



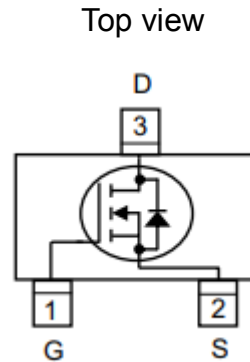
SSC8428GS6

N-Channel Enhancement Mode MOSFET

➤ Features

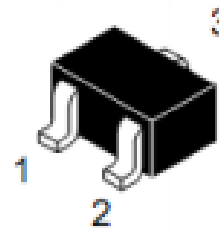
VDS	VGS	RDSON Typ.	ID
20V	±12V	11.5mR@10V	7A
		13mR@4V5	
		15mR@2V5	

➤ Pin configuration



➤ Description

This SSC8428GS6 combines advanced trench MOSFET technology with a low resistance package to provide extremely low RDSON. This device is ideal for load switch and battery protection applications.



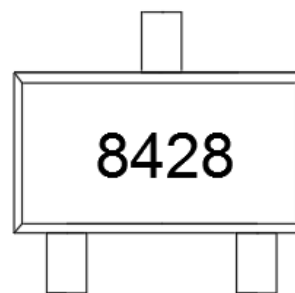
SOT23

➤ Applications

- Load Switch
- Li-ion battery protection

➤ Ordering Information

Device	Package	Shipping
SSC8428GS6	SOT23	3000/Reel



Marking



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

Symbol	Parameter	Ratings	Unit	
V_{DSS}	Drain-to-Source Voltage	20	V	
V_{GSS}	Gate-to-Source Voltage	± 12	V	
I_D	Continuous Drain Current ^a	7	A	
I_{DM}	Pulsed Drain Current ^b	30	A	
P_D	Power Dissipation ^c	$T_C=25^{\circ}\text{C}$	1.2	W
P_{DSM}	Power Dissipation ^a	$T_A=25^{\circ}\text{C}$	0.65	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		200	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		105	

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 $T_{J(\text{MAX})}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

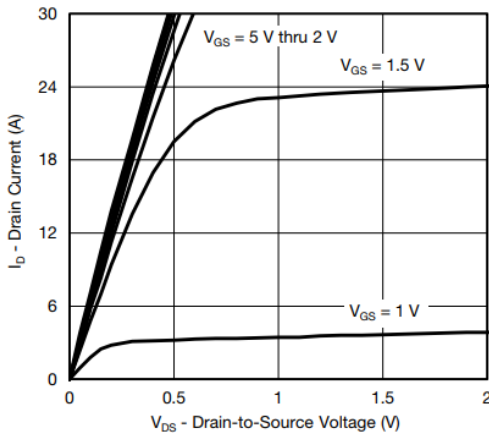


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

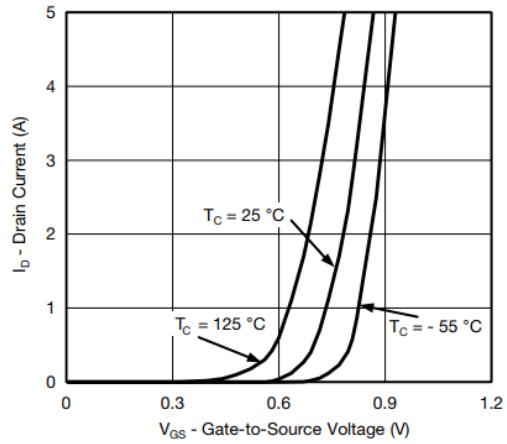
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	0.7	1	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=4.5A$		11	15	mR
		$V_{GS}=4.5V, I_D=3.5A$		13	18	
		$V_{GS}=2.5V, I_D=2.5A$		15	22	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=5V, I_D=4.5A$		8		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=0.5A$		0.8	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=8V, V_{GS}=0V, f=1MHz$		600		pF
C_{oss}	Output Capacitance			330		
C_{rss}	Reverse Transfer Capacitance			140		
$T_{D(ON)}$	Turn-on delay time	$V_{GEN}=4.5V, R_L=10R$ $V_{DS}=10V, R_G=6R, I_D=1A$		7		ns
T_r	Rise Time			13		
$T_{D(OFF)}$	Turn-off delay time			48		
T_f	Fall Time			22		
Q_g	Total Gate charge	$V_{GS}=4.5V, V_{DS}=10V, I_D=4A$		8.5		nC
Q_{gs}	Gate to Source charge			1.8		
Q_{gd}	Gate to Drain charge			2.2		



