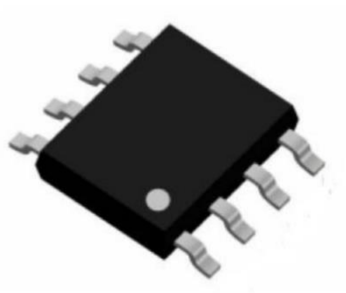
SSC8337GS1

Dual P-Channel Enhancement Mode MOSFET

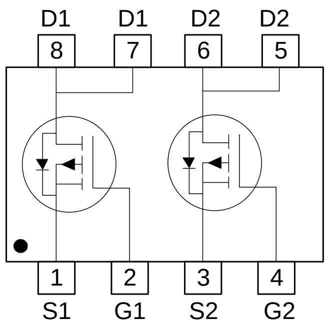
➢ Features

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

➢ Pin configuration



SOP-8 (Top View)



Pin Configuration

➢ Description

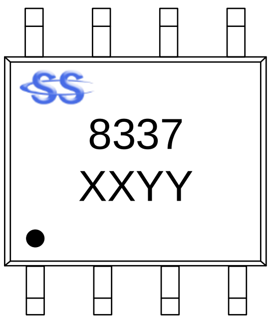
This device is produced with high cell density DMOS trench technology, uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package.

➢ Applications

- NB Battery
- DC/DC Conversion
- Load Switch

➢ Ordering Information

Device	Package	Shipping
SSC8337GS1	SOP-8	2500/Reel



Marking

(XXYY: Internal Traceability Code)

➢ 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 [d]	T_C=25℃	-30	A
		T_C=100℃	-16.5	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	-9.3	A
		T_A=70℃	-6.9	
I_{DM}	Pulsed Drain Current [b]		-120	A
P_D	Power Dissipation [c]	T_C=25℃	28	W
		T_C=100℃	11.3	
P_{DSM}	Power Dissipation [a]	T_A=25℃	2.8	W
		T_A=70℃	1.8	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		-19	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		90	mJ
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	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	45	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance [c]	22	
	Junction-to-Case Thermal Resistance [d]	4.4	

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.

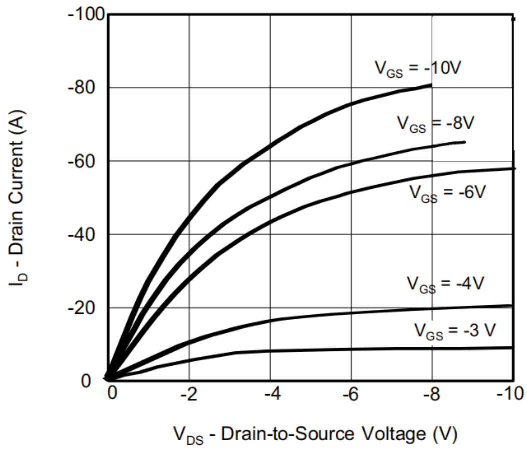
b. Repetitive rating, pulse width limited by junction temperature.

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.

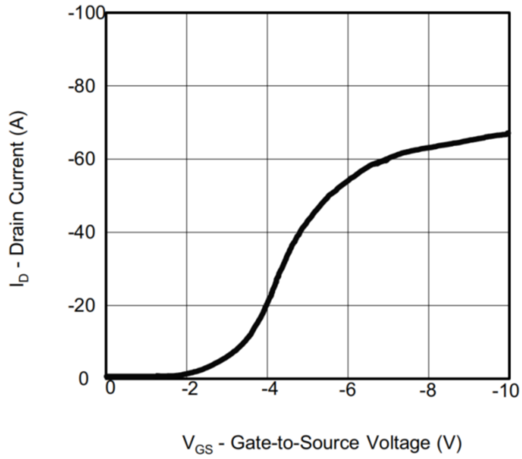
➢ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250uA	-1	-1.8	-3	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} = -10V, I_D = -10A		20	27	mΩ
		V_{GS} = -4.5V, I_D = -7A		28	37	
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
Forward Voltage	V_{SD}	V_{GS} = 0V, I_S = -5A			-1.3	V
Input Capacitance	C_{ISS}	V_{DS} = -15V, V_{GS} = 0V, f = 1MHz		1275		pF
Output Capacitance	C_{OSS}			161		
Reverse Transfer Capacitance	C_{RSS}			183		
Total Gate Charge	Q_G	V_{GS} = -10V, V_{DS} = -15V I_D = -10A		25.6		nC
Gate to Source Charge	Q_{GS}			4.2		
Gate to Drain Charge	Q_{GD}			6.15		
Turn-on Delay Time	$T_{D(ON)}$	V_{GS} = -10V, V_{DS} =-15V R_L = 1Ω, R_G = 3Ω		8.8		ns
Rise Time	T_r			34.2		
Turn-off Delay Time	$T_{D(OFF)}$			49.3		
Fall Time	T_f			11		
Diode Recovery Time	T_{rr}	I_F=10A, di/dt=200A/us		22		ns
Diode Recovery Charge	Q_{rr}	I_F=10A, di/dt=200A/us		9		nC

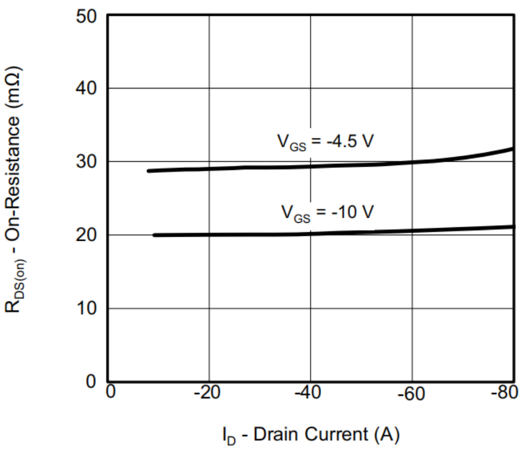
➢ Typical Performance Characteristics (T_A=25℃ unless otherwise noted)



