SSC8036GS6

N-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	24mR@10V	4.5A
		36mR@4V5	

➢ Description

This device uses advanced trench technology to provide excellent RDSON and low gate charge and operation with gate voltages as low as 2.5V. This device is suitable for use as a load switch or in PWM applications.

➢ Applications

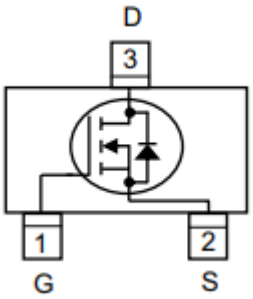
- Load Switch
- Portable Devices
- DCDC conversion

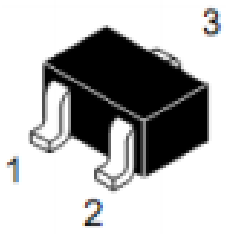
➢ Ordering Information

Device	Package	Shipping
SSC8036GS6	SOT23	3000/Reel

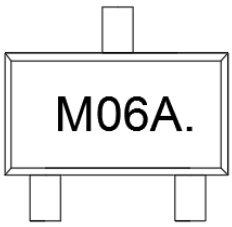
➢ Pin configuration

Top view





SOT23



Marking

➢ Absolute Maximum Ratings(T_A=25℃ 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]	4.5	A
I_{DM}	Pulsed Drain Current [b]	35	A
P_D	Power Dissipation [c]	1.5	W
P_{DSM}	Power Dissipation [a]	0.75	W
T_J	Operation junction temperature	-55 to 150	℃
T_{STG}	Storage temperature range	-55 to 150	℃

➢ Thermal Resistance Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]		175	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		90	

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper,in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The current rating is based on the t≤ 10s thermal resistance rating.

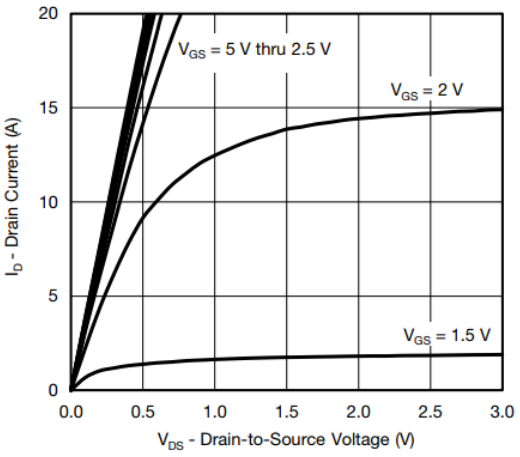
b. Repetitive rating, pulse width limited by junction temperature.

c. The power dissipation P_D is based on $T_{J(MAX)}$=150°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.

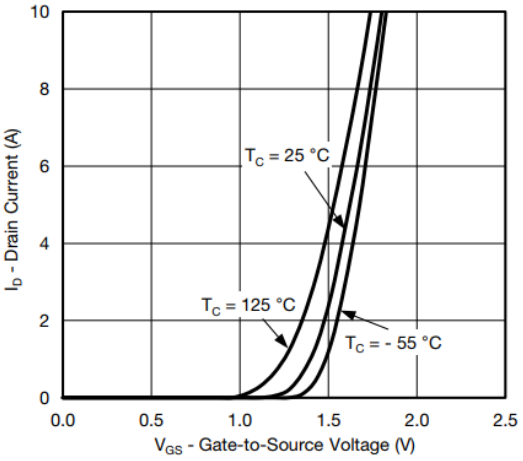
➢ Electronics Characteristics(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V,ID=250uA	30			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS,ID=250uA	1	1.5	3	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V,ID=5.8A		24	28	mR
		VGS=4.5V,ID=5A		36	43	mR
I_{DSS}	Zero Gate Voltage Drain Current	VDS=24V,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V,VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=5V,ID=5A		13		S
V_{SD}	Forward Voltage	VGS=0V,IS=1A		0.7	1	V
Ciss	Input Capacitance	VDS=10V, VGS=0V, f=1MHz		491		pF
Coss	Output Capacitance			87		
Crss	Reverse Transfer Capacitance			60		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, VDS=15V, RG=3R,RL=2.3R		18		ns
Tr	Rise Time			32		
$T_{D(OFF)}$	Turn-off delay time			22		
Tf	Fall Time			45		
Qg	Total Gate charge	VGS=10V, VDS=10V, ID=4A		10.6		nC
Qgs	Gate Source charge			1.9		
Qgd	Gate Drain charge			2.1		

