SSC8164GS6

N-Channel Small Switching MOSFET with ESD Protection

➢ Features

VDS	VGS	RDSON Typ.	ID	ESD
60V	±20V	1.1R@10V	0.5A	500V
		1.5R@4V5		

➢ Description

This device is an 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

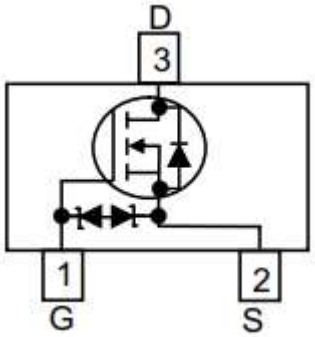
- Load Switch
- Portable Devices
- DCDC Conversion

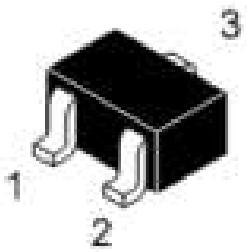
➢ Ordering Information

Device	Package	Shipping
SSC8164GS6	SOT23	3000/Reel

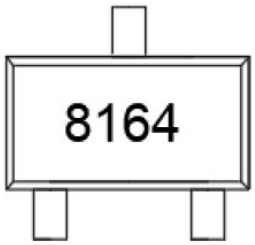
➢ Pin configuration

Top view





SOT23



Marking

➢ Absolute Maximum Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	60	V
V_{GSS}	Gate-to-Source Voltage	±20	V
I_D	Continuous Drain Current [a]	0.5	A
I_{DM}	Pulsed Drain Current [b]	1	A
P_D	Power Dissipation [c]	0.85	W
P_{DSM}	Power Dissipation [a]	0.36	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]		360	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		155	

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.

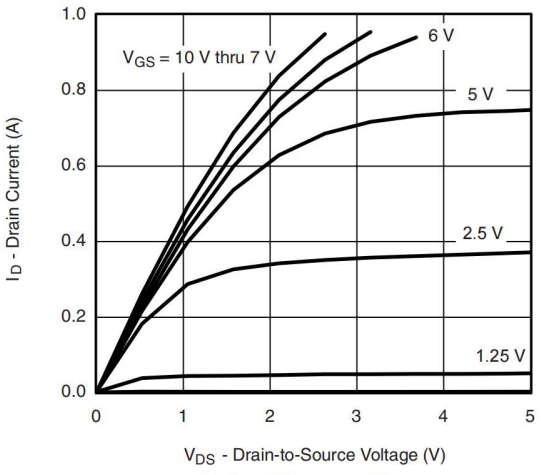
b. Repetitive rating, pulse width limited by junction temperature.

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.

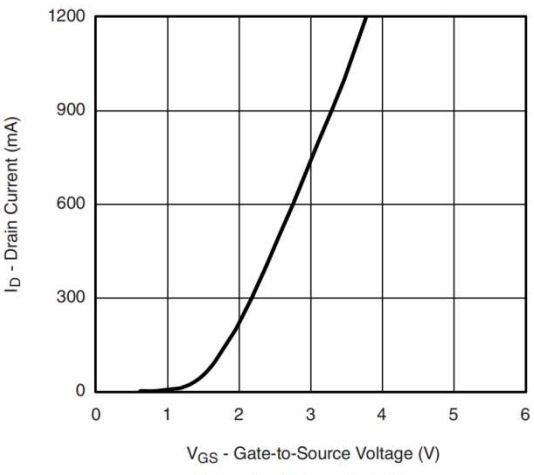
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V,ID=10uA	60			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS,ID=250uA	0.75	1	1.25	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V,ID=0.5A		1.1	2.5	R
		VGS=4.5V,ID=0.5A		1.5	3.5	
		VGS=2.5V,ID=0.5A		1.7	4	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=60V,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±15V,VDS=0V			±10	uA
G_{FS}	Transconductance	VDS=10V,ID=0.2A		0.1		S
V_{SD}	Forward Voltage	VGS=0V,IS=0.2A			1.3	V
Ciss	Input Capacitance	VDS=25V, VGS=0V, f=1MHz		30		pF
Coss	Output Capacitance			6		
Crss	Reverse Transfer Capacitance			2.9		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, VDS=10V, ID=100mA		25		ns
Tr	Rise Time			10		
$T_{D(OFF)}$	Turn-off delay time			35		
Tf	Fall Time			20		
Q_G	Total Gate Charge	VGS=10V, VDS=15V, ID=0.2A		0.4		nC
Q_{GS}	Gate Source Charge			0.1		
Q_{GD}	Gate Drain Charge			0.11		

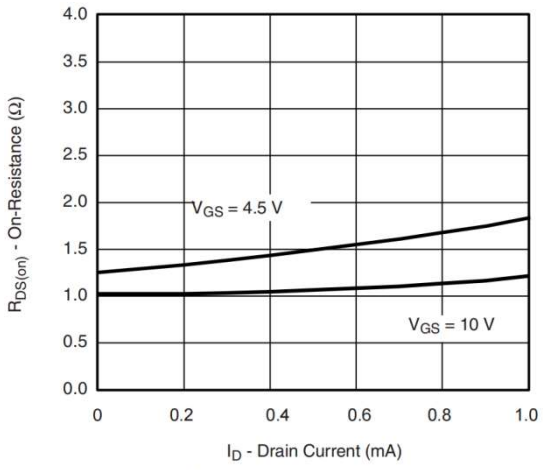
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