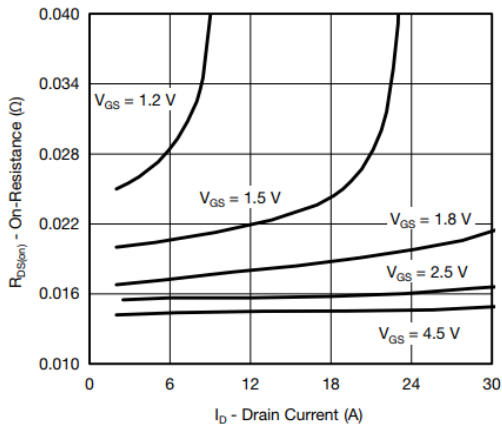
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



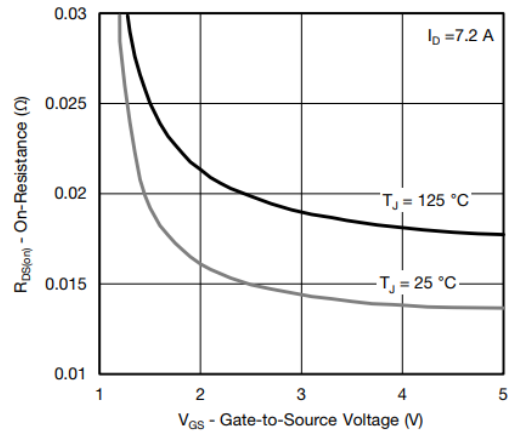
Output Characteristics



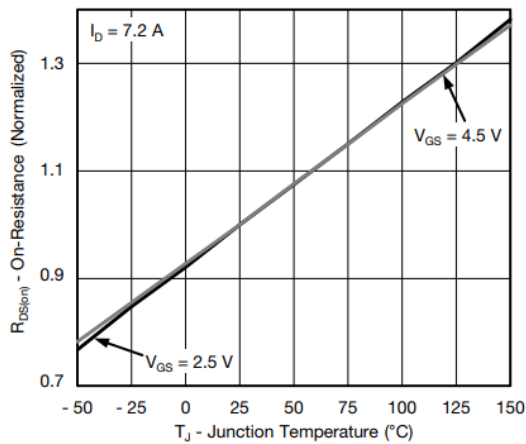
Transfer Characteristics



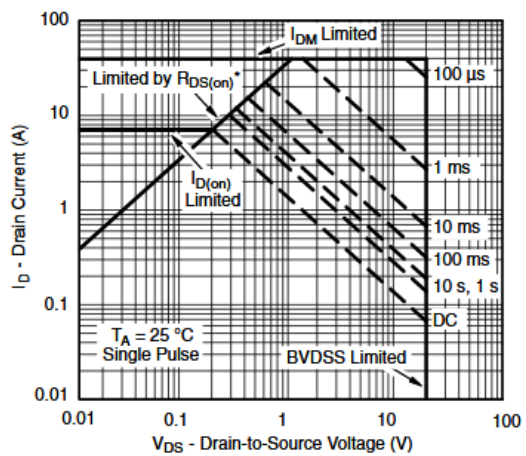
On-Resistance vs. Drain Current and Gate Voltage



