



SSC8017GS6A

P-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-12V	$\pm 8V$	14m Ω @-4V5	-11A
		21m Ω @-2V5	
		34m Ω @-1V8	

➤ Description

The SSC8017GS6A 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.

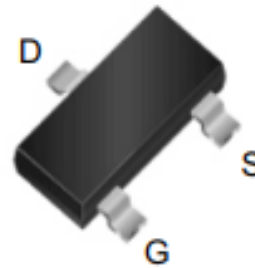
➤ Applications

- Load Switch
- Electronic Cigarette
- Battery Isolation

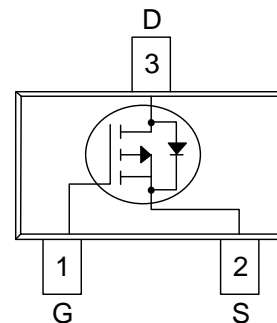
➤ Ordering Information

Device	Package	Shipping
SSC8017GS6A	SOT-23-3L	3000/Reel

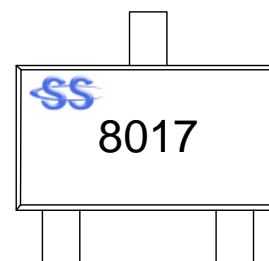
➤ Pin configuration



SOT-23-3L



Pin Configuration (Top View)



Marking



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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	-12	V
V_{GSS}	Gate-to-Source Voltage	± 8	V
I_D	Continuous Drain Current ^a	-11	A
I_{DM}	Pulsed Drain Current ^b	-44	A
P_D	Power Dissipation ^a	2.8	W
T_J	Operation junction temperature	-55~150	$^\circ\text{C}$
T_{STG}	Storage temperature range	-55~150	$^\circ\text{C}$

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

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	45	$^\circ\text{C}/\text{W}$

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 power dissipation is based on the $t \leq 10\text{s}$ thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.

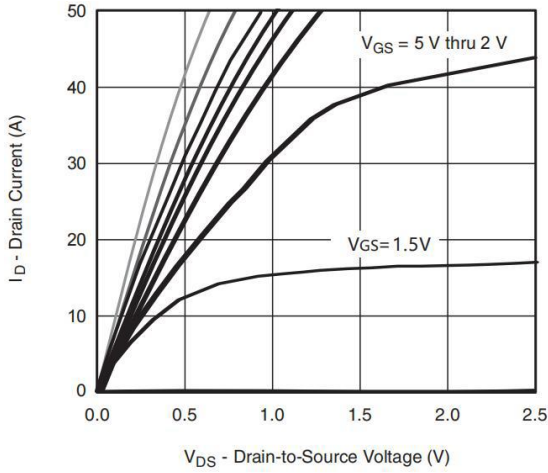


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

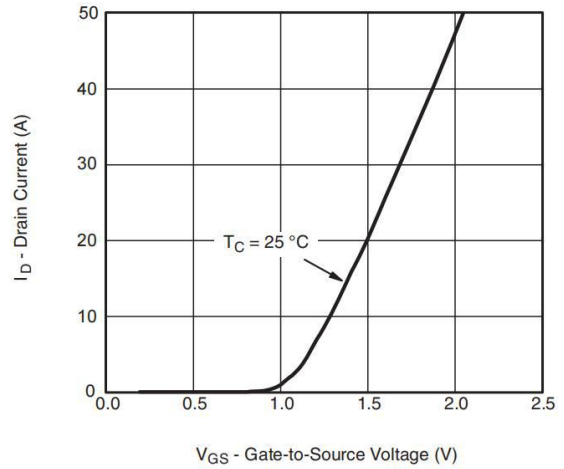
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-12			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-0.4	-0.7	-1	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -4.5V, I _D = -7A		14	19	mΩ
		V _{GS} = -2.5V, I _D = -6A		21	30	
		V _{GS} = -1.8V, I _D = -4A		34	50	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -9.6V, V _{GS} = 0V			-1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±8V, V _{DS} = 0V			±100	nA
Transconductance	G _{FS}	V _{DS} = -5V, I _D = -5A		45		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = -2A			-1.2	V
Input Capacitance	C _{ISS}	V _{DS} = -7V, V _{GS} = 0V, f = 1MHz		1620		pF
Output Capacitance	C _{OSS}			380		
Reverse Transfer Capacitance	C _{RSS}			390		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = -4.5V, V _{DS} = -6V, R _L = 2Ω, R _G = 6Ω, I _D = -9A		11.5		ns
Rise Time	T _r			13		
Turn-off Delay Time	T _{D(OFF)}			107		
Fall Time	T _f			62		
Total Gate Charge	Q _G	V _{GS} = -4.5V, V _{DS} = -6V, I _D = -9A		19		nC
Gate to Source Charge	Q _{GS}			3.5		
Gate to Drain Charge	Q _{GD}			4.6		



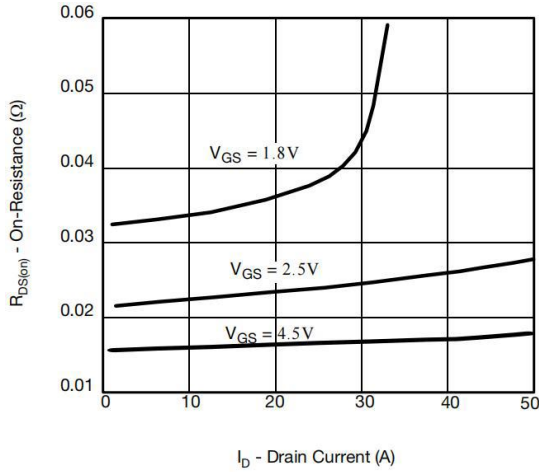
➤ **Typical Performance Characteristics (T_A=25 °C unless otherwise noted)**



