SSC8037GS6A

P-Channel Enhancement Mode MOSFET

➢ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-30V	±20V	21mΩ@-10V	-8A
		28mΩ@-4V5	

➢ Description

The SSC8037GS6A 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, DCDC conversion and battery isolation.

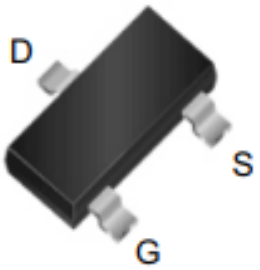
➢ Applications

- Load Switch
- DCDC Conversion
- Battery Isolation

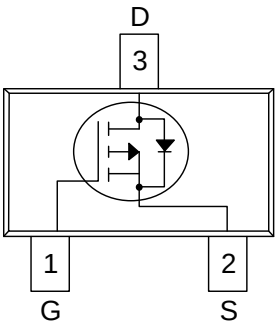
➢ Ordering Information

Device	Package	Shipping
SSC8037GS6A	SOT-23-3L	3000/Reel

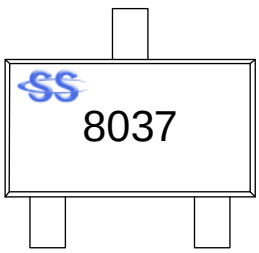
➢ Pin configuration



SOT-23-3L



Pin Configuration (Top View)



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]	-8	A
I_{DM}	Pulsed Drain Current [b]	-28	A
P_D	Power Dissipation [a]	2.2	W
T_J	Operation junction temperature	-55~150	℃
T_{STG}	Storage temperature range	-55~150	℃

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

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	58	℃/W

Note:

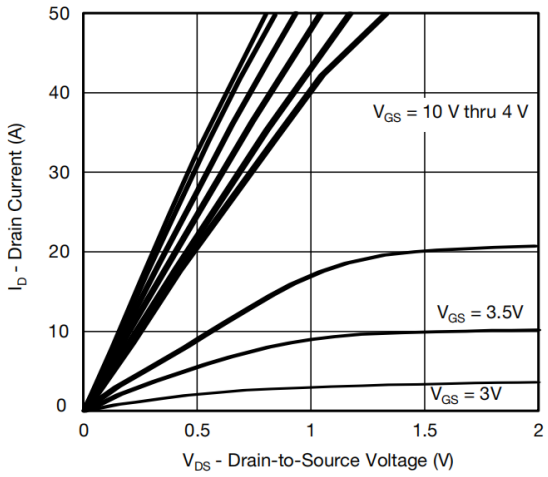
a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper, in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The power dissipation is based on the t≤10s thermal resistance rating.

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

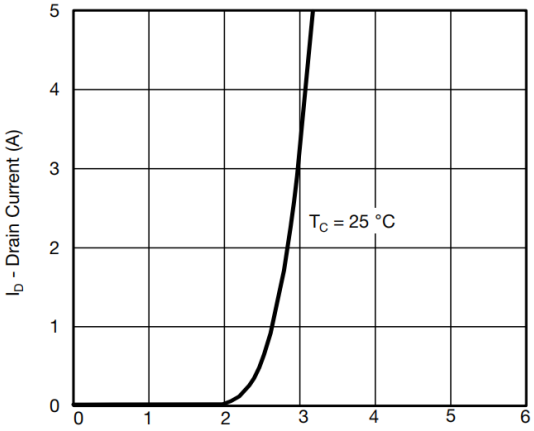
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250uA	-1	-1.6	-3	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -5A		21	28	mΩ
		V_{GS} = -4.5V, I_D = -3A		28	42	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -30V, V_{GS} = 0V			-1	μA
Gate-Source Leak Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V			±100	nA
Transconductance	G_{FS}	V_{DS} = -10V, I_D = -5A		15		s
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -3A		-0.8	-1.3	V
Input Capacitance	C_{ISS}	V_{DS} = -15V, V_{GS} = 0V, f = 1MHz		1300		pF
Output Capacitance	C_{OSS}			162		
Reverse Transfer Capacitance	C_{RSS}			183		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = -10V, V_{DS} = -15V, R_L = 3Ω, R_G = 1Ω		8.3		ns
Rise Time	T_r			33.8		
Turn-off Delay Time	$T_{D(OFF)}$			49		
Fall Time	T_f			10.6		
Total Gate Charge	Q_G	V_{GS} = -10V, V_{DS} = -15V, I_D = -2A		25		nC
Gate to Source Charge	Q_{GS}			4.5		
Gate to Drain Charge	Q_{GD}			6.2		

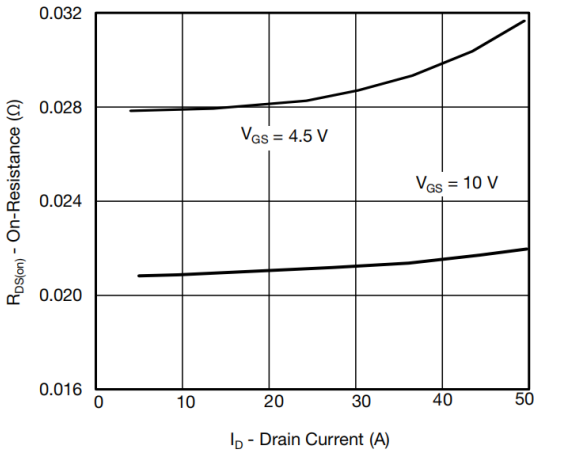
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



