



SSC8041GN4

P-Channel Enhancement Mode MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)}	I _D
-40V	±20V	9mΩ@-10V	-36A
		16mΩ@-4V5	

➤ Description

This SSC8041GN4 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!

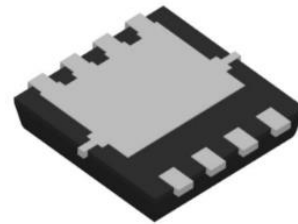
➤ Applications

- Load Switch
- PWM Application
- Power Management

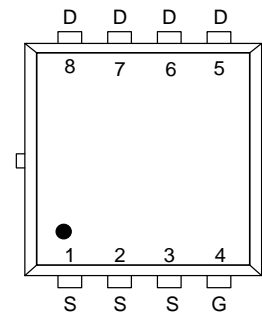
➤ Ordering Information

Device	Package	Shipping
SSC8041GN4	PDFN3.3X3.3-8L	5000/Reel

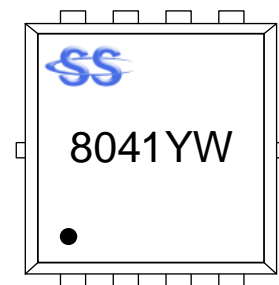
➤ Pin configuration



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



Pin Configuration (Top View)



Marking

(YW: Internal Traceability Code)



➤ Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ 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	$T_C=25^\circ\text{C}$	-36
		$T_C=100^\circ\text{C}$	-20.4
I_{DSM}	Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	-14
		$T_A=70^\circ\text{C}$	-10.7
I_{DM}	Pulsed Drain Current ^b	-144	A
P_D	Power Dissipation ^c	$T_C=25^\circ\text{C}$	21
		$T_C=100^\circ\text{C}$	8.3
P_{DSM}	Power Dissipation ^a	$T_A=25^\circ\text{C}$	3.13
		$T_A=70^\circ\text{C}$	2
I_{AS}	Avalanche Current ^b $L=0.5\text{mH}$ Single Pulse	-17	A
E_{AS}	Avalanche Energy ^b $L=0.5\text{mH}$ Single Pulse	72.3	mJ
T_J	Operation junction temperature	-55~150	$^\circ\text{C}$
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	40	$^\circ\text{C/W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	6	

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 $T_{J(\text{MAX})}=150^\circ\text{C}$, 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.

