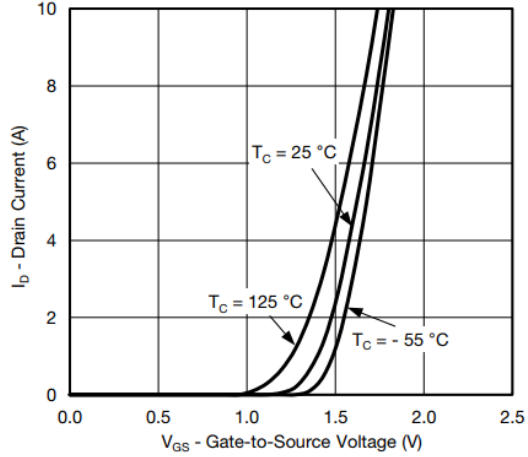
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.5	3	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=5.8A$		19	24	mR
		$V_{GS}=4.5V, I_D=5A$		23	30	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=24V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=5V, I_D=5A$		15		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=1A$		0.7	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		545		pF
C_{oss}	Output Capacitance			103		
C_{rss}	Reverse Transfer Capacitance			80		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=10V,$ $V_{DS}=15V, R_G=3R, R_L=2.3R$		18		ns
T_r	Rise Time			33		
$T_{D(OFF)}$	Turn-off delay time			25		
T_f	Fall Time			44		
Q_g	Total Gate charge	$V_{GS}=10V, V_{DS}=10V, I_D=4A$		10.6		nC
Q_{gs}	Gate Source charge			1.9		
Q_{gd}	Gate Drain charge			2.1		



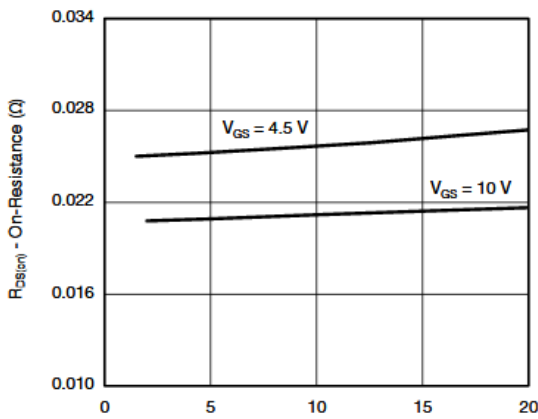
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



