



SSC8L410GN4

N-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$	I_D
40V	$\pm 20V$	6m Ω @10V	47A
		7m Ω @4V5	

➤ Description

This device is N-Channel enhancement mode 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.

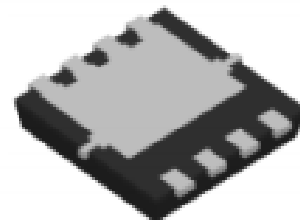
➤ Applications

- DC/DC converters
- Power supplies
- Motor Drive Control
- Synchronous rectification

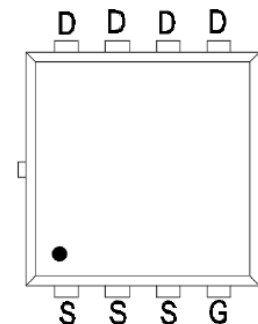
➤ Ordering Information

Device	Package	Shipping
SSC8L410GN4	PDFN3.3X3.3-8L	5000/Reel

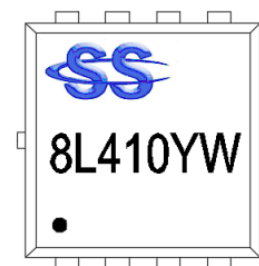
➤ Pin configuration



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



Pin Configuration



Marking (Top View)



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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	40	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current ^d	$T_C=25^\circ\text{C}$	47
		$T_C=100^\circ\text{C}$	25
I_{DSM}	Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	18
		$T_A=70^\circ\text{C}$	13
I_{DM}	Pulsed Drain Current ^b	188	A
P_D	Power Dissipation ^c	$T_C=25^\circ\text{C}$	25
		$T_C=100^\circ\text{C}$	10
P_{DSM}	Power Dissipation ^a	$T_A=25^\circ\text{C}$	3.6
		$T_A=70^\circ\text{C}$	2.3
I_{AS}	Avalanche Current ^b L=0.5mH Single Pulse	23	A
E_{AS}	Avalanche Energy ^b L=0.5mH Single Pulse	132	mJ
T_J	Operation junction temperature	-55~150	°C
T_{STG}	Storage temperature range	-55~150	

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

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	105	°C/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	5	

