SSC8L36PN6

N-Channel Enhanced MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
30V	±20V	1.4mΩ@10V	138A
		2.8mΩ@4V5	

➢ Description

This device is N-Channel enhancement MOSFET. Uses SGT technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

100% UIS + ΔVds + Rg Tested!

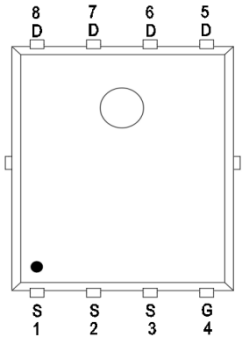
➢ Applications

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

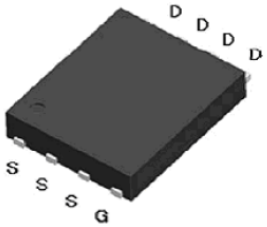
➢ Ordering Information

Device	Package	Shipping
SSC8L36PN6	PDFN5X6-8L	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 [d]	T_C=25℃	138	A
		T_C=100℃	86	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	55	A
		T_A=70℃	40	
I_{DM}	Pulsed Drain Current [b]		552	A
P_D	Power Dissipation [c]	T_C=25℃	83	W
		T_C=100℃	33	
P_{DSM}	Power Dissipation [a]	T_A=25℃	7.3	W
		T_A=70℃	4.5	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		38	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		361	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]	17	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.5	

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.

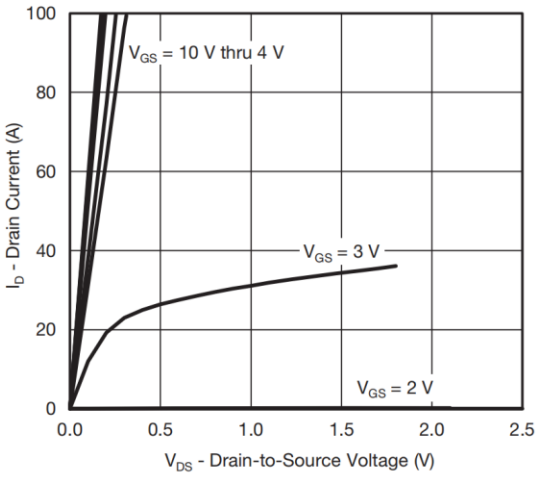
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

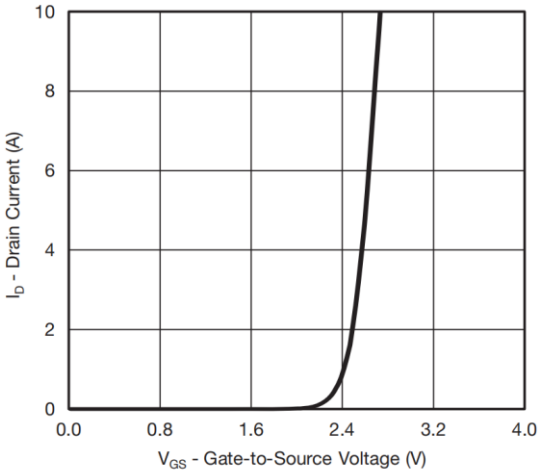
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

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	2	2.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V , ID=30A		1.4	1.7	mΩ
		VGS=4.5V , ID=20A		2.8	3.8	
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=20A		26		S
V_{SD}	Forward Voltage	VGS=0V, IS=20A		0.8	1.3	V
Rg	Gate Resistance	VDS=0V, f=1MHz		2.8		Ω
Ciss	Input Capacitance	VDS=15V, VGS=0V, f=1MHz		3378		pF
Coss	Output Capacitance			1996		
Crss	Reverse Capacitance			98		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, RL=0.75Ω VDS=15V , RG=3Ω		8		ns
Tr	Rise time			6		
$T_{D(OFF)}$	Turn-off delay time			34		
Tf	Fall time			10		
Q_G	Total Gate Charge	VGS=10V, VDS=15V ID=20A		55		nC
Q_{GS}	Gate Source Charge			8		
Q_{GD}	Gate Drain Charge			11		
Trr	Diode Recovery Time	IF=20A , di/dt=500A/us		25		ns
Qrr	Diode Recovery Charge	IF=20A , di/dt=500A/us		60		nC