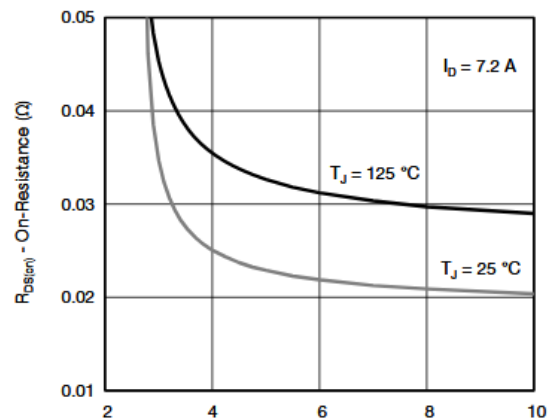
Output Characteristics



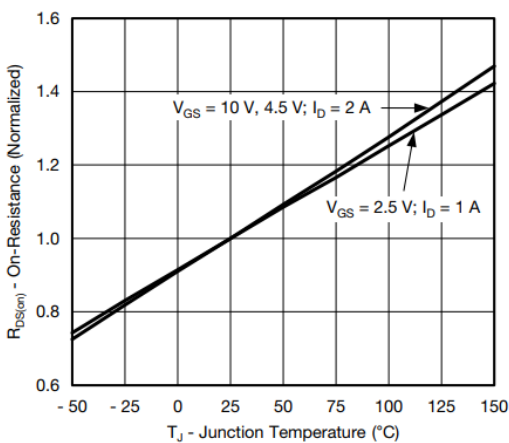
Transfer Characteristics



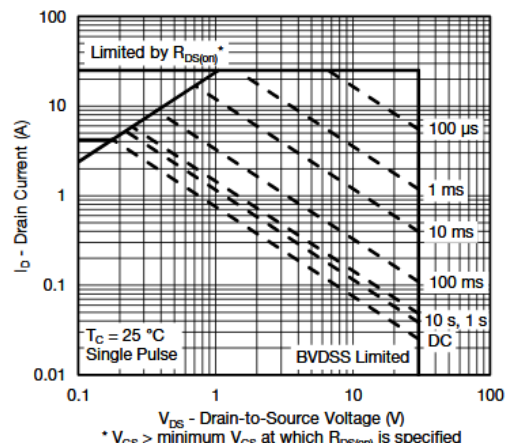
On-Resistance vs. Drain Current



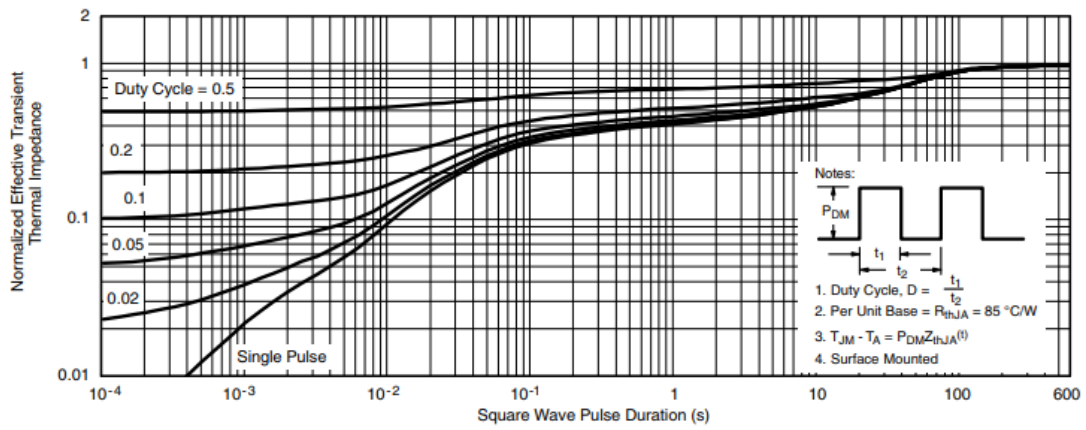
$R_{DS(on)}$ vs. V_{GS} vs. Temperature



On-Resistance vs. Junction Temperature



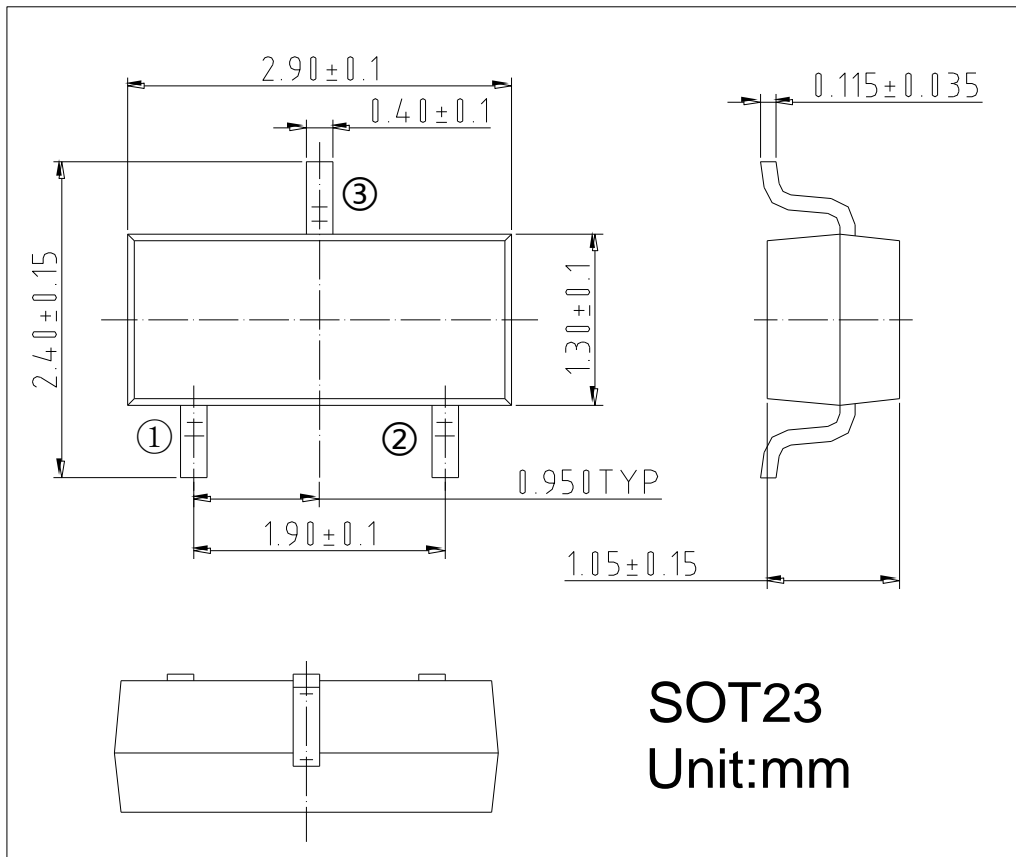
Safe Operating Area, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Ambient



➤ Package Information



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