



## SSC8337GN4

### Dual P-Channel Enhancement Mode MOSFET

#### ➤ Features

V <sub>DS</sub>	V <sub>GS</sub>	R <sub>DS(ON)</sub> Typ.	I <sub>D</sub>
-30V	±20V	16mΩ@-10V	-28A
		24mΩ@-4V5	

#### ➤ Description

This SSC8337GN4 uses advanced trench technology to provide excellent RDSON and low gate charge. The complementary MOSFETS may be used to form a level shifted high side switch, and for a host of other applications.

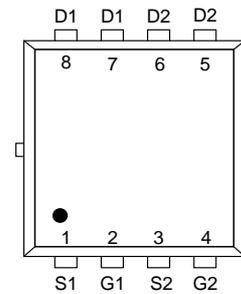
#### ➤ Applications

- Load Switch
- DC/DC conversion
- Power Management in portable/desktop PCs

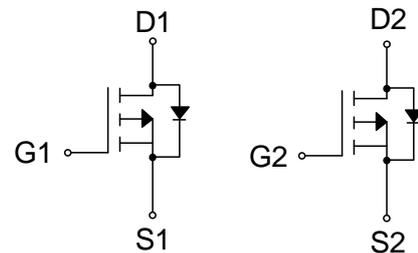
#### ➤ Ordering Information

Device	Package	Shipping
SSC8337GN4	PDFN3.3X3.3-8L	5000/Reel

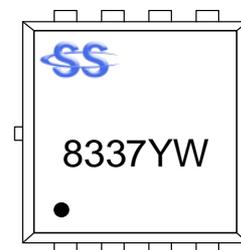
#### ➤ Pin configuration



**PDFN3.3X3.3-8L (Top View)**



**Pin Configuration**



**Marking**

(YW: Internal Traceability Code)



## ➤ Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V <sub>DSS</sub>	Drain-to-Source Voltage	-30	V
V <sub>GSS</sub>	Gate-to-Source Voltage	±20	V
I <sub>D</sub>	Continuous Drain Current <sup>d</sup>	T <sub>C</sub> =25°C	-28
		T <sub>C</sub> =100°C	-15
I <sub>DSM</sub>	Continuous Drain Current <sup>a</sup>	T <sub>A</sub> =25°C	-10
		T <sub>A</sub> =70°C	-7
I <sub>DM</sub>	Pulsed Drain Current <sup>b</sup>	-112	A
P <sub>D</sub>	Power Dissipation <sup>c</sup>	T <sub>C</sub> =25°C	20
		T <sub>C</sub> =100°C	8
P <sub>DSM</sub>	Power Dissipation <sup>a</sup>	T <sub>A</sub> =25°C	2.6
		T <sub>A</sub> =70°C	1.67
I <sub>AS</sub>	Avalanche Current <sup>b</sup> L=0.5mH Single Pulse	-18	A
E <sub>AS</sub>	Avalanche Energy <sup>b</sup> L=0.5mH Single Pulse	81	mJ
T <sub>J</sub>	Operation junction temperature	-55~150	°C
T <sub>STG</sub>	Storage temperature range	-55~150	

## ➤ Thermal Resistance Ratings (T<sub>A</sub>=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
R <sub>θJA</sub>	Junction-to-Ambient Thermal Resistance <sup>a</sup>	48	°C/W
R <sub>θJC</sub>	Junction-to-Case Thermal Resistance	6.25	

Note:

- The value of R<sub>θJA</sub> is measured with the device mounted on 1 in<sup>2</sup> FR-4 board with 2oz.copper, in a still air environment with T<sub>A</sub>=25°C. 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.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P<sub>D</sub> is based on T<sub>J(MAX)</sub>=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.
- The maximum current rating is package limited.

