SSC8237GN6

P-Channel Enhanced MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
-30V	±20V	9mR@-10V	-60A
		15mR@-4V5	

➢ Description

This device uses advanced trench Technology to provide excellent RDSON and low gate charge. This device is suitable for use as a load switch or in PWM applications.

100% UIS Tested.

➢ Applications

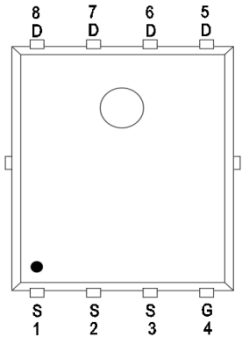
- Load Switch
- Portable Devices
- DCDC conversion
- Power supplies
- Motor Drive Control
- Synchronous rectification

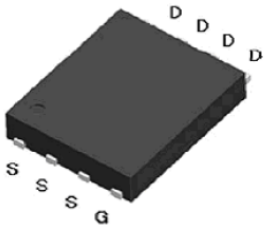
➢ Ordering Information

Device	Package	Shipping
SSC8237GN6	PDFN5X6	5000/Reel

➢ Pin configuration

Top view





PDFN5X6

Marking

(XX: product year / YY: product week)

➢ 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 [e]	T_C=25℃	-60	A
		T_C=100℃	-34	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	-19	A
		T_A=70℃	-14	
I_{DM}	Pulsed Drain Current [b]		-240	A
P_D	Power Dissipation [e]	T_C=25℃	52	W
		T_C=100℃	20	
P_{DSM}	Power Dissipation [a]	T_A=25℃	5.2	W
		T_A=70℃	3.3	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		36	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		324	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	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	24	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance [c]	3.2	
	Junction-to-Case Thermal Resistance [e]	2.4	

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.

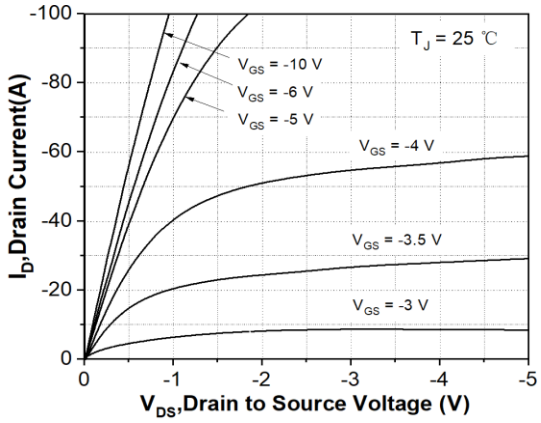
d. The maximum current rating is package limited.

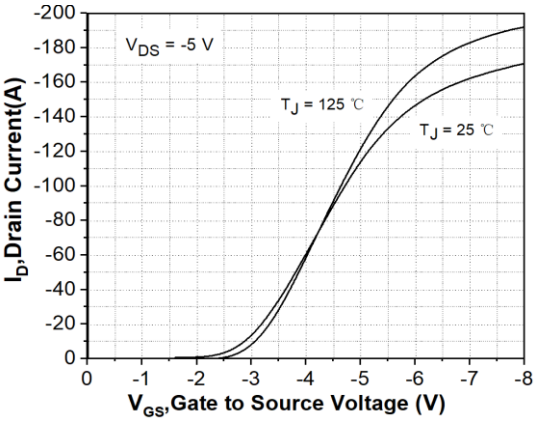
e. The value of $R_{\theta JC}$ has been determined of the temperature difference between junction and the case surface in contact with water cooled copper heat sink .

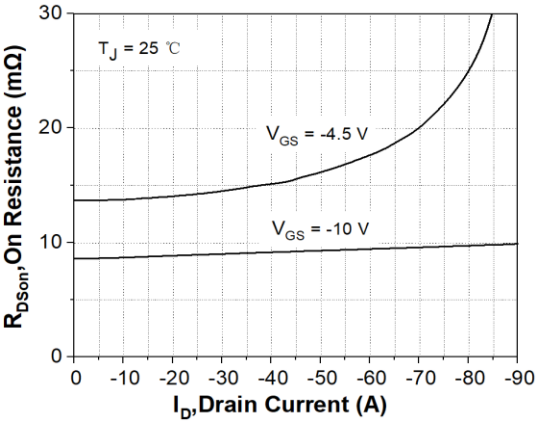
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