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



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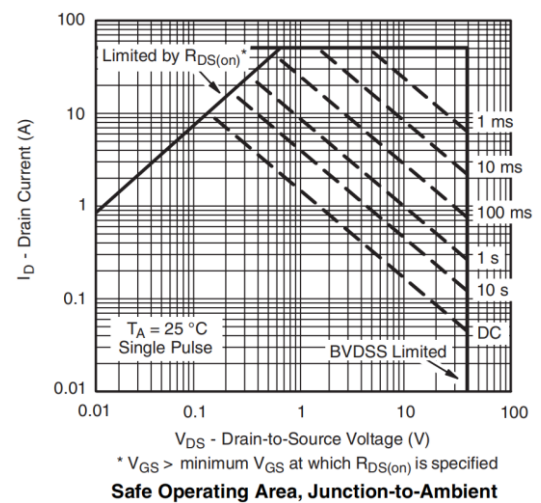
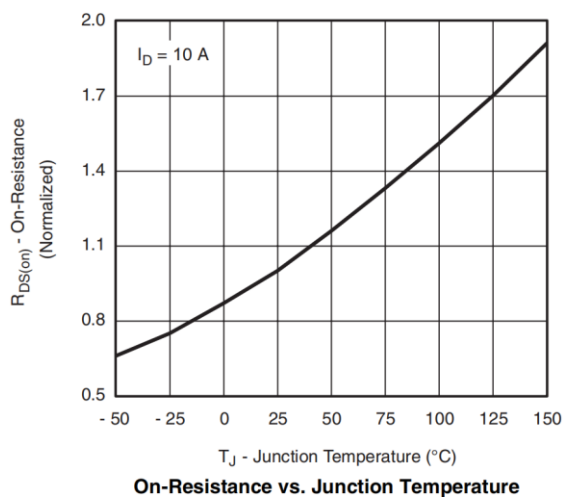
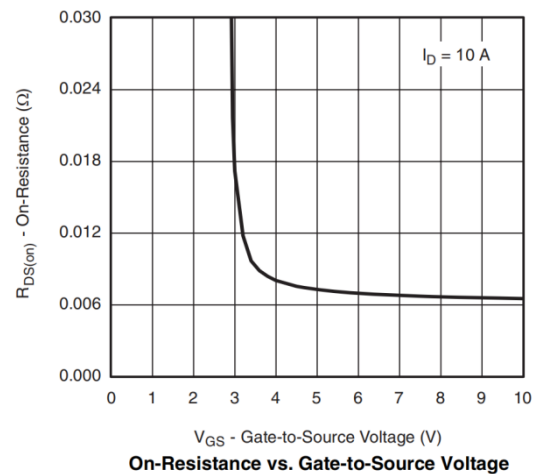
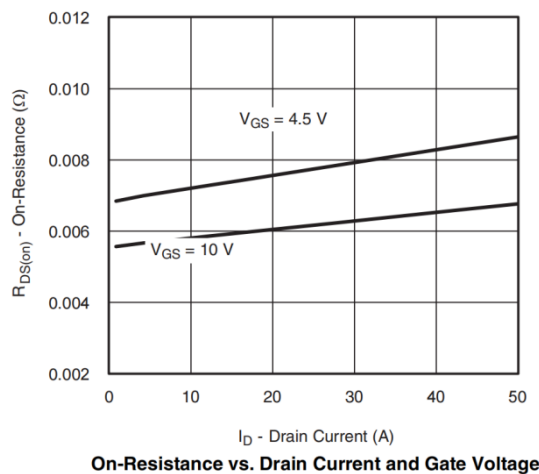
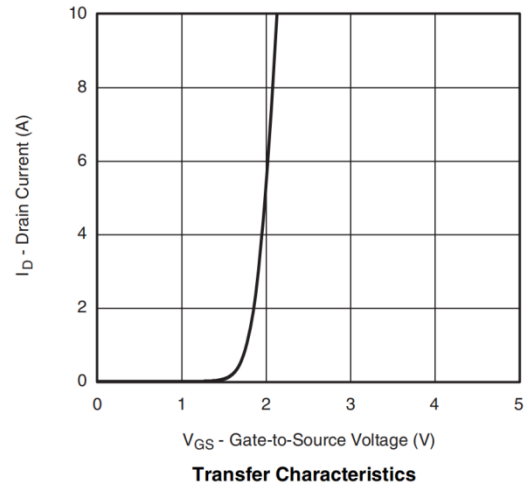
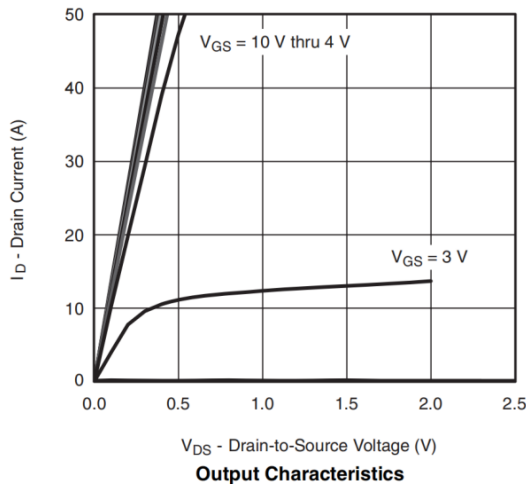
➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	40			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	1	1.5	2	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 10A		6	8	mΩ
		V _{GS} = 4.5V, I _D = 6A		7	10	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 40V, V _{GS} = 0V			1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±20V, V _{DS} = 0V			±150	nA
Transconductance	G _{FS}	V _{DS} = 5V, I _D = 10A		16		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 5A		0.8	1.3	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		1.3		Ω
Input Capacitance	C _{ISS}	V _{DS} = 20V, V _{GS} = 0V, f = 1MHz		1400		pF
Output Capacitance	C _{OSS}			305		
Reverse Transfer Capacitance	C _{RSS}			31		
Total Gate Charge	Q _G	V _{GS} = 10V, V _{DS} = 20V, I _D = 20A		27.3		nC
Gate to Source Charge	Q _{GS}			4		
Gate to Drain Charge	Q _{GD}			5.8		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 10V, V _{DS} = 20V, R _L = 1Ω, R _G = 3Ω,		10		ns
Rise Time	T _r			4		
Turn-off Delay Time	T _{D(OFF)}			25		
Fall Time	T _f			5		
Diode Recovery Time	T _{rr}	I _F =20A, di/dt=500A/us		14		ns
Diode Recovery Charge	Q _{rr}	I _F =20A, di/dt=500A/us		25		nC

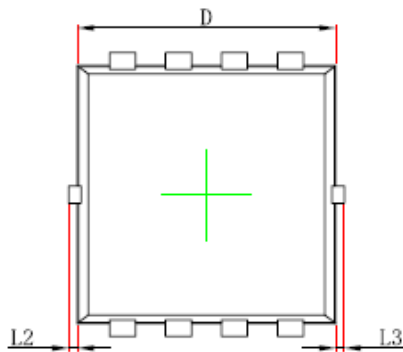


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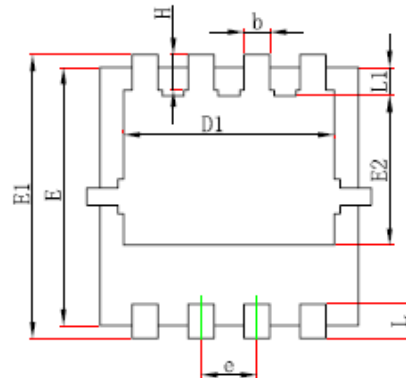
➤ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