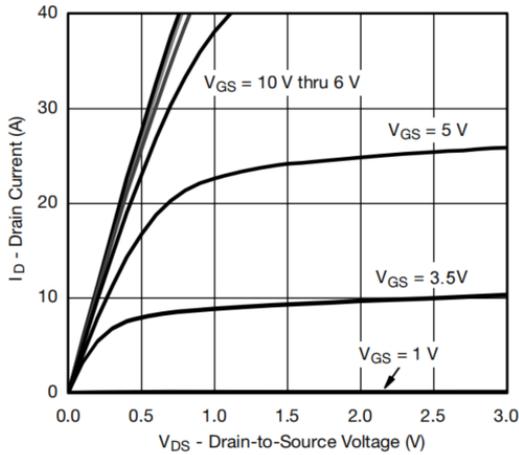


➤ **Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)**

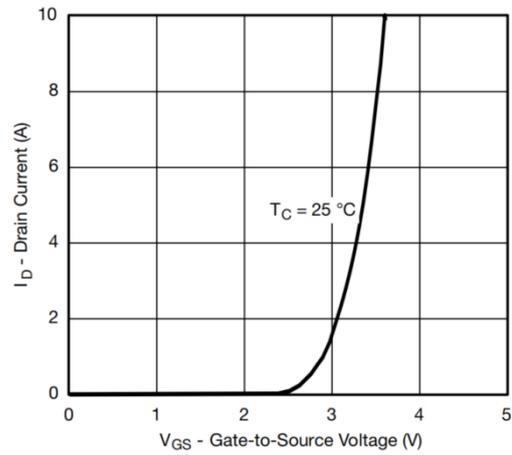
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA	-30			V
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-1	-1.6	-2.5	V
Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = -10V, I <sub>D</sub> = -7A		16	23	mΩ
		V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -5A		24	34	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -30V, V <sub>GS</sub> = 0V			-1	μA
Gate-Source Leak Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Transconductance	G <sub>FS</sub>	V <sub>DS</sub> = -5V, I <sub>D</sub> = -4A		15		s
Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = -1A		-0.76	-1.3	V
Input Capacitance	C <sub>ISS</sub>	V <sub>DS</sub> = -15V, V <sub>GS</sub> = 0V, f = 1MHz		1320		pF
Output Capacitance	C <sub>OSS</sub>			175		
Reverse Transfer Capacitance	C <sub>RSS</sub>			158		
Total Gate Charge	Q <sub>G</sub>	V <sub>GS</sub> = -10V, V <sub>DS</sub> = -15V, I <sub>D</sub> = -6A		25.5		nC
Gate to Source Charge	Q <sub>GS</sub>			4.6		
Gate to Drain Charge	Q <sub>GD</sub>			6.2		
Turn-on Delay Time	T <sub>D(ON)</sub>	V <sub>GS</sub> = -10V, V <sub>DS</sub> = -15V, R <sub>L</sub> = 10Ω, R <sub>Gen</sub> = 6Ω,		7.8		ns
Rise Time	T <sub>r</sub>			34.3		
Turn-off Delay Time	T <sub>D(OFF)</sub>			49.5		
Fall Time	T <sub>f</sub>			10.9		



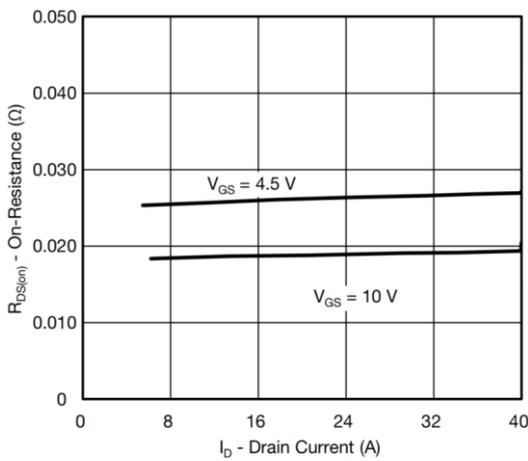
➤ **Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise noted)**