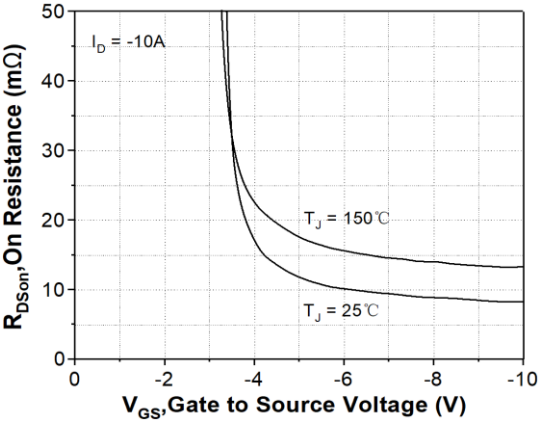
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V, ID=-250uA	-30			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS, ID=-250uA	-1	-1.7	-3	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=-10V , ID=-20A		9	12	mR
		VGS=-4.5V , ID=-15A		15	22	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=-30V, VGS=0V			-1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V, VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=-5V, ID=-10A		17		S
V_{SD}	Forward Voltage	VGS=0V, IS=-5A		0.8	1.3	V
Rg	Gate Resistance	VDS=0V, f=1MHz		2.5		R
Ciss	Input Capacitance	VDS=-15V, VGS=0V, f=1MHz		2600		pF
Coss	Output Capacitance			403		
Crss	Reverse Capacitance			33		
$T_{D(ON)}$	Turn-on delay time	VGS=-10V, RL=1R VDS=-15V , RG=3R		15		ns
Tr	Rise time			50		
$T_{D(OFF)}$	Turn-off delay time			72		
Tf	Fall time			17		
Q_G	Total Gate Charge	VGS=-10V, VDS=-15V ID=-10A		50		nC
Q_{GS}	Gate Source Charge			8		
Q_{GD}	Gate Drain Charge			12		
Trr	Diode Recovery Time	IF=-10A , di/dt=200A/us		24		ns
Qrr	Diode Recovery Charge	IF=-10A , di/dt=200A/us		14		nC

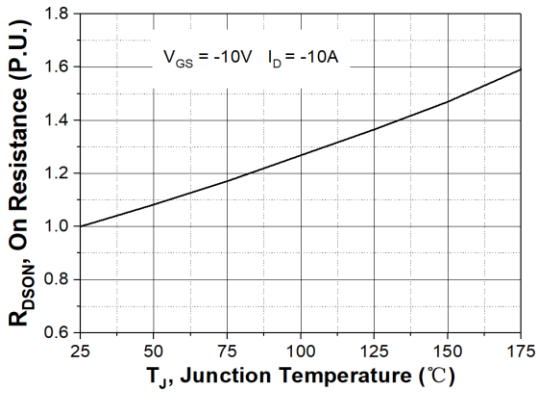
➢ **Typical Characteristics**(T_A=25℃ unless otherwise noted)

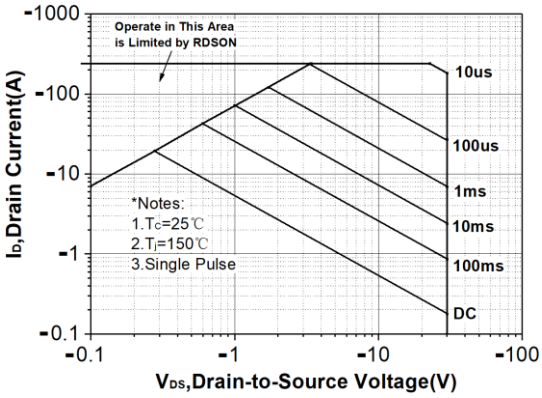


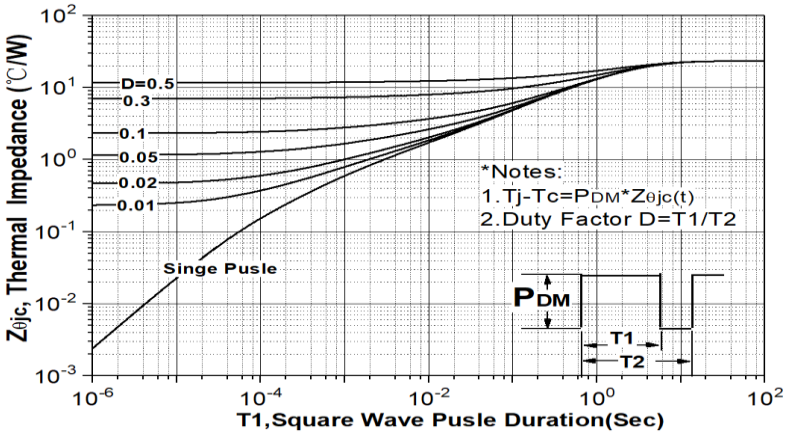




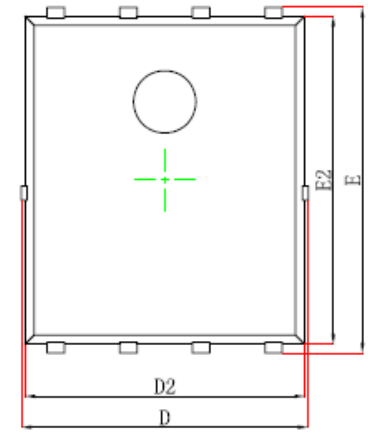




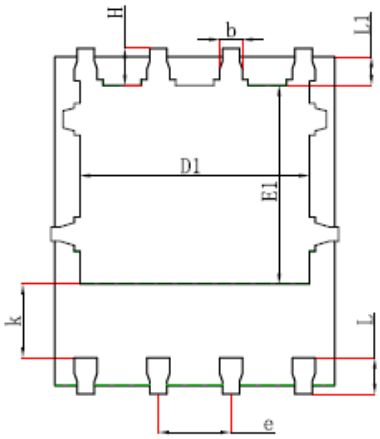




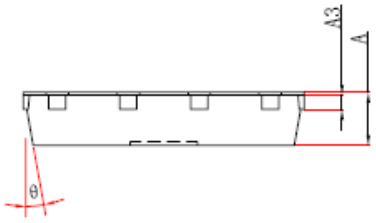
➢ Package Information



Top View
[顶视图]



