



SSC8137GS6A

P-Channel Enhancement Mode MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
-30V	±20V	23mR@-10V	-7A
		31mR@-4V5	

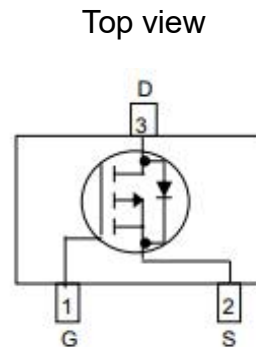
➤ Description

This P-Channel enhancement mode power FETs are produced with high cell density, DMOS trench technology, which is especially used to minimize on-state resistance. This device is particularly suited for low voltage application such as portable equipment, power management and other battery powered circuits and low in-line power loss are needed in a very small outline surface mount package.

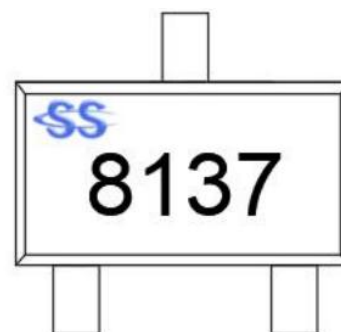
➤ Applications

- TFT panel power switch
- High side DC/DC Converter
- High side driver for brushless DC motor
- Portable DVD, DPF

➤ Pin configuration



SOT23-3L



Marking

➤ Ordering Information

Device	Package	Shipping
SSC8137GS6A	SOT23-3	3000/Reel



➤ **Absolute Maximum Ratings**($T_A=25^{\circ}\text{C}$ 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	-7	A
I_{DM}	Pulsed Drain Current ^b	-28	A
P_D	Power Dissipation ^a	2	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	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	64	$^{\circ}\text{C}/\text{W}$

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

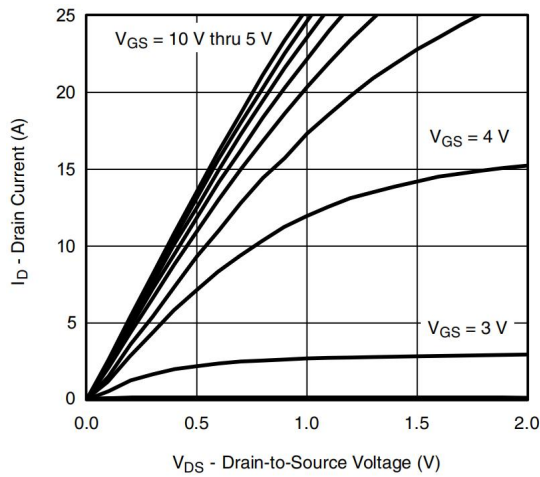


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

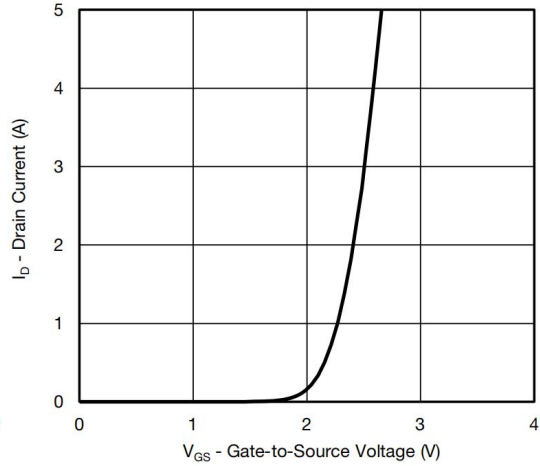
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1	-1.5	-2	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-5A$		23	30	mR
		$V_{GS}=-4.5V, I_D=-4A$		31	45	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=-10V, I_D=-5A$		15		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=-3A$		-0.8	-1.3	V
C_{iss}	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, F=1\text{MHZ}$		1400		pF
C_{oss}	Output Capacitance			730		
C_{rss}	Reverse Transfer Capacitance			590		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=-10V, V_{DS}=-15V, R_L=2R, R_G=3R, I_D=-2A$		11		ns
T_r	Rise time			25		
$T_{D(OFF)}$	Turn-off delay time			70		
T_f	Fall time			41		
Q_G	Total Gate Charge	$V_{GS}=-10V, V_{DS}=-15V, I_D=-2A$		25		nC
Q_{GS}	Gate to Source Charge			2		
Q_{GD}	Gate to Drain Charge			4		



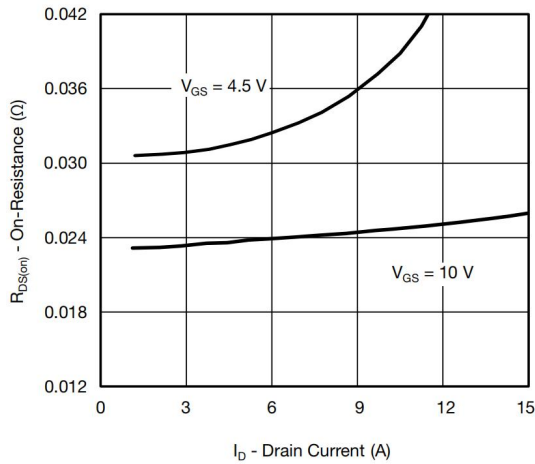
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