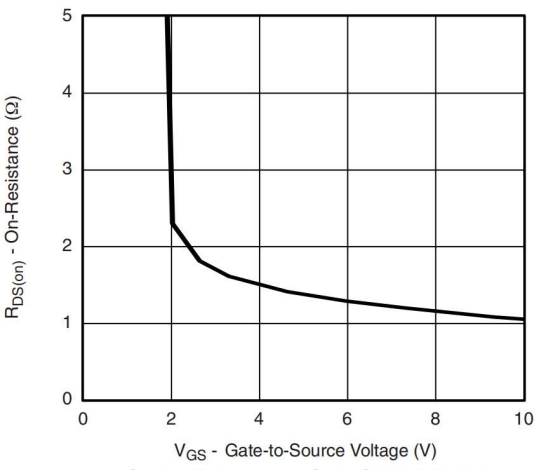
Output Characteristics



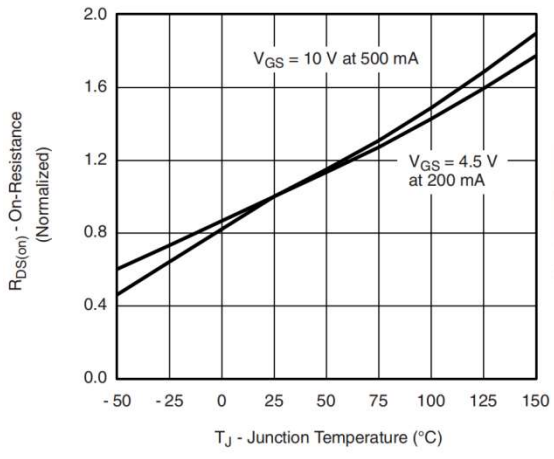
Transfer Characteristics



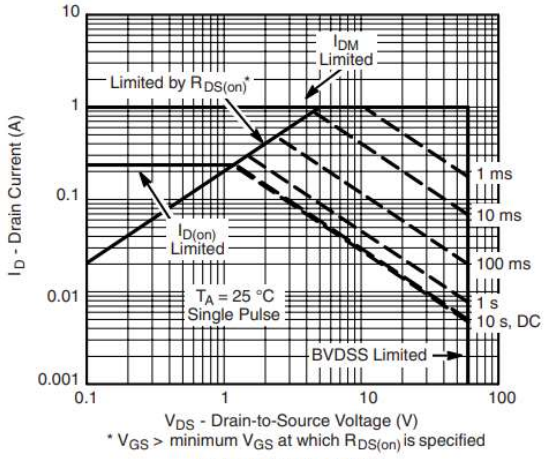
On-Resistance vs. Drain Current



On-Resistance vs. Gate-Source Voltage

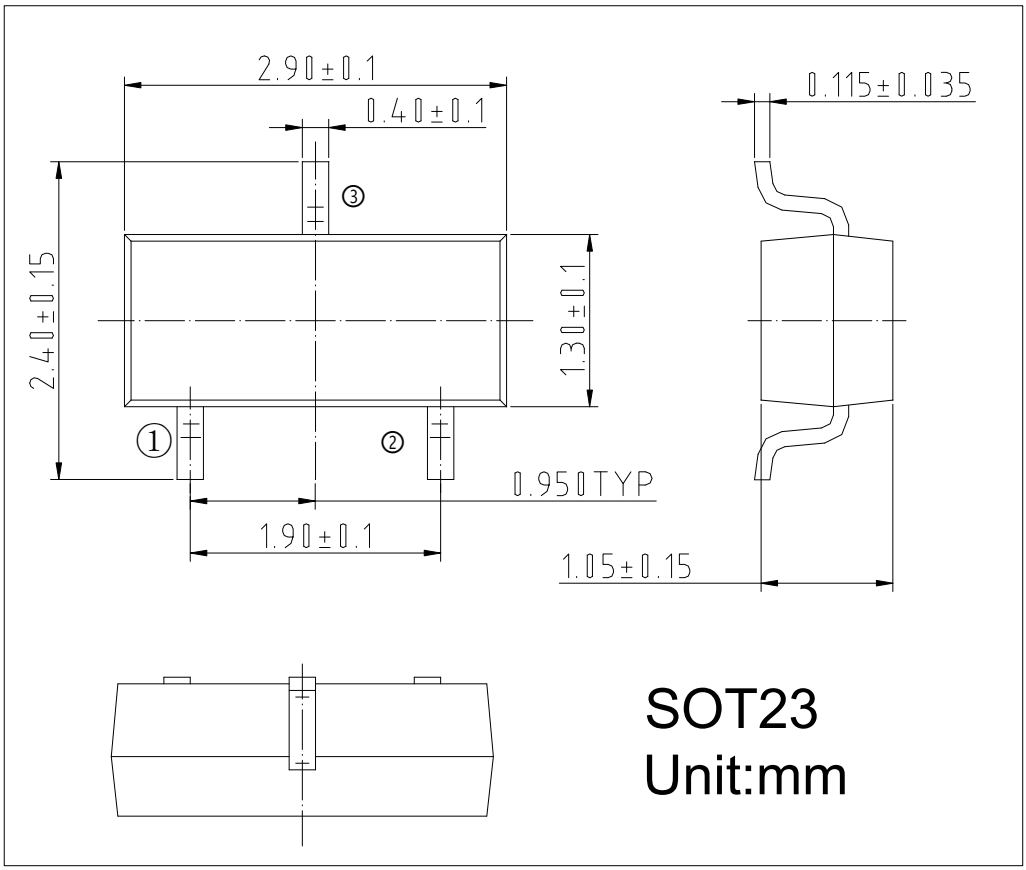


On-Resistance vs. Junction Temperature



Safe Operating Area

➢ Package Information



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