



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	

➤ Description

This device is produced with high cell density DMOS trench technology, uses advanced trench technology and design to provide excellent R_{DS(ON)} 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.

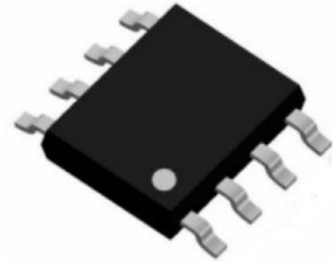
➤ Applications

- NB Battery
- DC/DC Conversion
- Load Switch

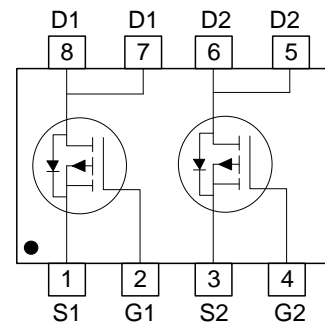
➤ Ordering Information

Device	Package	Shipping
SSC8337GS1	SOP-8	4000/Reel

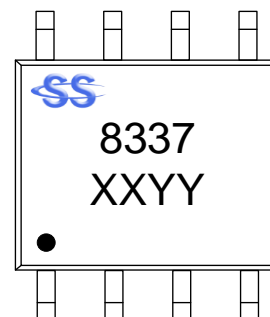
➤ Pin configuration



SOP-8 (Top View)



Pin Configuration



Marking

(XXYY: Internal Traceability Code)



➤ 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 ^d	$T_C=25^\circ\text{C}$	-30
		$T_C=100^\circ\text{C}$	-16.5
I_{DSM}	Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	-9.3
		$T_A=70^\circ\text{C}$	-6.9
I_{DM}	Pulsed Drain Current ^b	-120	A
P_D	Power Dissipation ^c	$T_C=25^\circ\text{C}$	28
		$T_C=100^\circ\text{C}$	11.3
P_{DSM}	Power Dissipation ^a	$T_A=25^\circ\text{C}$	2.8
		$T_A=70^\circ\text{C}$	1.8
I_{AS}	Avalanche Current ^b $L=0.5\text{mH}$ Single Pulse	-19	A
E_{AS}	Avalanche Energy ^b $L=0.5\text{mH}$ Single Pulse	90	mJ
T_J	Operation junction temperature	-55~150	$^\circ\text{C}$
T_{STG}	Storage temperature range	-55~150	

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

Symbol	Parameter	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	45	$^\circ\text{C/W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance ^c	22	
	Junction-to-Case Thermal Resistance ^d	4.4	

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.
- The power dissipation P_D is based on $T_{J(\text{MAX})}=150^\circ\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

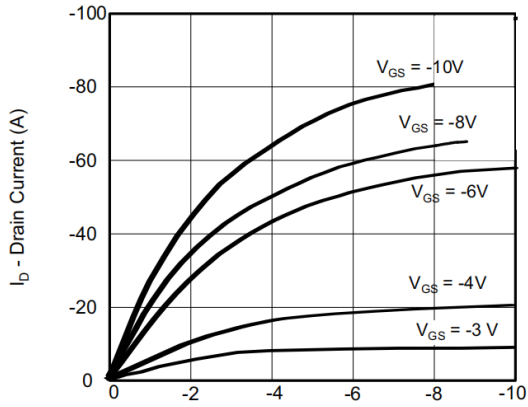


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

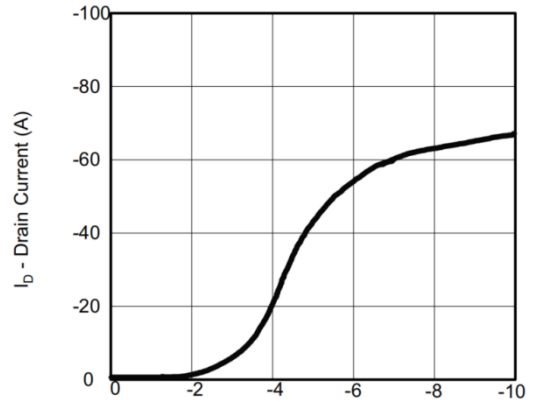
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-30			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-1	-1.8	-3	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -10A		20	27	mΩ
		V _{GS} = -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



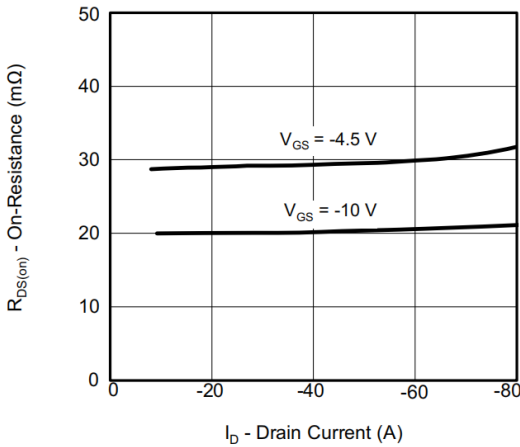
➤ **Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)**