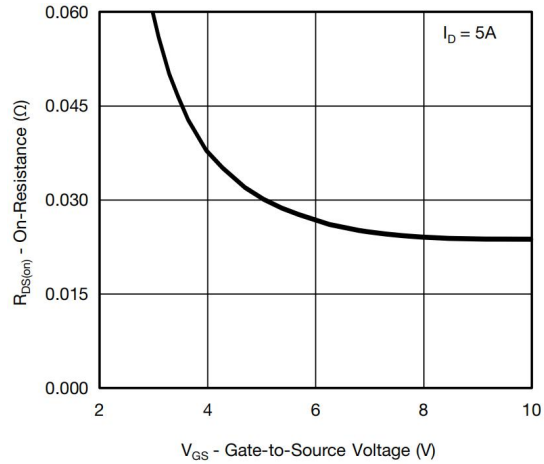
Output Characteristics



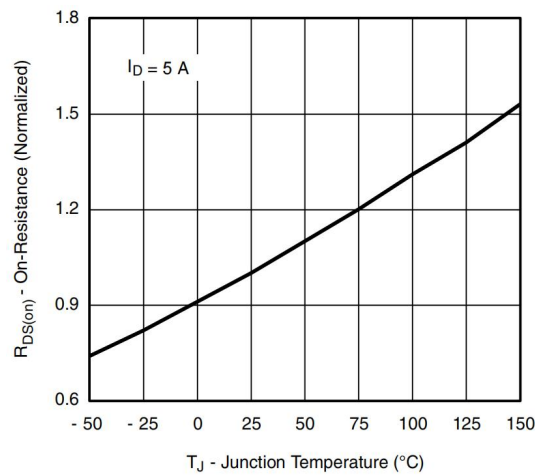
Transfer Characteristics



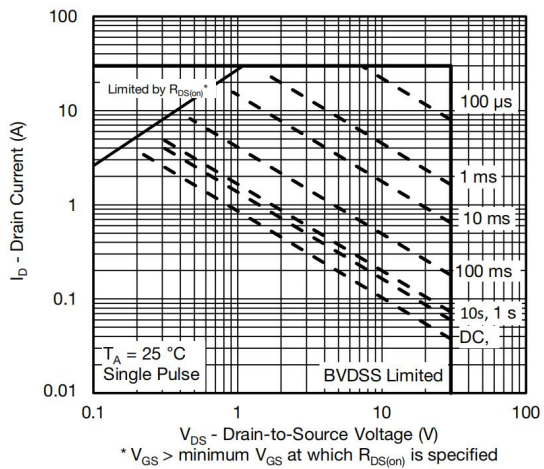
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



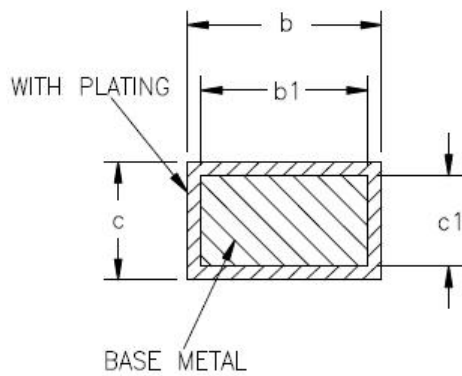
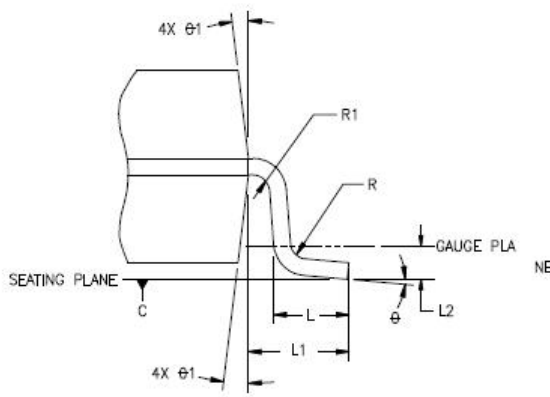
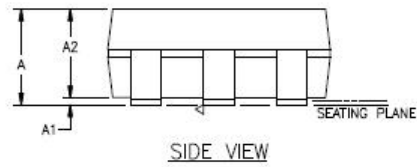
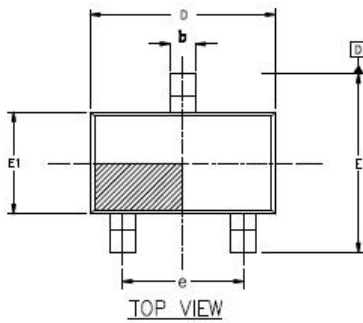
On-Resistance vs. Junction Temperature



Safe Operating Area



➤ Package Information



SYMBOL	MIN	NOM	MAX
A	--	--	1.35
A1	0	--	0.15
A2	1.0	1.1	1.2
b	0.35	--	0.45
b1	0.32	--	0.38
c	0.14	--	0.20
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	1.8	1.9	2.0
L	0.35	0.45	0.6
L1	0.6REF		
L2	0.25REF		
R	0.1	--	--
R1	0.1	--	--
θ	0°	4°	8°
θ1	5°	10°	15°

NOTES:
 1. ALL DIMENSIONS REFER TO JEDEC STANDARD MO-178
 2. DIMENSION D DOES NOT INCLUDE MOLD FLASH
 3. DIMENSION E1 DOES NOT INCLUDE MOLD FLASH
 4. FLASH OR PROTRUSION SHALL NOT EXCEED 0.25mm PER SIDE.

SOT23-3L



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