



SSC8066GN4

N-Channel Enhancement Mode MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)}	I _D
60V	±20V	13mΩ@10V	36A
		19mΩ@4V5	

➤ Description

This SSC8066GN4 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.

100% UIS + ΔVDS + Rg Tested!

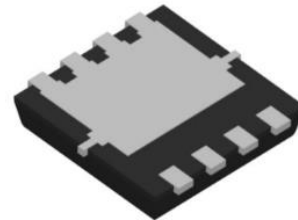
➤ Applications

- Load Switch
- PWM Application
- Power Management

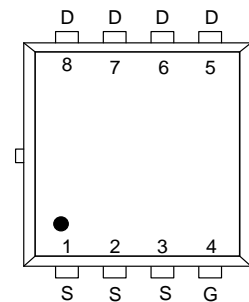
➤ Ordering Information

Device	Package	Shipping
SSC8066GN4	PDFN3.3X3.3-8L	5000/Reel

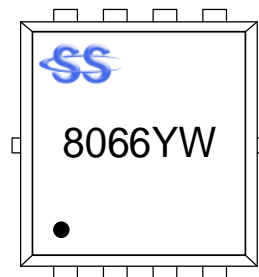
➤ Pin configuration



PDFN3.3X3.3-8L (Bottom View)



Pin Configuration (Top View)



Marking

(YW: Internal Traceability Code)



➤ Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
V _{DSS}	Drain-to-Source Voltage	60	V
V _{GSS}	Gate-to-Source Voltage	±20	V
I _D	Continuous Drain Current ^d	T _C =25°C	36
		T _C =100°C	19
I _{DSM}	Continuous Drain Current ^a	T _A =25°C	12
		T _A =70°C	8.8
I _{DM}	Pulsed Drain Current ^b	142	A
P _D	Power Dissipation ^c	T _C =25°C	27
		T _C =100°C	11
P _{DSM}	Power Dissipation ^a	T _A =25°C	2.8
		T _A =70°C	1.8
I _{AS}	Avalanche Current ^b L=0.5mH Single Pulse	16	A
E _{AS}	Avalanche Energy ^b L=0.5mH Single Pulse	64	mJ
T _J	Operation junction temperature	-55~150	°C
T _{STG}	Storage temperature range	-55~150	

➤ Thermal Resistance Ratings (T_A=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
R _{θJA}	Junction-to-Ambient Thermal Resistance ^a	35	°C/W
R _{θJC}	Junction-to-Case Thermal Resistance	4.4	

Note:

- The value of R_{θJA} is measured with the device mounted on 1 in² FR-4 board with 2oz.copper, in a still air environment with T_A=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_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.
- The maximum current rating is package limited.