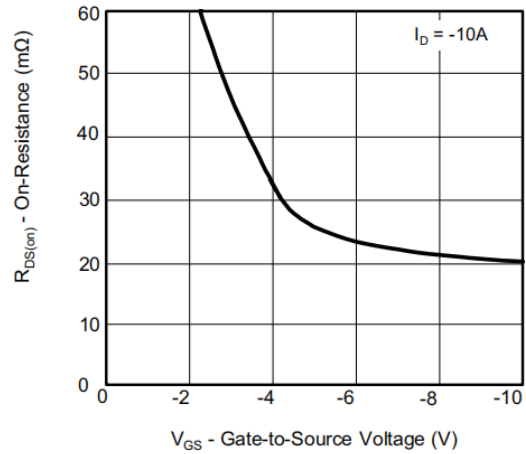
Output Characteristics



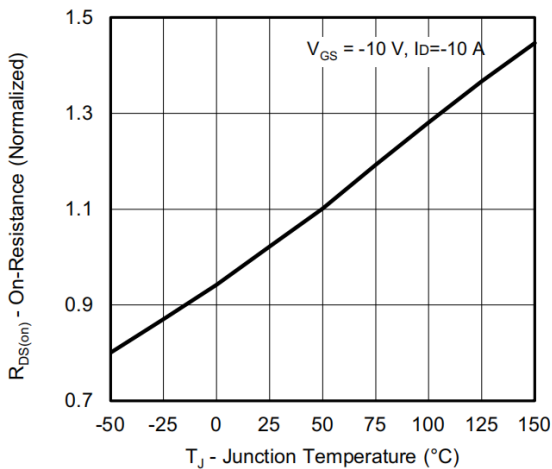
Transfer Characteristics



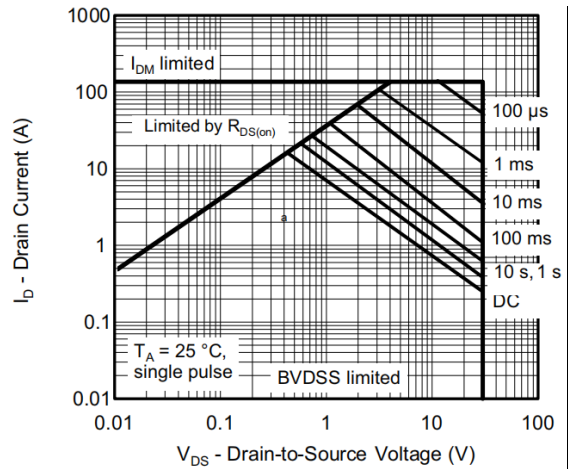
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

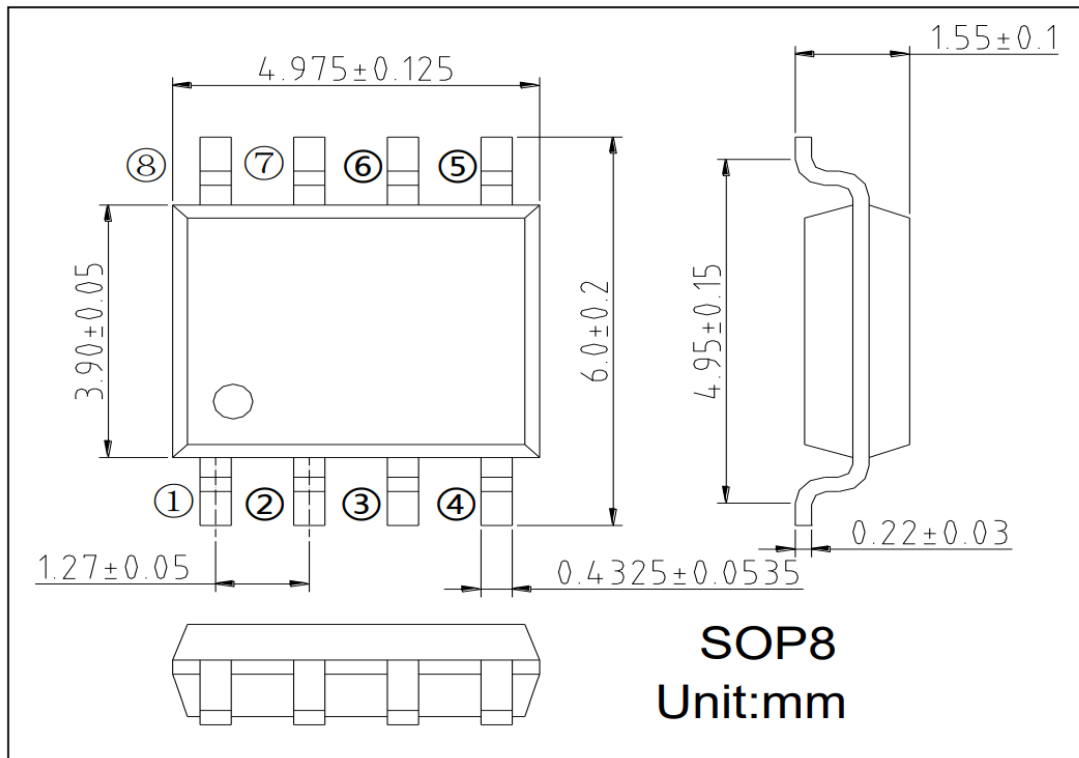


On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient

➤ Package Information



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