SSC8211GS6A

P-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-16V	±12V	13mΩ@-4V5	-12A
		19mΩ@-2V5	

➢ Description

The SSC8211GS6A is P-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in load switch, electronic cigarette and Battery Isolation.

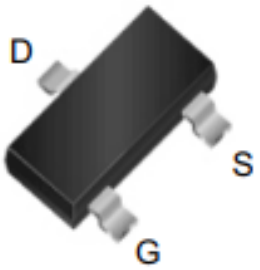
➢ Applications

- Load Switch
- Electronic Cigarette
- Battery Isolation

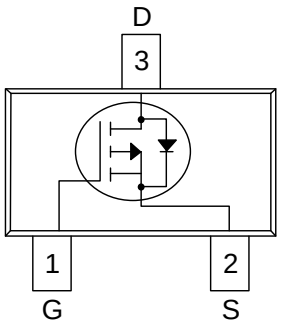
➢ Ordering Information

Device	Package	Shipping
SSC8211GS6A	SOT-23-3L	3000/Reel

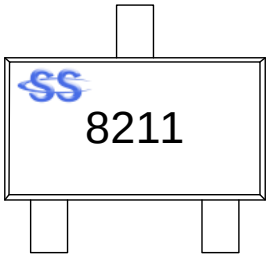
➢ Pin configuration



SOT-23-3L



Pin Configuration (Top View)



Marking

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

Parameter		Symbol	Ratings	Unit
Drain-to-Source Voltage		V_{DSS}	-16	V
Gate-to-Source Voltage		V_{GSS}	±12	V
Continuous Drain Current [a]	T_C=25℃	I_D	-12	A
	T_C=100℃		-6.5	
Pulsed Drain Current [b]		I_{DM}	-48	A
Power Dissipation [c]	T_C=25℃	P_D	2.6	W
	T_C=100℃		1.1	
Operation junction temperature		T_J	-55~150	℃
Storage temperature range		T_{STG}	-55~150	

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

Parameter	Symbol	Typical	Maximum	Unit
Junction-to-Ambient Thermal Resistance [a]	$R_{\theta JA}$		45	℃/W

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 power dissipation is based on the t≤10s thermal resistance rating.

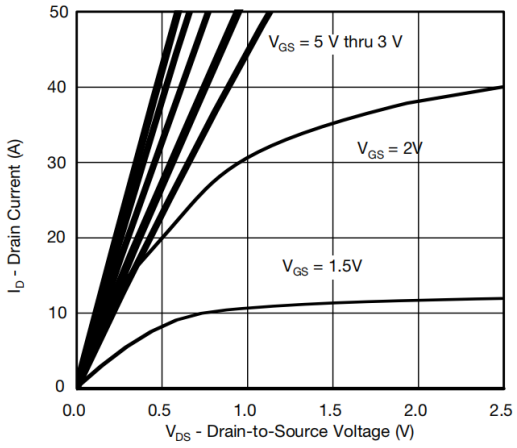
b. Repetitive rating, pulse width limited by junction temperature.

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.

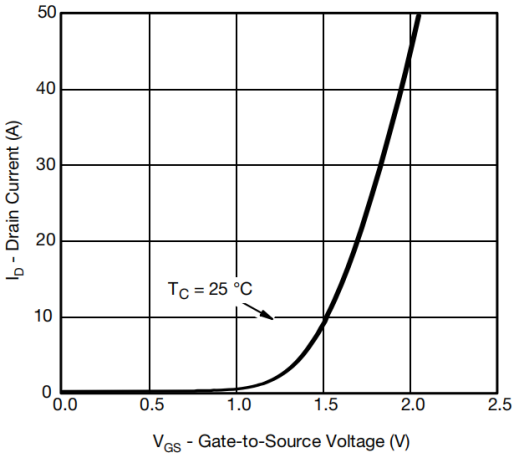
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-16			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250uA	-0.4	-0.7	-1	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -7A		13	18	mΩ
		V_{GS} = -2.5V, I_D = -6A		19	26	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -12V, V_{GS} = 0V			-1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±12V, V_{DS} = 0V			±100	nA
Transconductance	G_{FS}	V_{DS} = -5V, I_D = -5A		48		s
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -1A			-1.3	V
Input Capacitance	C_{ISS}	V_{GS} = 0V, V_{DS} = -8V, f = 1MHz		1960		pF
Output Capacitance	C_{OSS}			372		
Reverse Transfer Capacitance	C_{RSS}			325		
Total Gate Charge	Q_G	V_{GS} = -4.5V, V_{DS} = -8V, I_D = -9A		21.5		nC
Gate to Source Charge	Q_{GS}			4		
Gate to Drain Charge	Q_{GD}			4.8		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = -4.5V, V_{DS} = -8V, I_D = -9A, R_L = 2Ω R_G = 6Ω		13.2		ns
Rise Time	T_r			14		
Turn-off Delay Time	$T_{D(OFF)}$			110		
Fall Time	T_f			65		

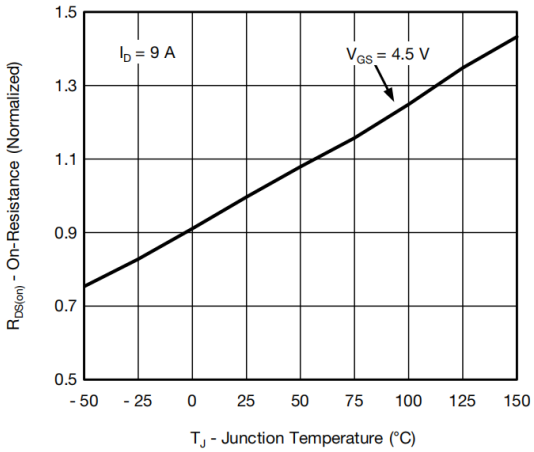
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