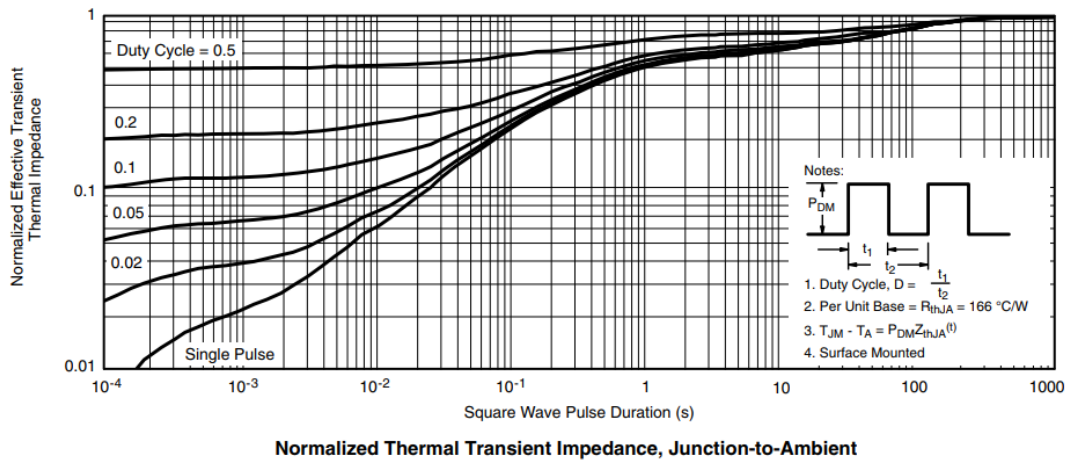
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature

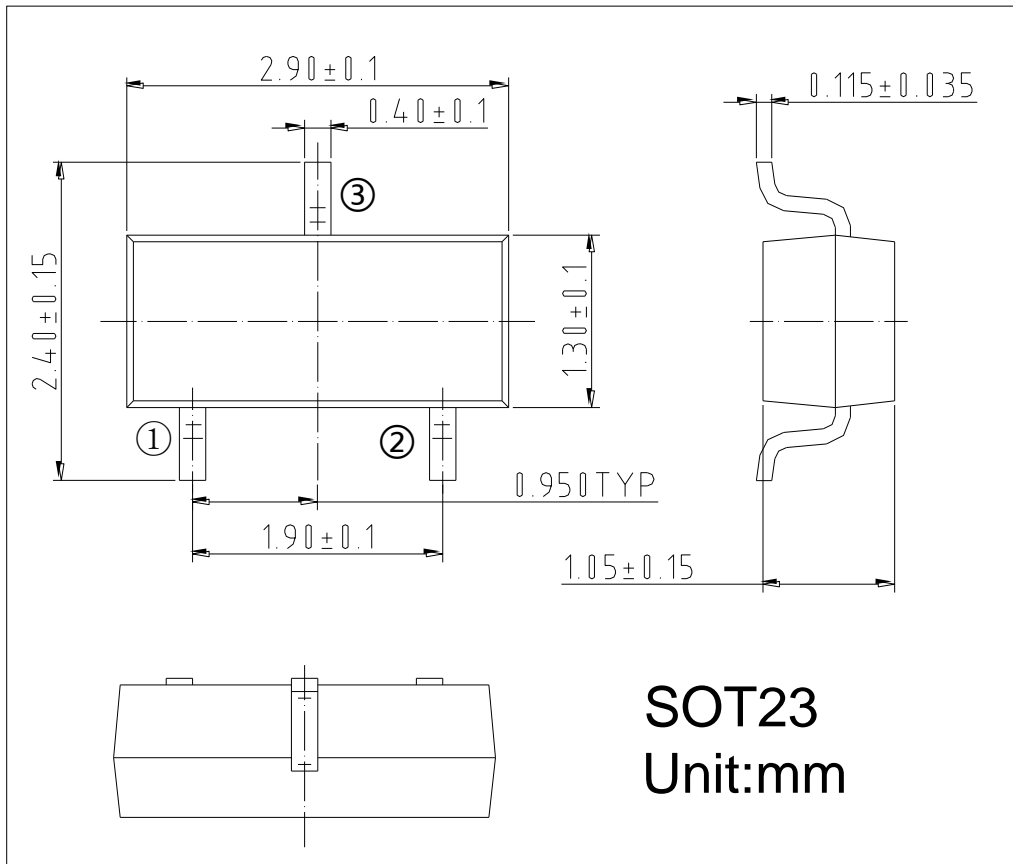


Safe Operating Area, Junction-to-Ambient





➤ Package Information



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