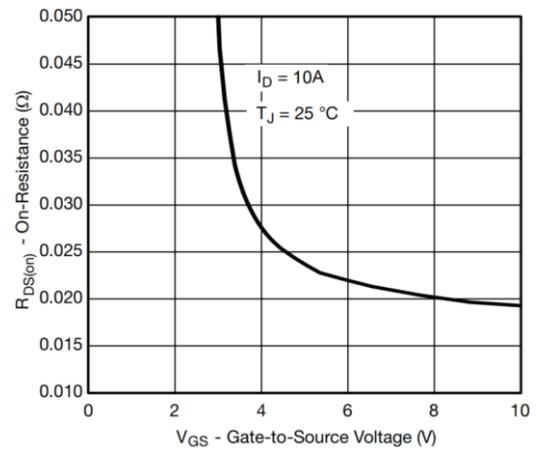
**Output Characteristics**



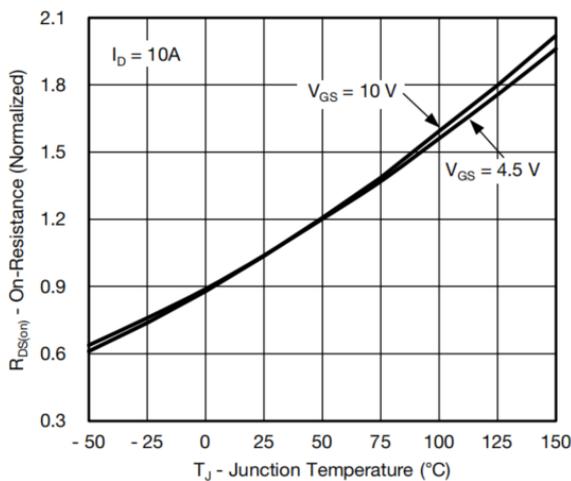
**Transfer Characteristics**



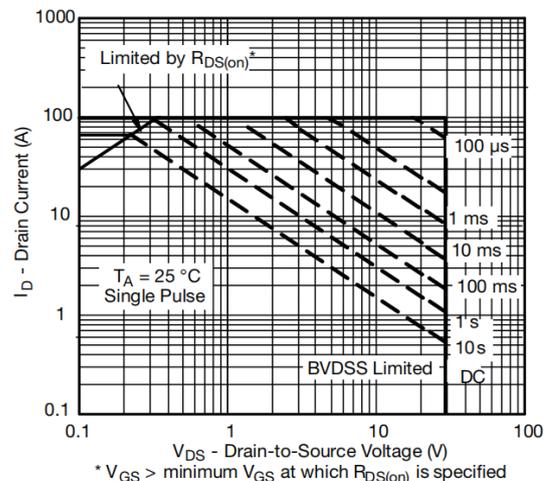
**On-Resistance vs. Drain Current and Gate Voltage**



**On-Resistance vs. Gate-to-Source Voltage**

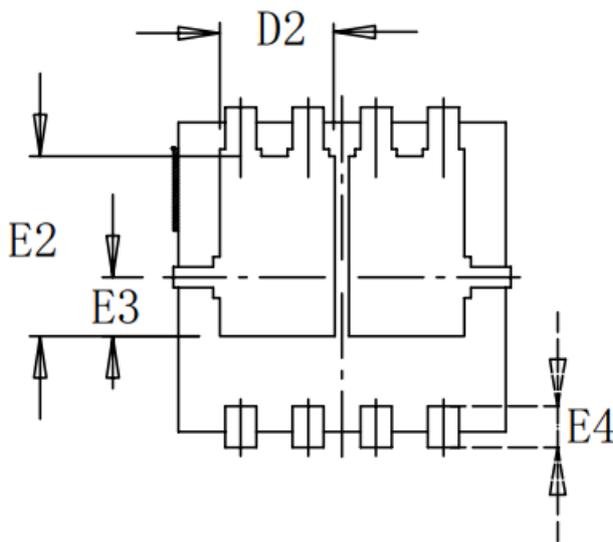
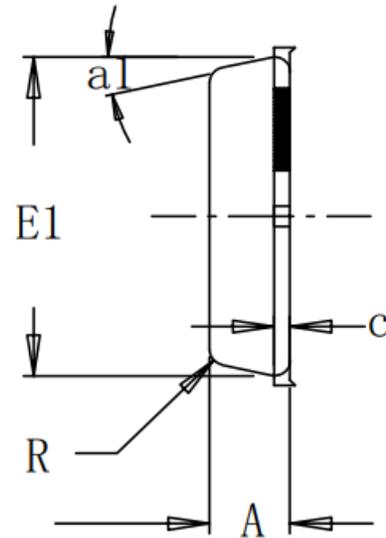
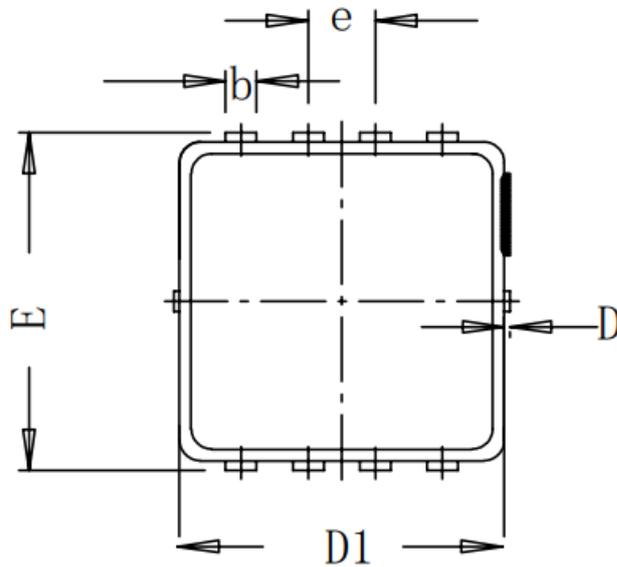


**On-Resistance vs. Junction Temperature**



**Safe Operating Area, Junction-to-Ambient**

## ➤ Package Information



$\Delta$

SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.75	0.78	0.81
b	0.297	0.3	0.35
c	—	0.152	—
D	0.00	0.05	0.1
D1	3.12	3.15	3.18
D2	—	1.05	—
E	3.2	3.3	3.4
E1	3.09	3.12	3.15
E2	—	1.75	—
E3	—	0.575	—
E4	—	0.4	—
R	—	0.15	—
e	0.65BSC		
a1°	—	12°	—



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