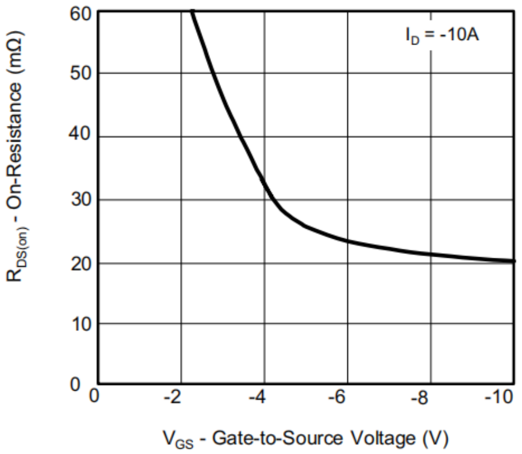
Output Characteristics



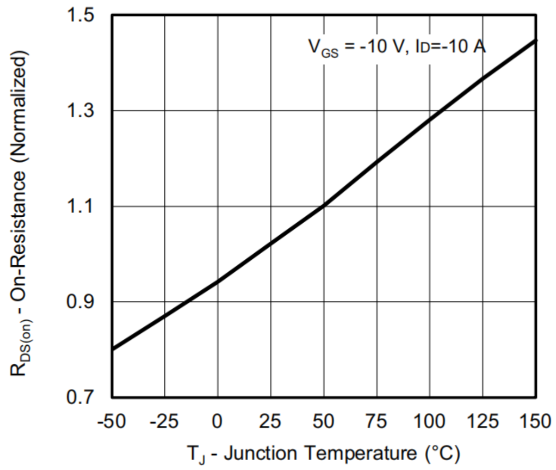
Transfer Characteristics



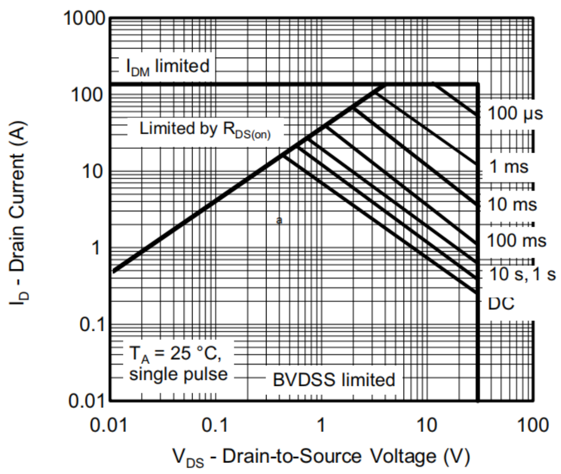
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

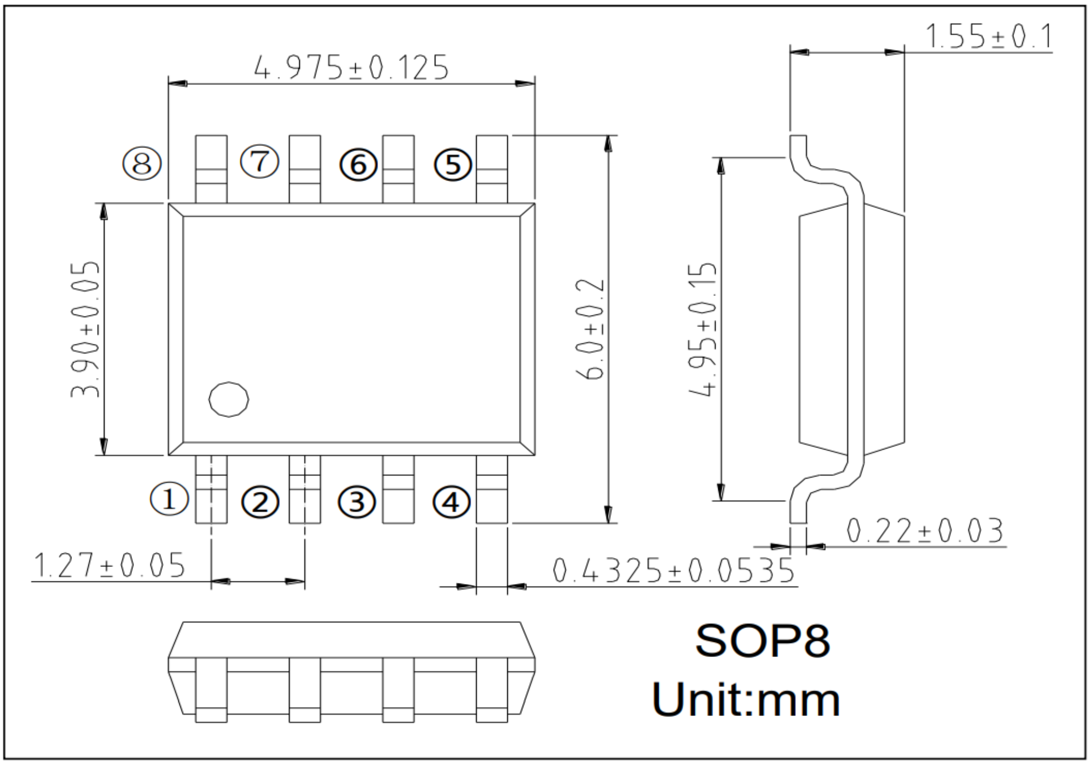


On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient

➢ Package Information



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