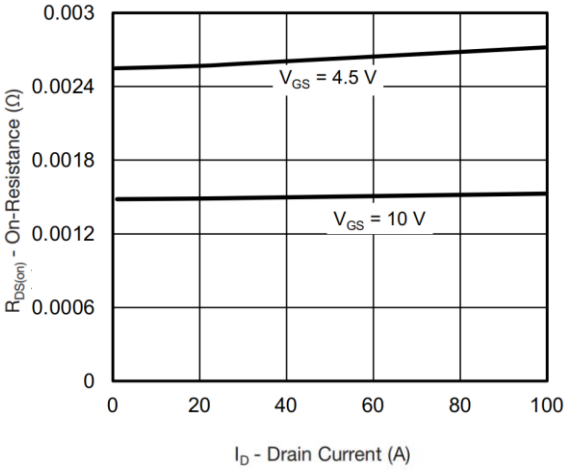
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



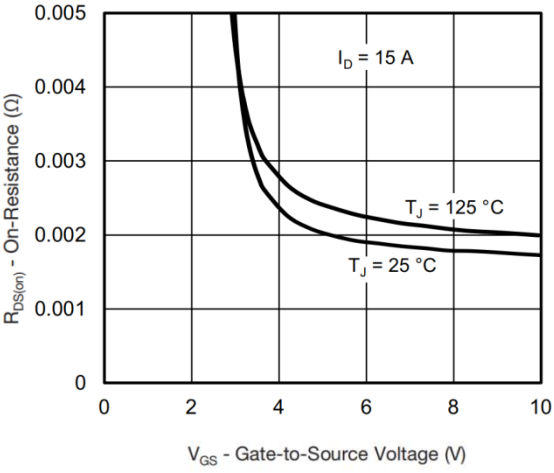
Output Characteristics



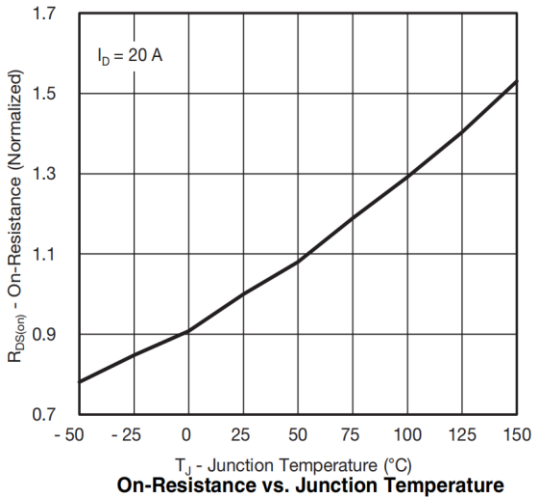
Transfer Characteristics



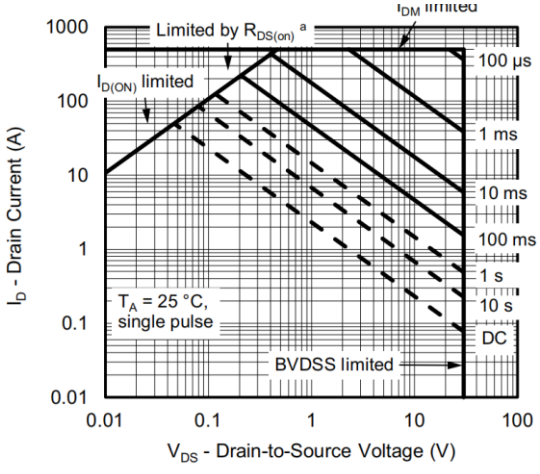
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

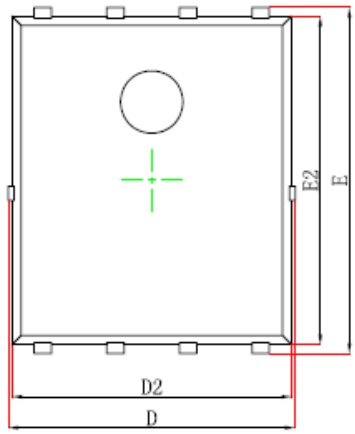


On-Resistance vs. Junction Temperature

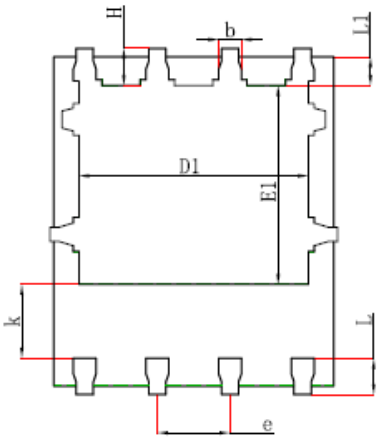


Safe Operating Area, Junction-to-Ambient

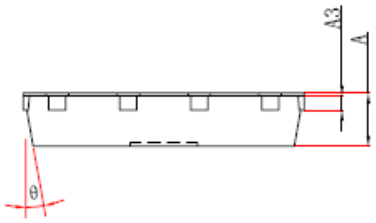
➢ Package Information



Top View
[顶视图]