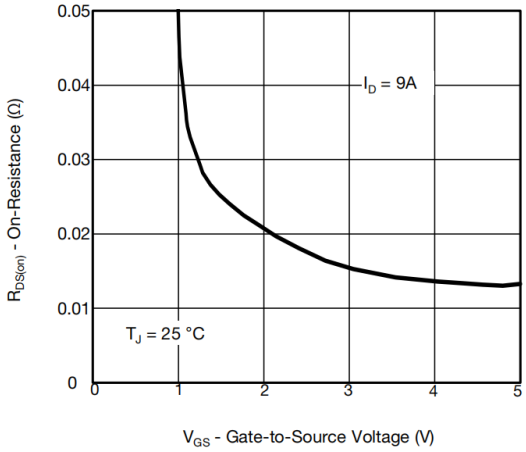
Output Characteristics



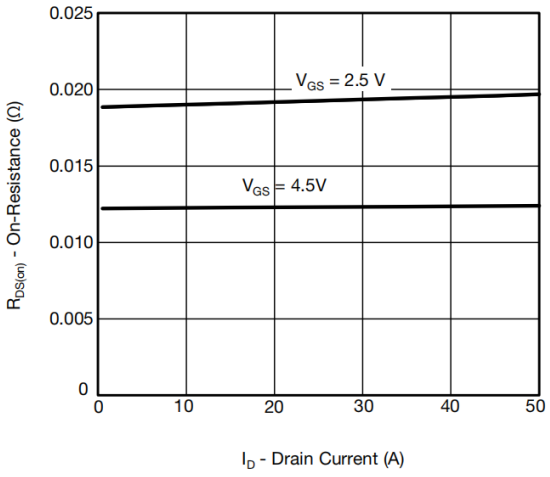
Transfer Characteristics



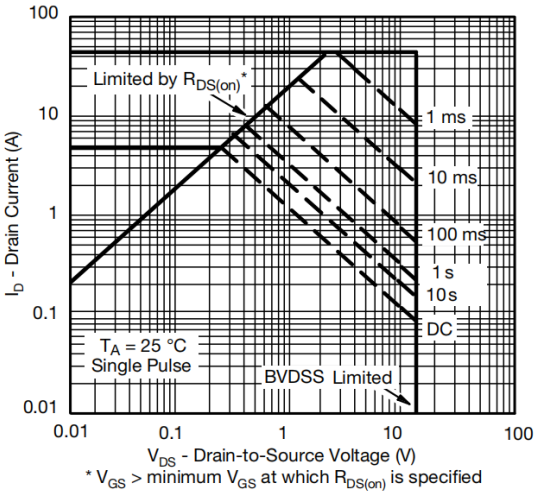
On-Resistance vs. Junction Temperature



On-Resistance vs. Gate-to-Source Voltage

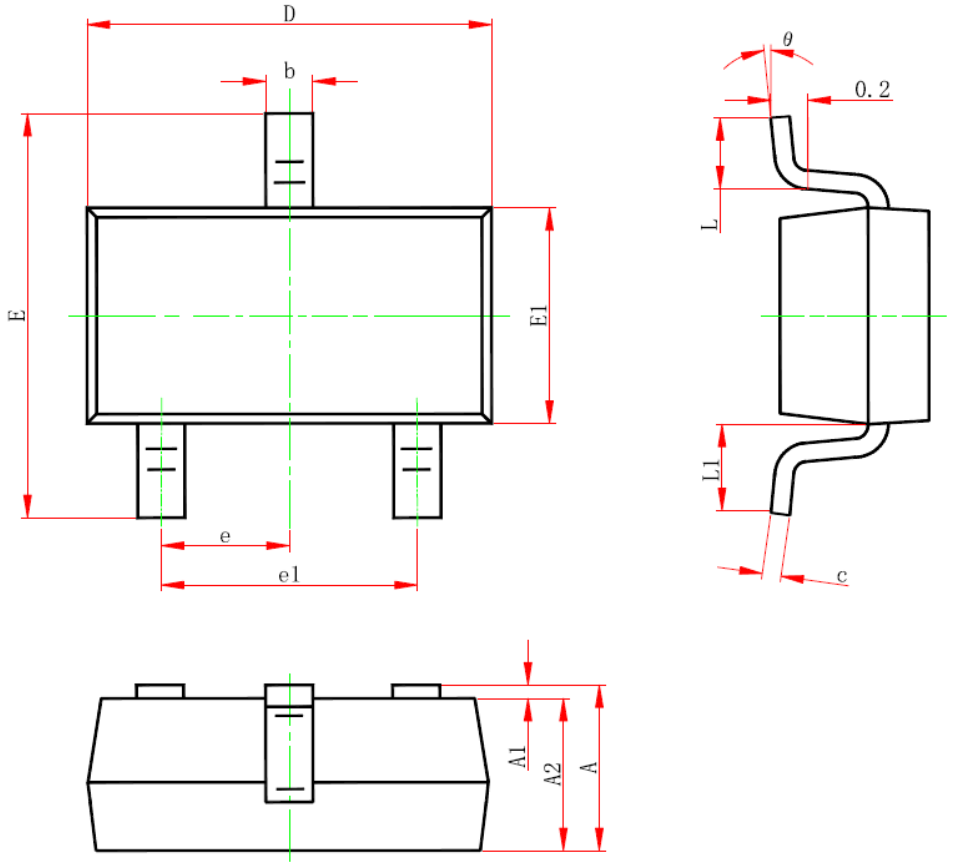


On-Resistance vs. Drain Current



Safe Operating Area

➢ Package Information



Package：SOT-23-3L

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
L1	0.600REF.		0.024REF.	
θ	0°	8°	0°	8°

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