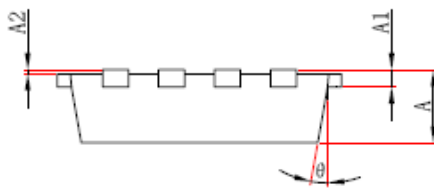
➤ Package Information



Top View
[顶视图]



Bottom View
[背视图]



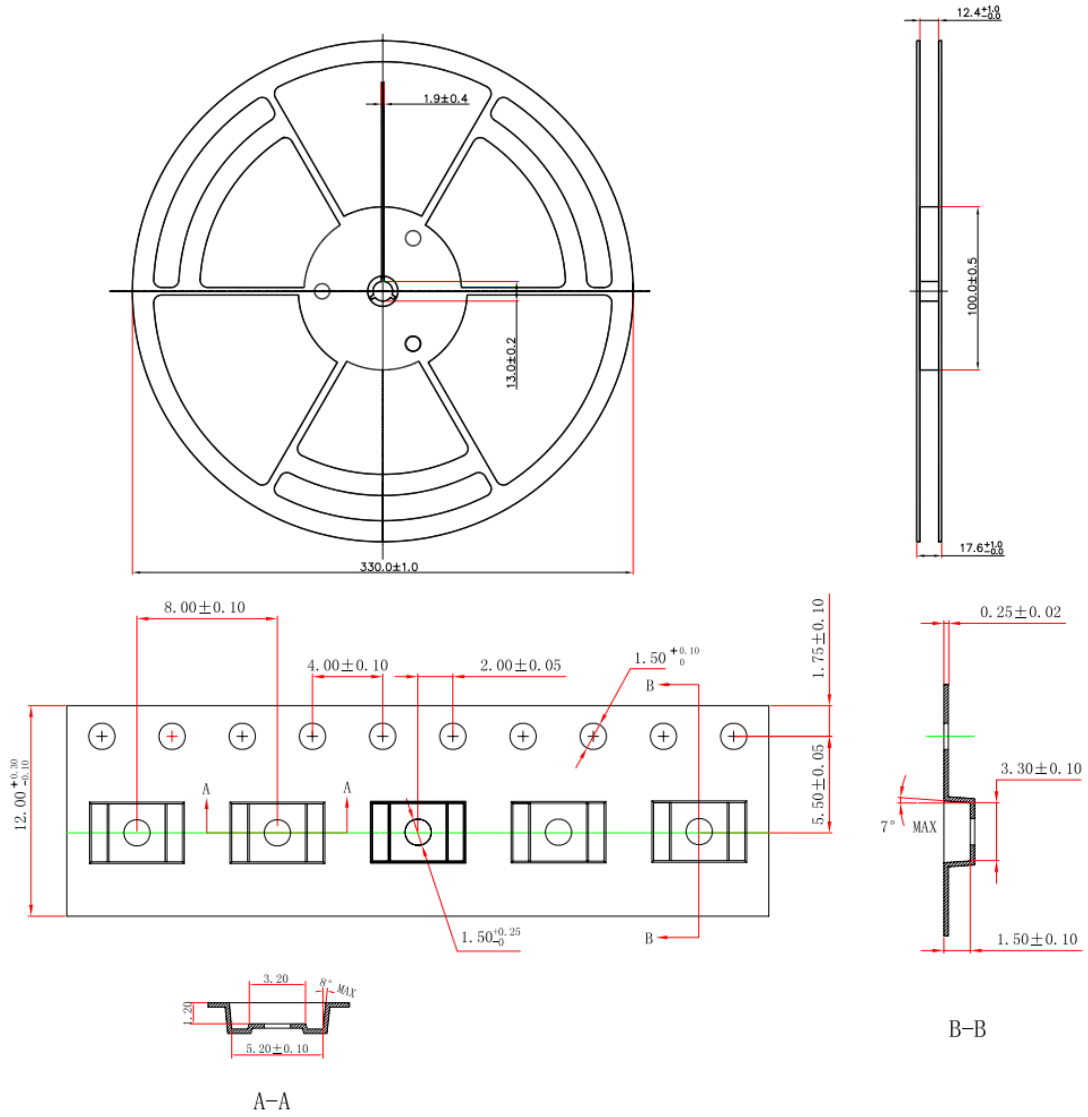
Side View
[侧视图]

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





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