Bottom View
[背视图]

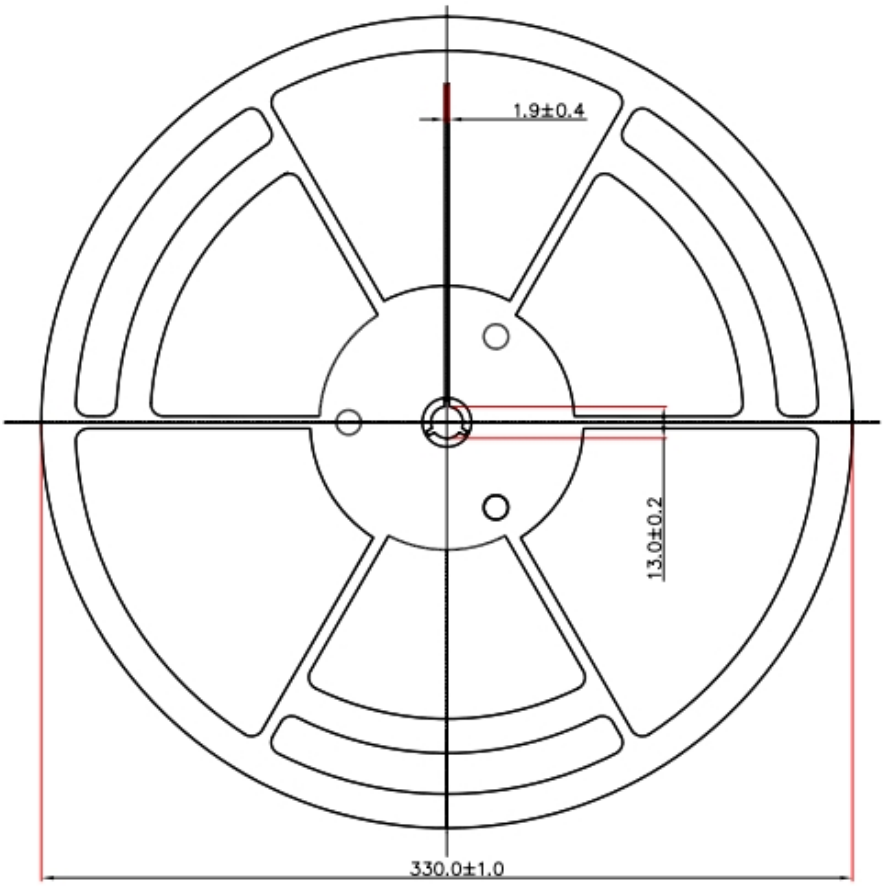


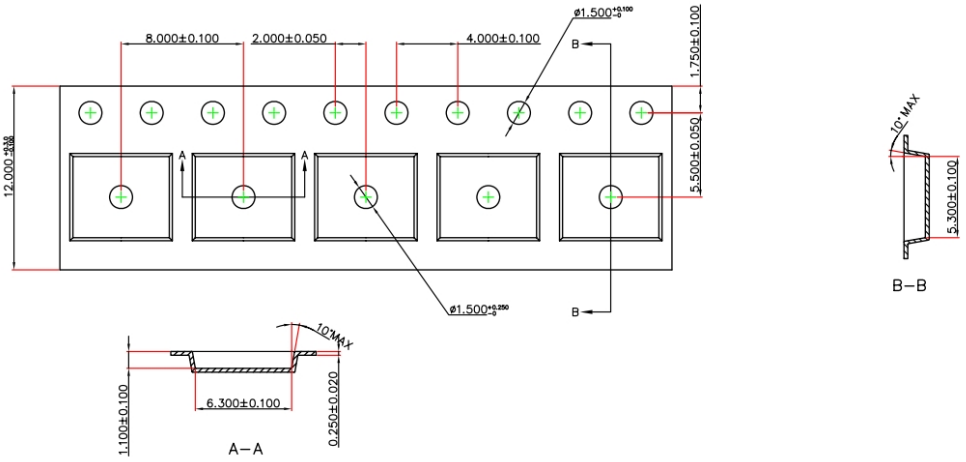
Side View
[侧视图]

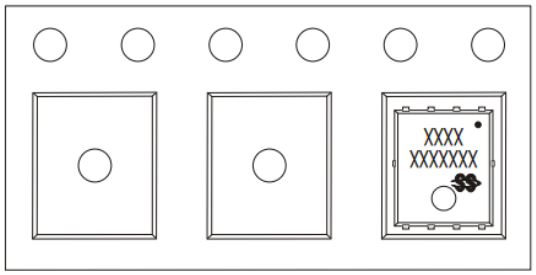
Package: PDNF5X6-8L

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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