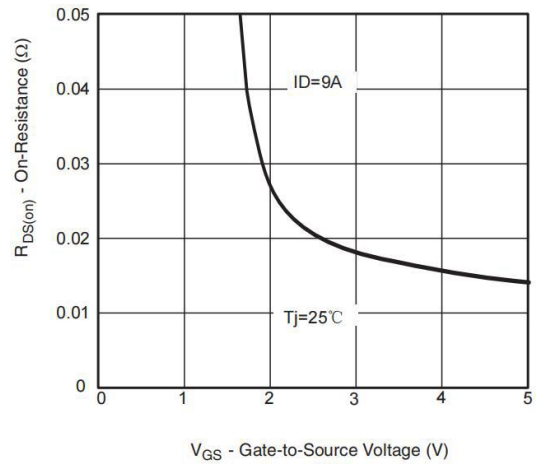
Output Characteristics



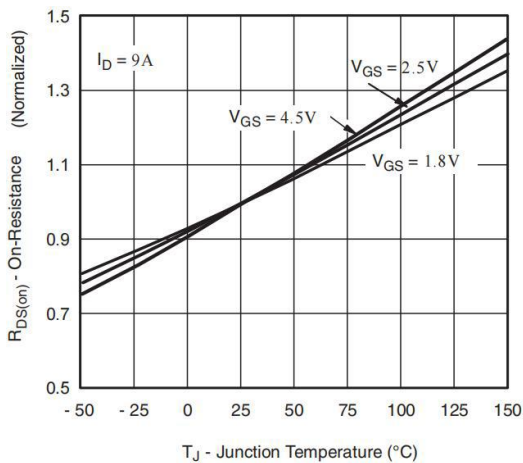
Transfer Characteristics



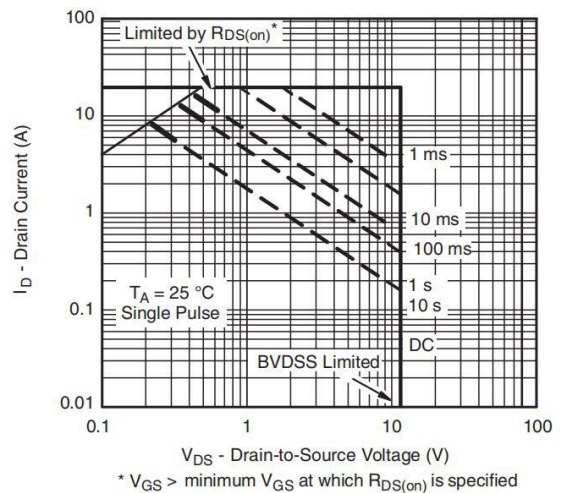
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

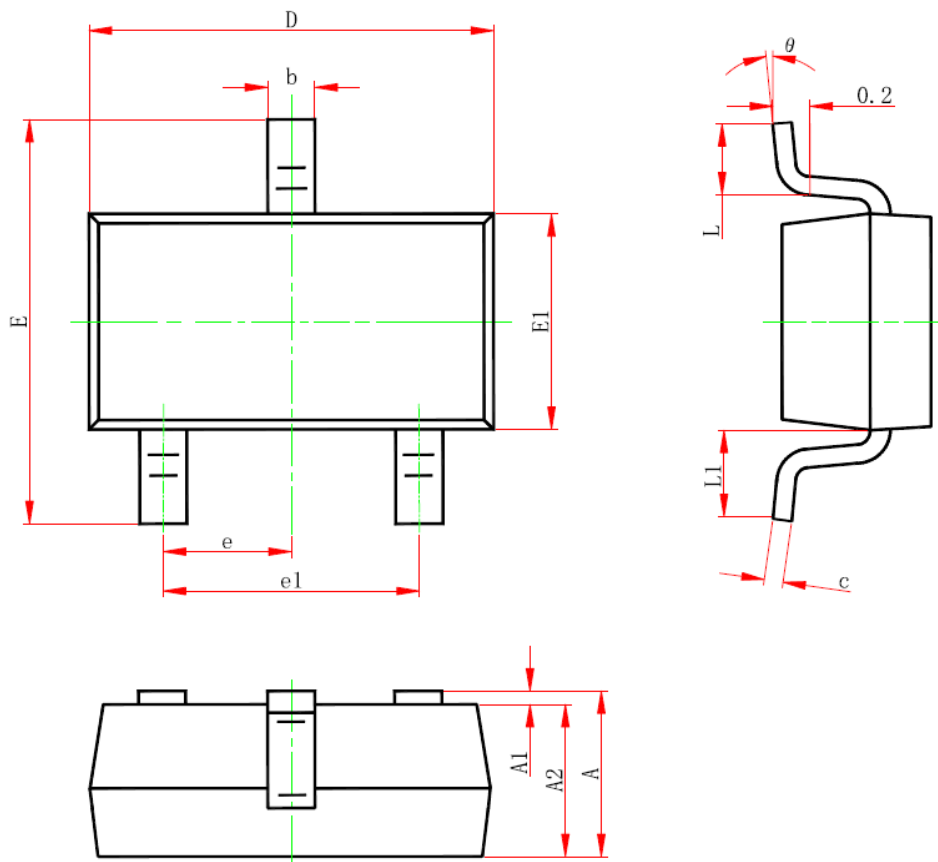


On-Resistance vs. Junction Temperature



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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