



SSC8L82GN6

N-Channel Enhancement Mode MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)} Typ.	I _D
80V	±20V	3.7mΩ@10V	120A

➤ 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!

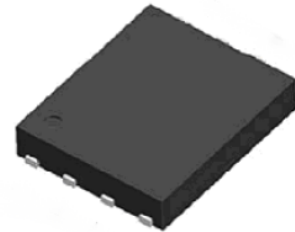
➤ Applications

- Load Switch
- PWM Application
- Power Management
- DC-DC Conversion

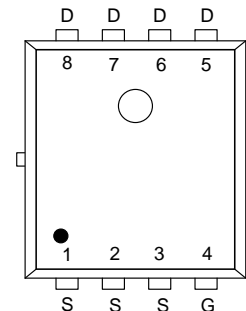
➤ Ordering Information

Device	Package	Shipping
SSC8L82GN6	PDFN5X6-8L	5000/Reel

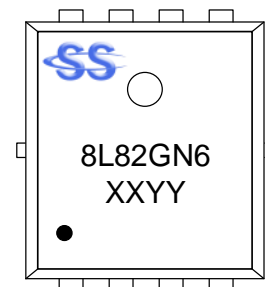
➤ Pin configuration



PDFN5X6-8L



Pin Configuration (Top View)



Marking

(XXYY: 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	80	V
V_{GSS}	Gate-to-Source Voltage	± 20	V
I_D	Continuous Drain Current ^d	$T_C=25^\circ\text{C}$	120
		$T_C=100^\circ\text{C}$	65
I_{DSM}	Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	17
		$T_A=70^\circ\text{C}$	13
I_{DM}	Pulsed Drain Current ^b	450	A
P_D	Power Dissipation ^c	$T_C=25^\circ\text{C}$	89.3
		$T_C=100^\circ\text{C}$	35.7
P_{DSM}	Power Dissipation ^a	$T_A=25^\circ\text{C}$	2.1
		$T_A=70^\circ\text{C}$	1.3
I_{AS}	Avalanche Current ^b $L=0.5\text{mH}$ Single Pulse	40	A
E_{AS}	Avalanche Energy ^b $L=0.5\text{mH}$ Single Pulse	400	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	Max.	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	60	°C/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.4	

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.

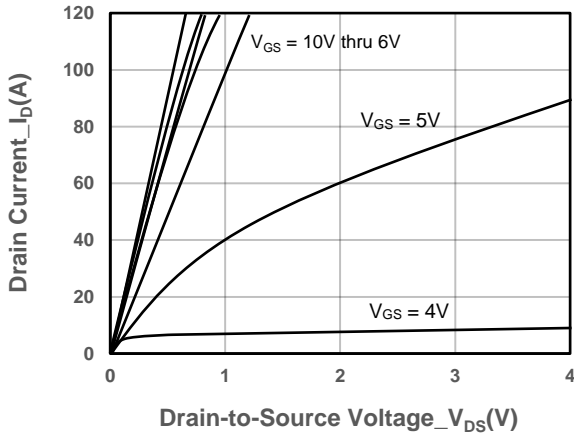


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

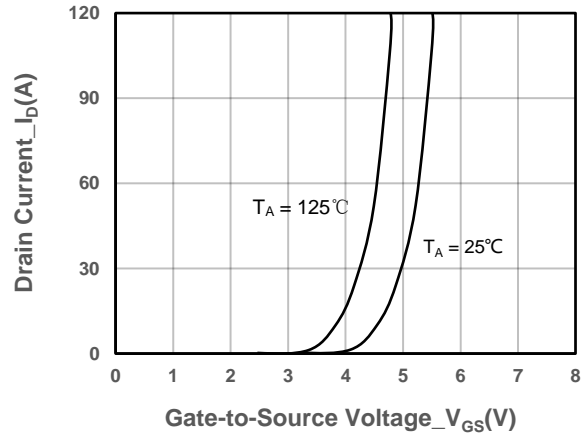
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	80			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	2	3	4	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 20A		3.7	4.5	mΩ
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 80V, 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		30		s
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 10A		0.7	1.4	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		2.6		Ω
Input Capacitance	C _{ISS}	V _{DS} = 40V, V _{GS} = 0V, f = 1MHz		3240		pF
Output Capacitance	C _{OSS}			1060		
Reverse Transfer Capacitance	C _{RSS}			30		
Total Gate Charge	Q _G	V _{GS} = 10V, V _{DS} = 40V, I _D = 20A		48		nC
Gate to Source Charge	Q _{GS}			16		
Gate to Drain Charge	Q _{GD}			12		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 10V, V _{DS} = 40V, R _L = 2Ω, R _G = 3Ω,		18		ns
Rise Time	T _r			27		
Turn-off Delay Time	T _{D(OFF)}			30		
Fall Time	T _f			9		
Diode Recovery Time	T _{rr}	I _F =20A, di/dt=100A/us		50		ns
Diode Recovery Charge	Q _{rr}	I _F =20A, di/dt=100A/us		80		nC