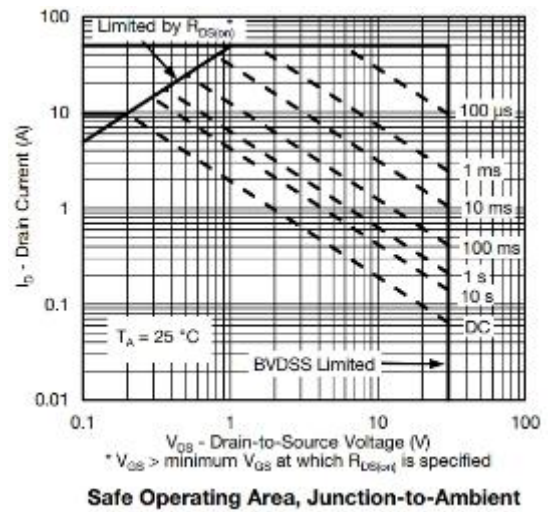
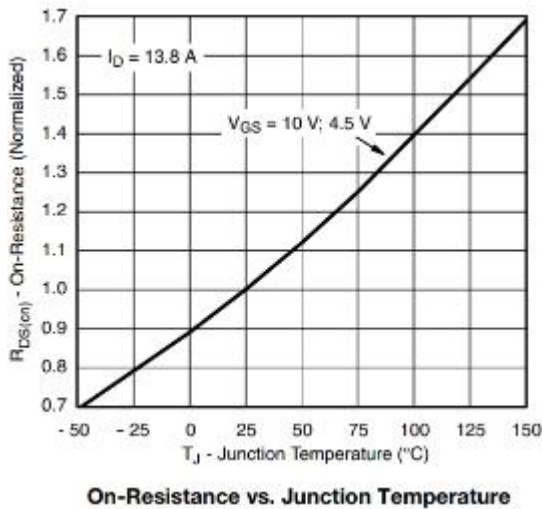
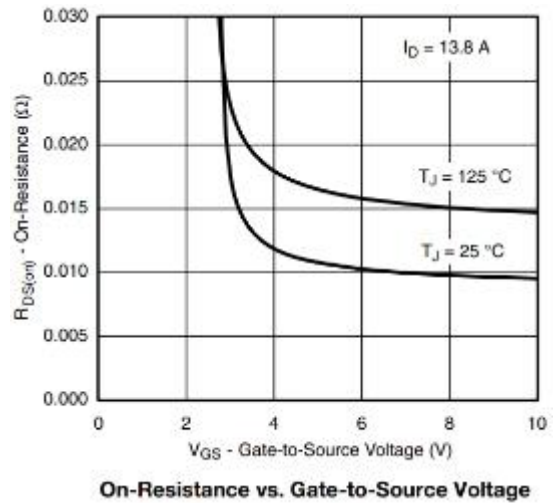
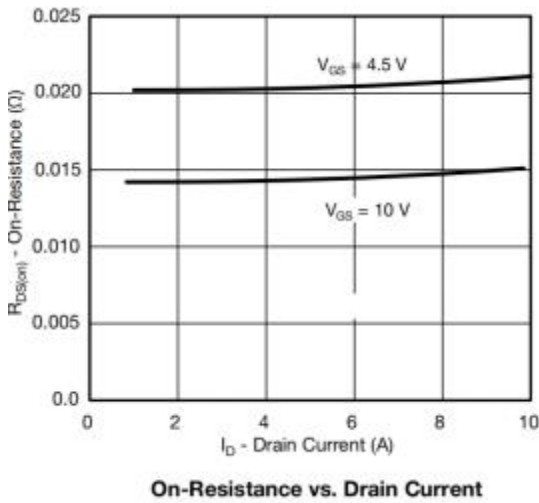
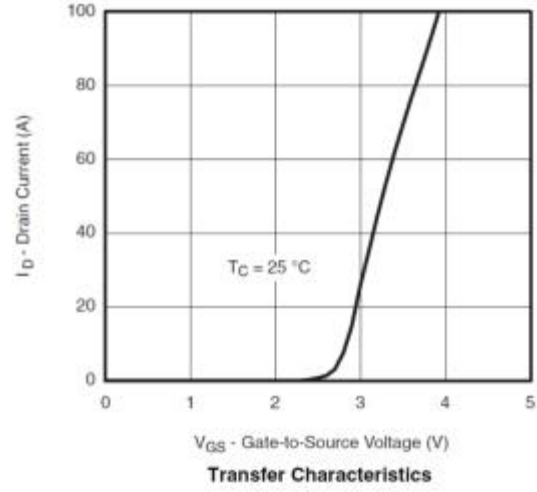
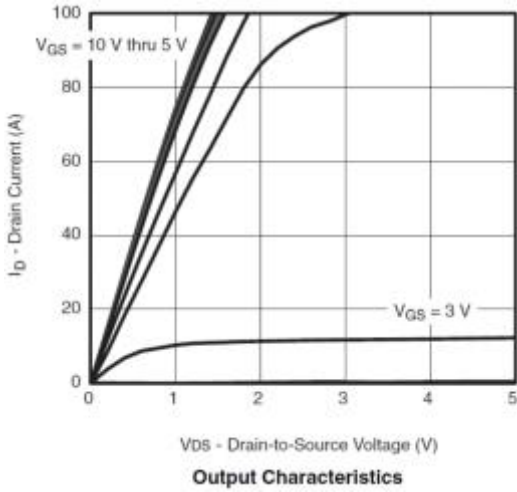