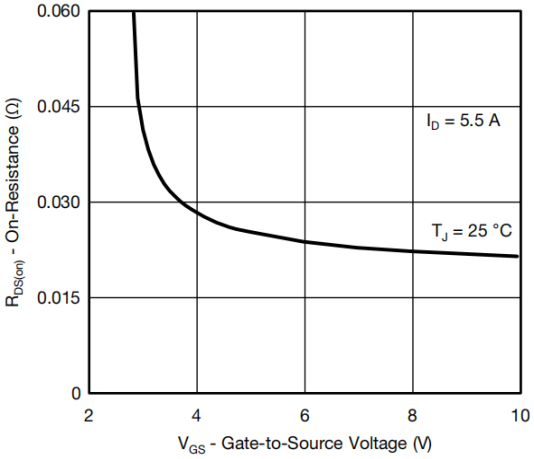
Output Characteristics



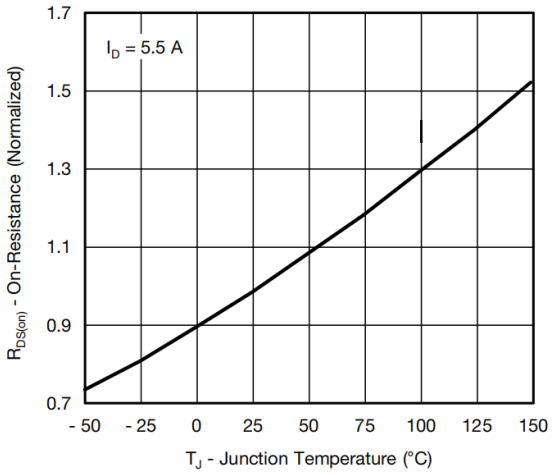
Transfer Characteristics



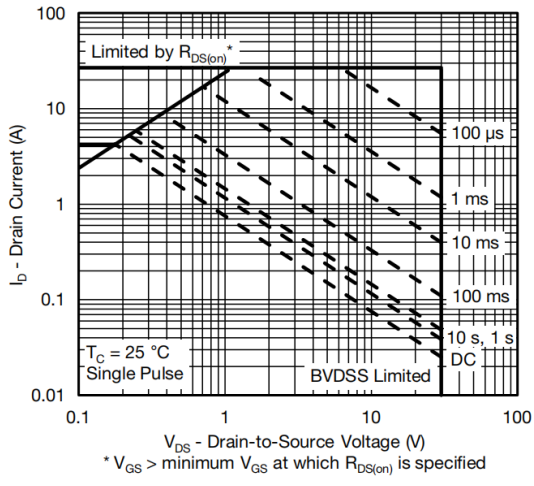
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

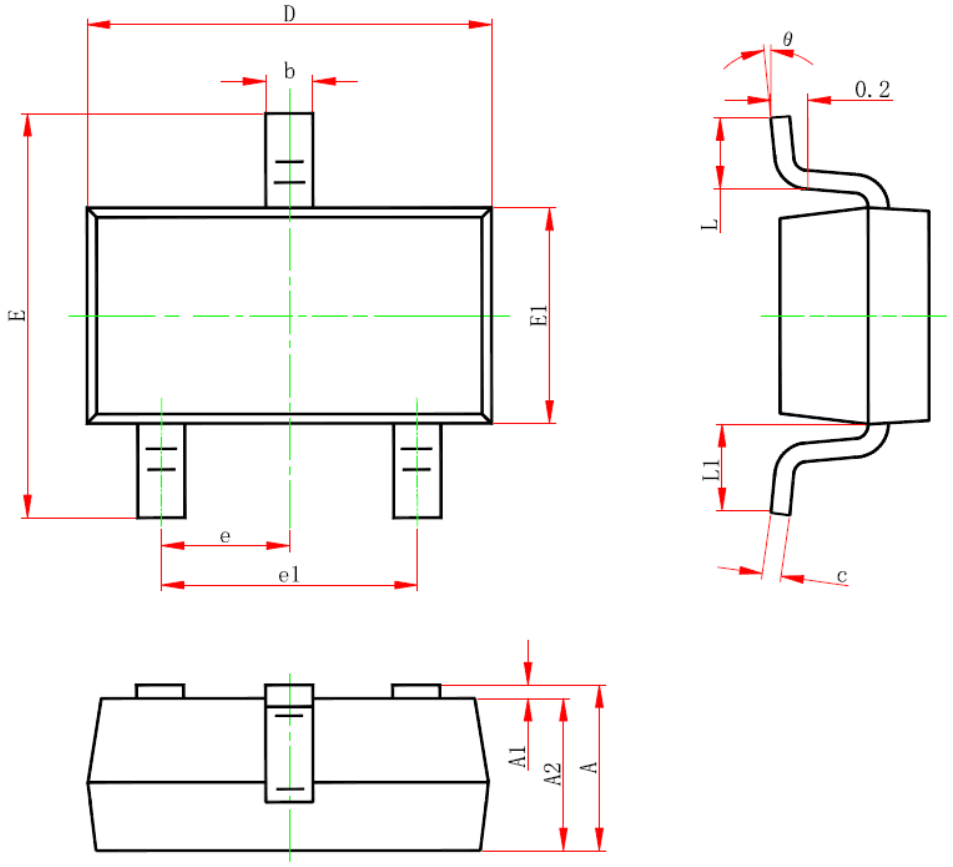


On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient

➢ 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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