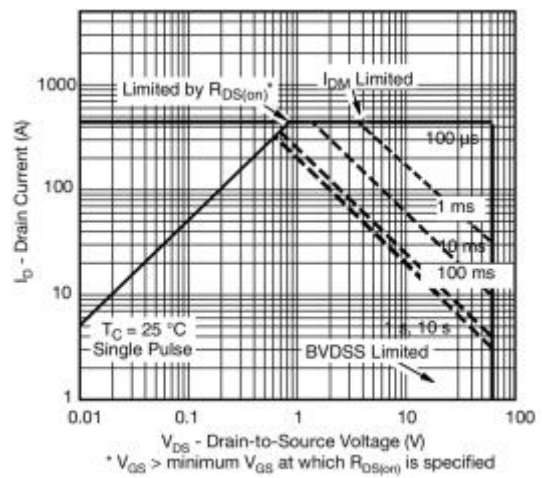
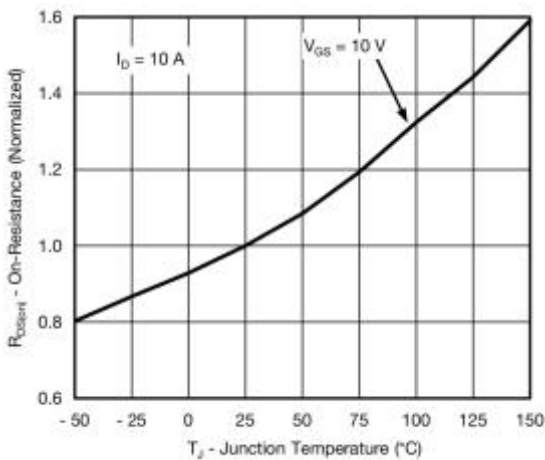
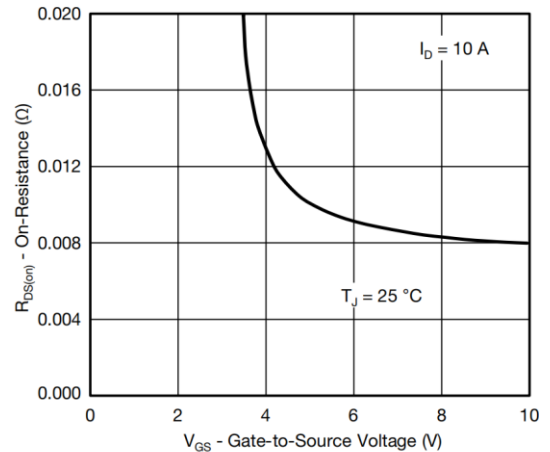
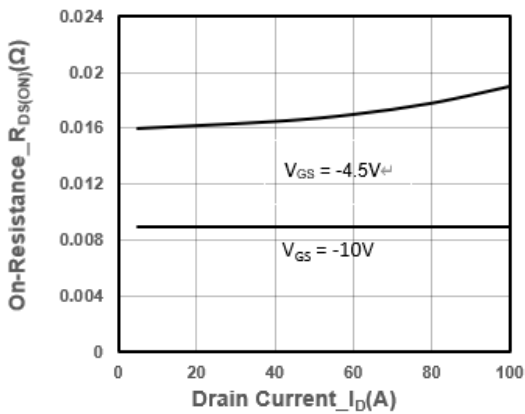
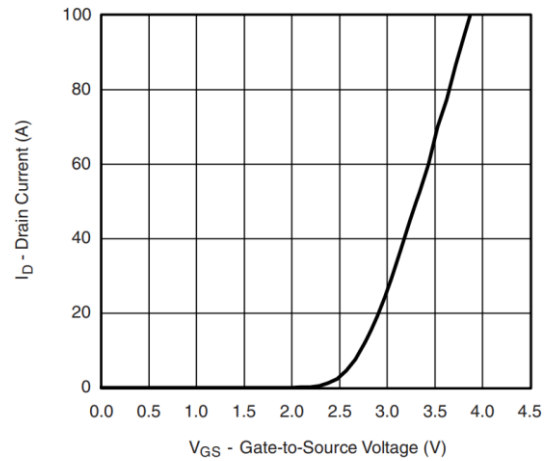
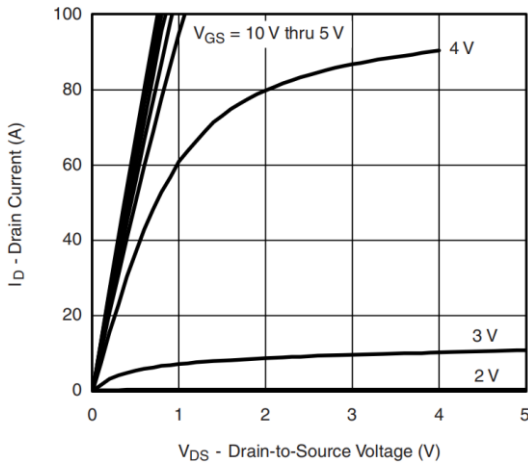


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

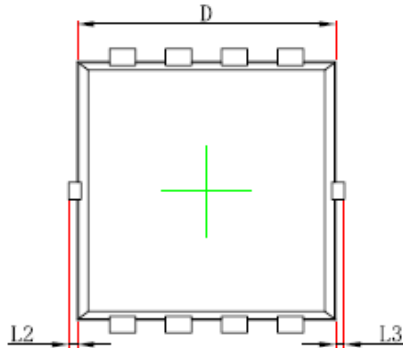
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-40			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-1.2	-2.1	-3	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -20A		9	13	mΩ
		V _{GS} = -4.5V, I _D = -10A		16	23	
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			±100	nA
Transconductance	G _{FS}	V _{DS} = -15V, I _D = -12A		40		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = -5A			1.4	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		4		Ω
Input Capacitance	C _{ISS}	V _{DS} = -20V, V _{GS} = 0V, f = 1MHz		2500		pF
Output Capacitance	C _{OSS}			250		
Reverse Transfer Capacitance	C _{RSS}			230		
Total Gate Charge	Q _G	V _{GS} = -10V, V _{DS} = -20V, I _D = -15A		18		nC
Gate to Source Charge	Q _{GS}			5		
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,		12		ns
Rise Time	T _r			12		
Turn-off Delay Time	T _{D(OFF)}			23		
Fall Time	T _f			9		
Diode Recovery Time	T _{rr}	I _F = -20A, di/dt = 500A/us		20		ns
Diode Recovery Charge	Q _{rr}	I _F = -20A, di/dt = 500A/us		18		nC