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

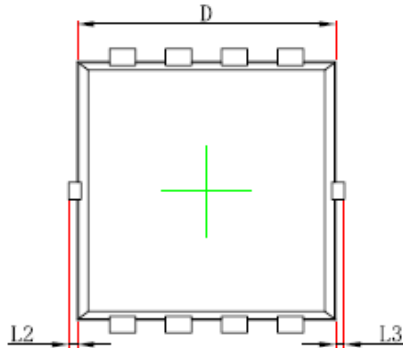
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	1.4	1.9	2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 9A		13	20	mΩ
		V _{GS} = 4.5V, I _D = 6A		19	29	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 60V, V _{GS} = 0V			1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±100	nA
Transconductance	G _{FS}	V _{DS} = 5V, I _D = 10A		16		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 9A			1.4	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		1.4	2.2	Ω
Input Capacitance	C _{ISS}	V _{DS} = 15V, V _{GS} = 0V, f = 1MHz		1070		pF
Output Capacitance	C _{OSS}			108		
Reverse Transfer Capacitance	C _{RSS}			86		
Total Gate Charge	Q _G	V _{GS} = 10V, V _{DS} = 30V, I _D = 15A		18		nC
Gate to Source Charge	Q _{GS}			9		
Gate to Drain Charge	Q _{GD}			6		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 10V, V _{DS} = 10V, R _L = 10Ω, R _G = 1Ω,		9		ns
Rise Time	T _r			4		
Turn-off Delay Time	T _{D(OFF)}			15		
Fall Time	T _f			6		
Diode Recovery Time	T _{rr}	I _F =20A, di/dt=500A/us		12		ns
Diode Recovery Charge	Q _{rr}	I _F =20A, di/dt=500A/us		19		nC



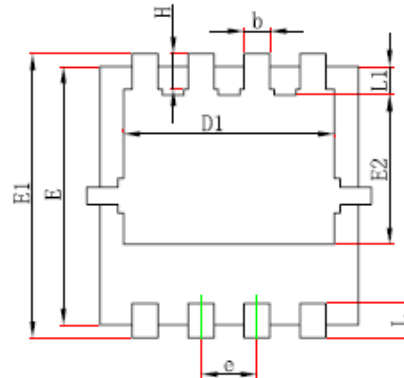
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



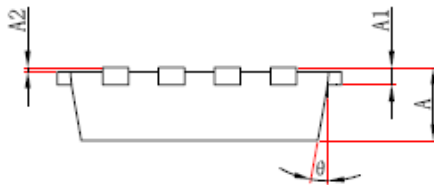
➤ Package Information



Top View
[顶视图]



Bottom View
[背视图]