Bottom View
[背视图]

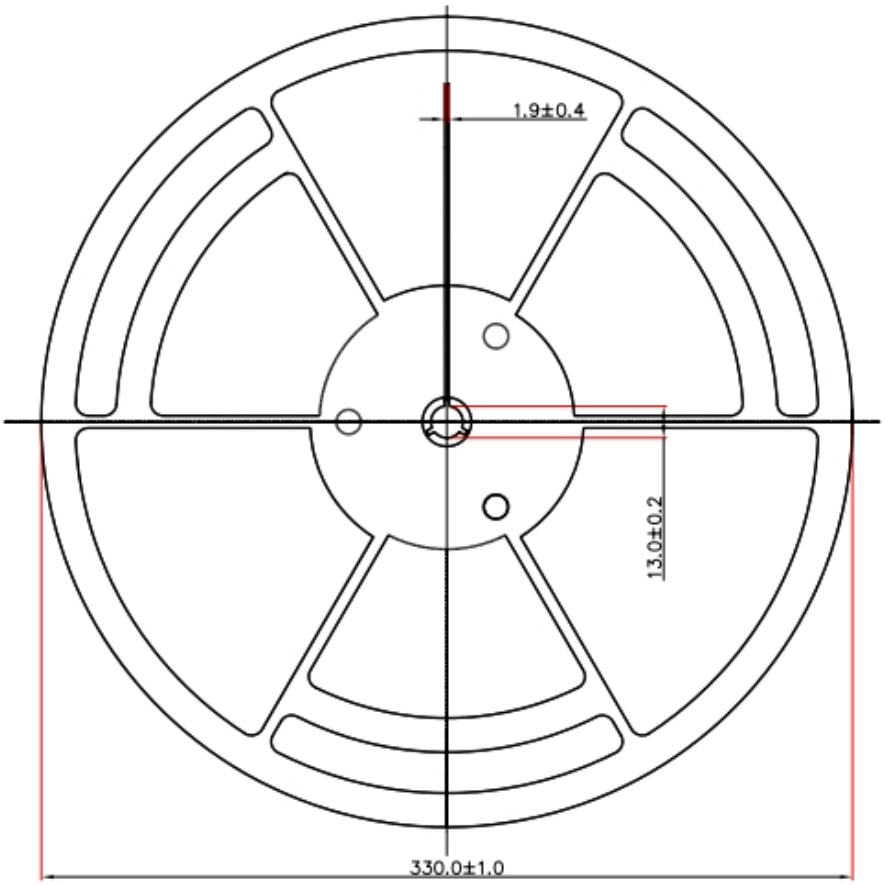


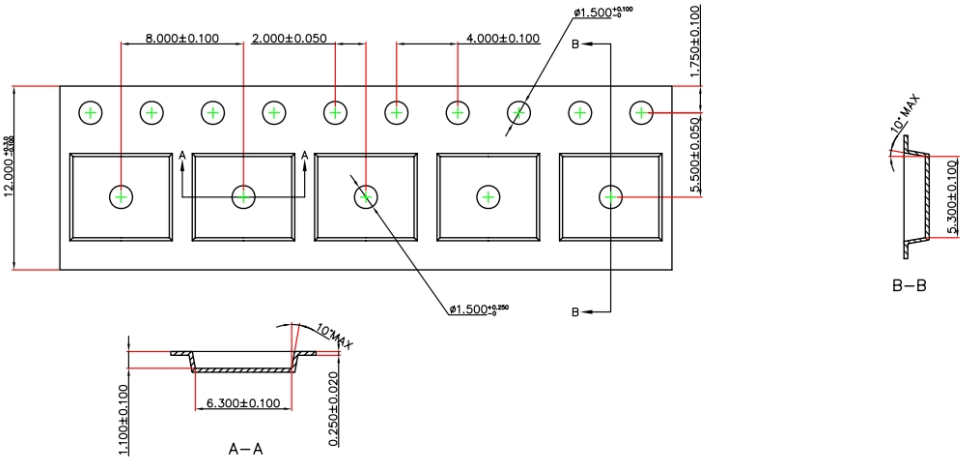
Side View
[侧视图]

Package：PDNF5X6-8L

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254REF		0.010REF	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP		0.050TYP	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°

➢ Tape and Reel





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