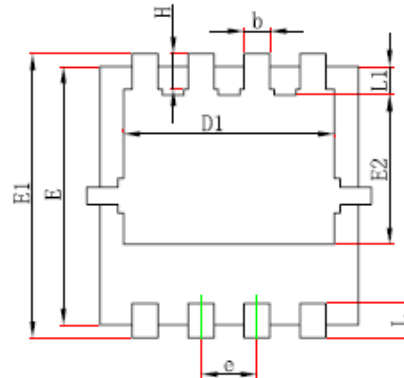
➤ **Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)**



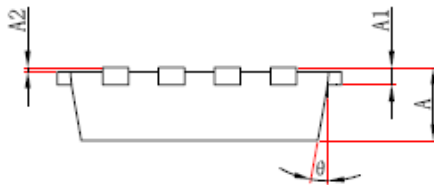
➤ Package Information



Top View
[顶视图]



Bottom View
[背视图]



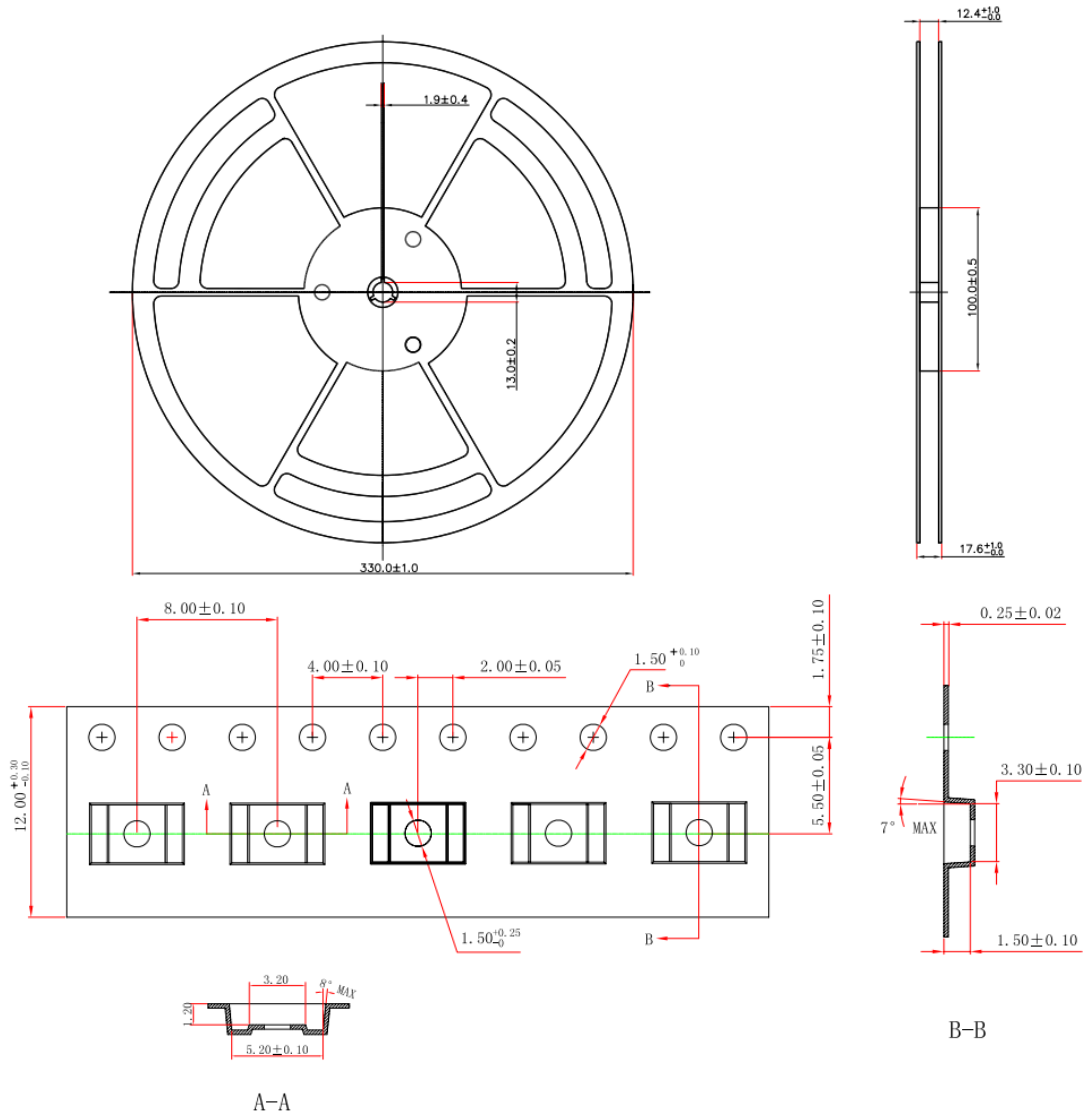
Side View
[侧视图]

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





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