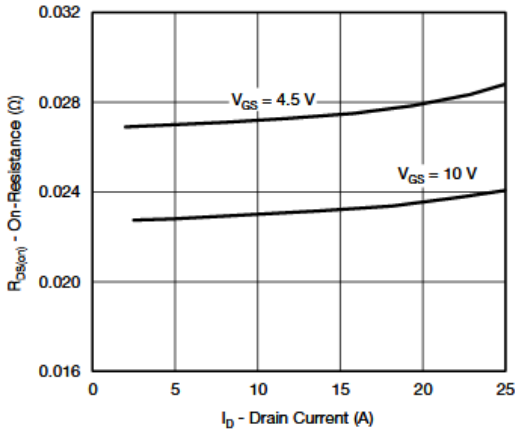
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



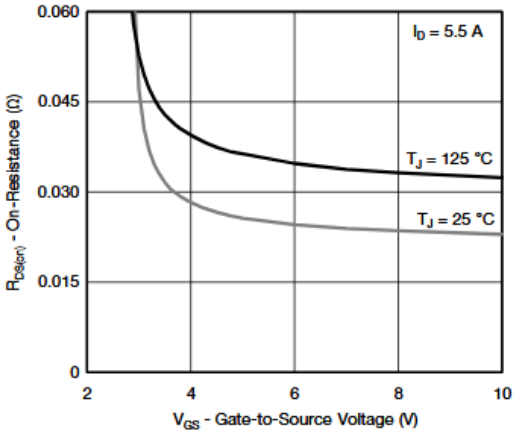
Output Characteristics



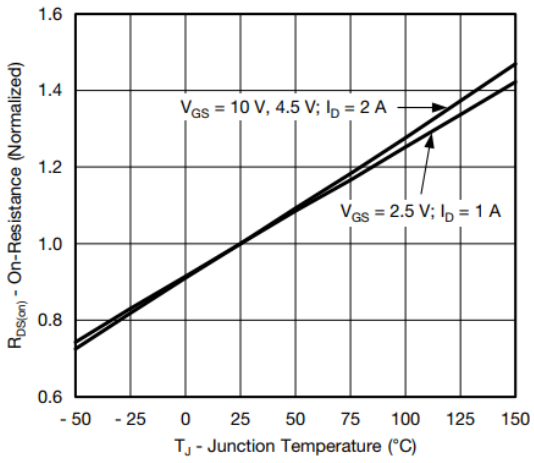
Transfer Characteristics



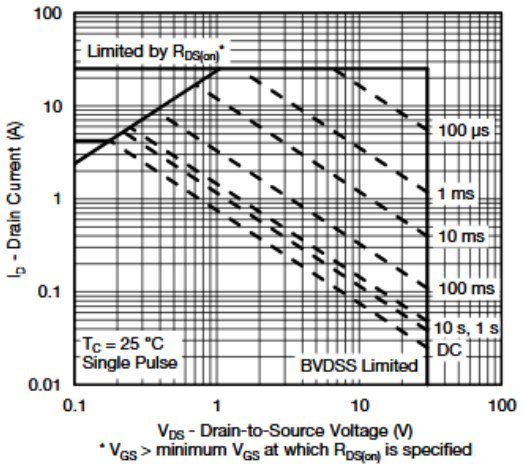
On-Resistance vs. Drain Current and Gate Voltage