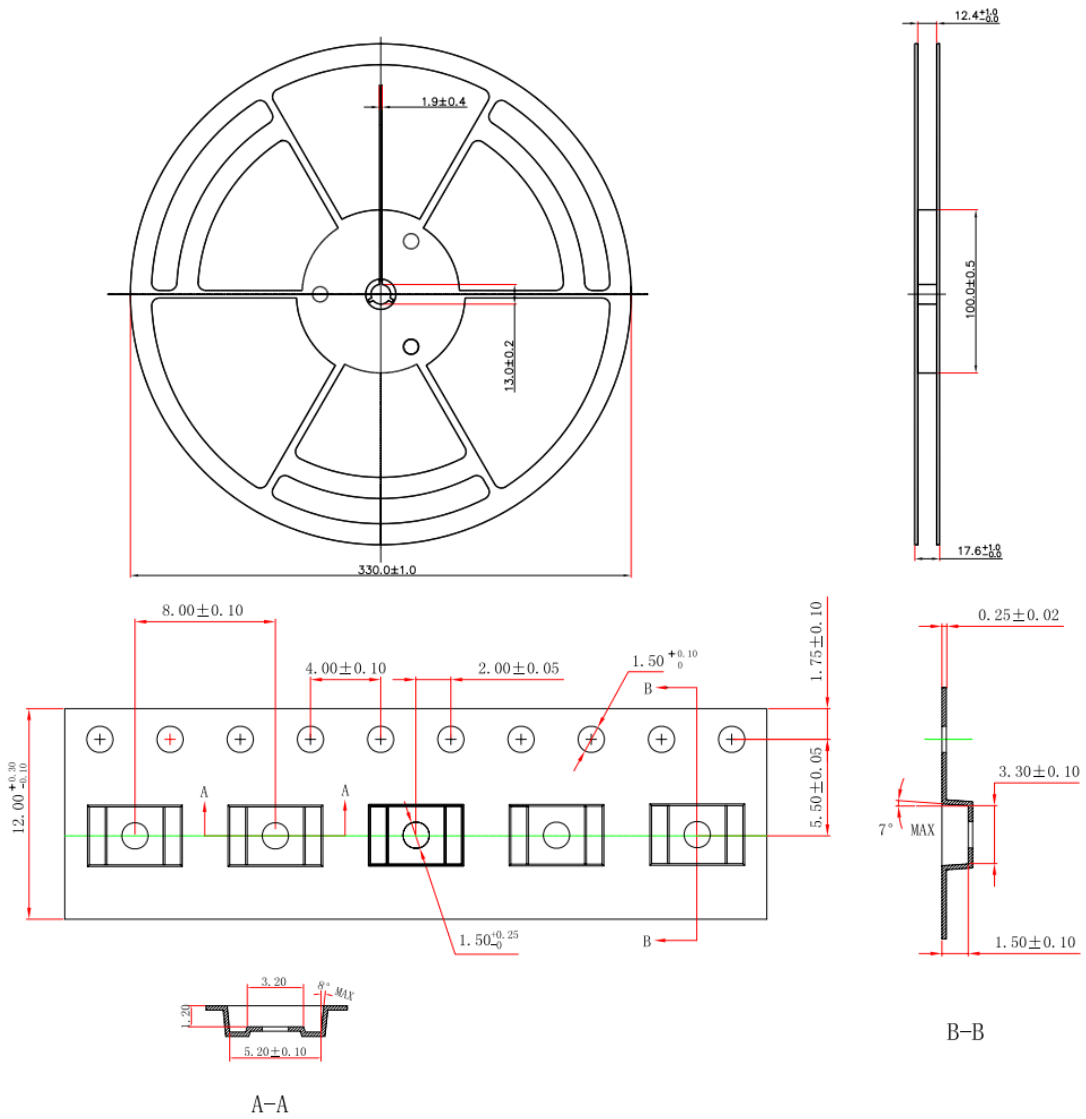
Side View
[侧视图]

Package: PDNF3.3X3.3-8L

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.650	0.850	0.026	0.033
A1	0.152 REF.		0.006 REF.	
A2	0~0.05		0~0.002	
D	2.900	3.100	0.114	0.122
D1	2.300	2.600	0.091	0.102
E	2.900	3.100	0.114	0.122
E1	3.150	3.450	0.124	0.136
E2	1.535	1.935	0.060	0.076
b	0.200	0.400	0.008	0.016
e	0.550	0.750	0.022	0.030
L	0.300	0.500	0.012	0.020
L1	0.180	0.480	0.007	0.019
L2	0~0.100		0~0.004	
L3	0~0.100		0~0.004	
H	0.315	0.515	0.012	0.020
θ	9°	13°	9°	13°



➤ Tape and Reel





DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.

OUR PRODUCT SPECIFICATIONS ARE ONLY VALID IF OBTAINED THROUGH THE COMPANY'S OFFICIAL WEBSITE, CRM SYSTEM, OR OUR SALES PERSONNEL CHANNELS. IF CHANGES OR SPECIAL VERSIONS ARE INVOLVED, THEY MUST BE STAMPED WITH A QUALITY SEAL AND MARKED WITH A SPECIAL VERSION NUMBER TO BE VALID.