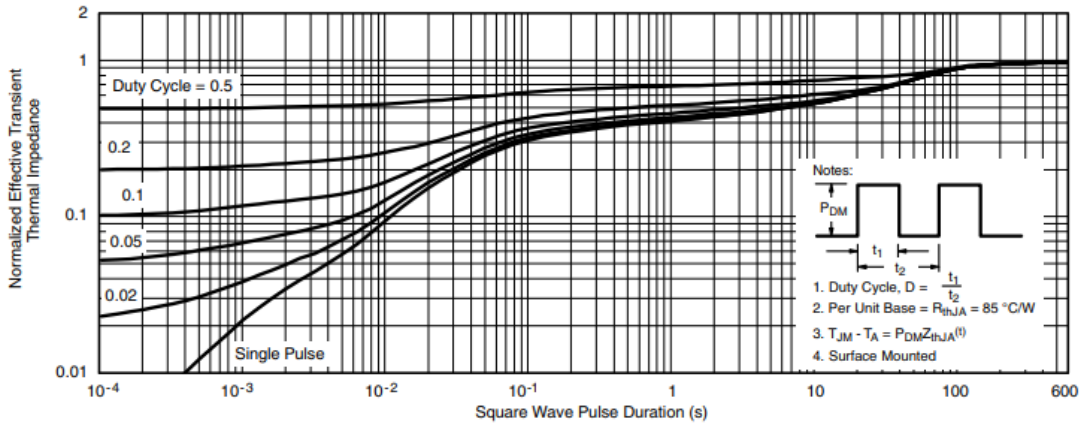
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature

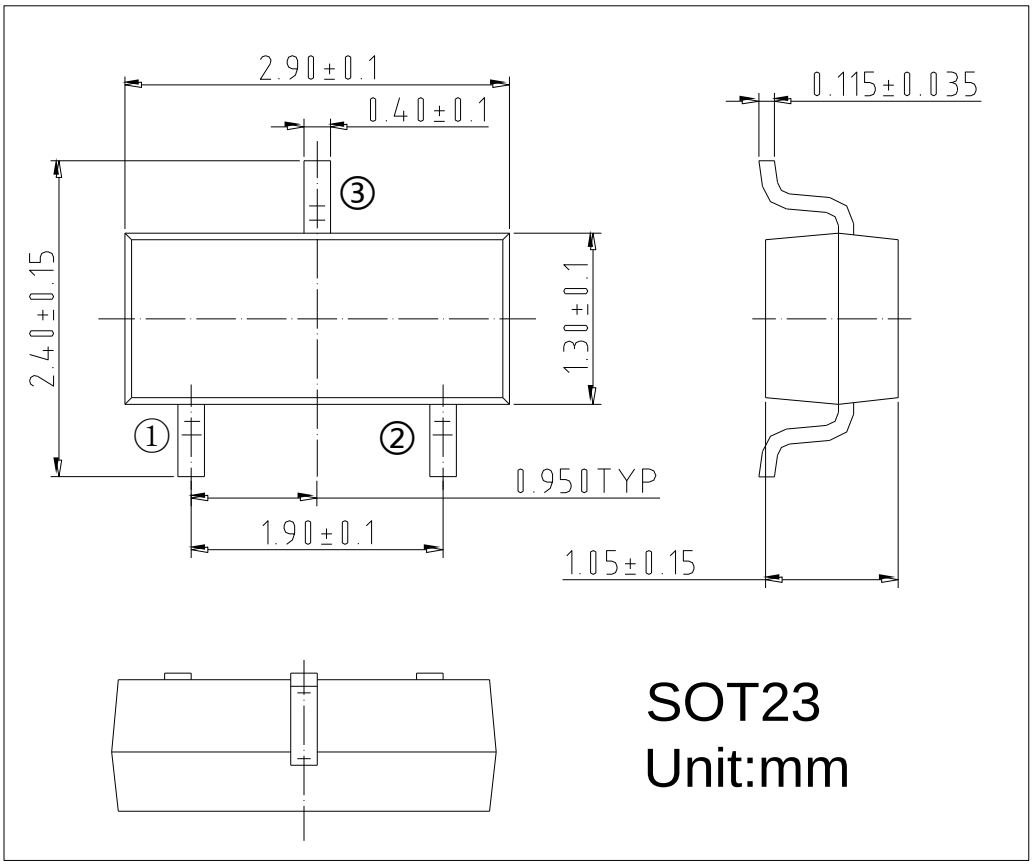


Safe Operating Area, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Ambient

➢ Package Information



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