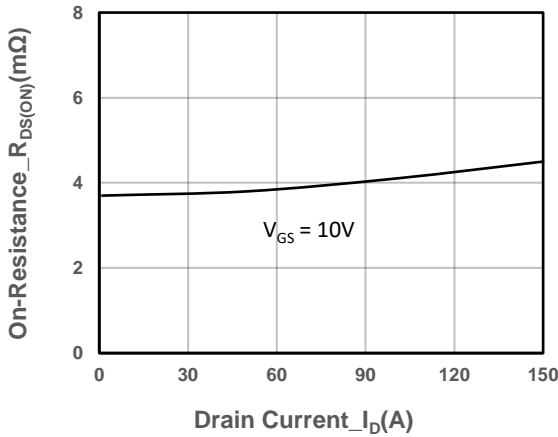
➤ **Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)**



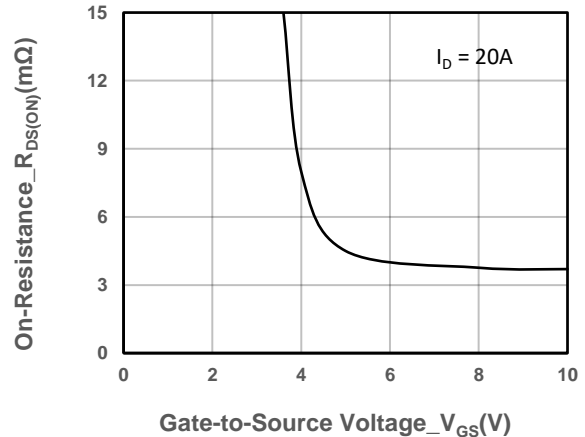
Output Characteristics



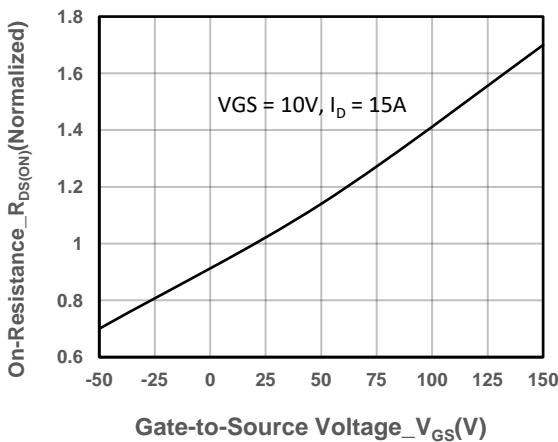
Transfer Characteristics



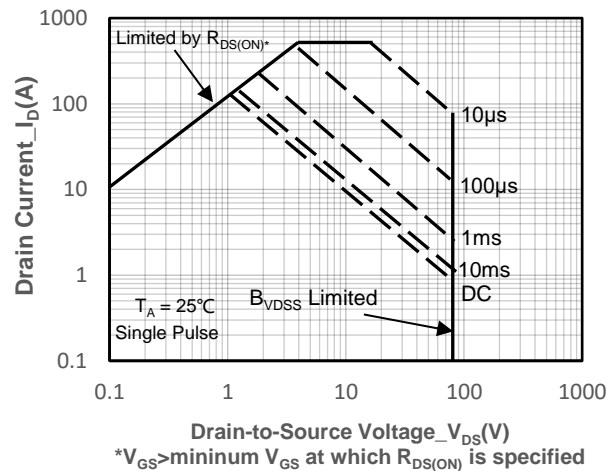
On-Resistance vs. Drain Current and Gate Voltg



On-Resistance vs. Gate-to-Source Voltage

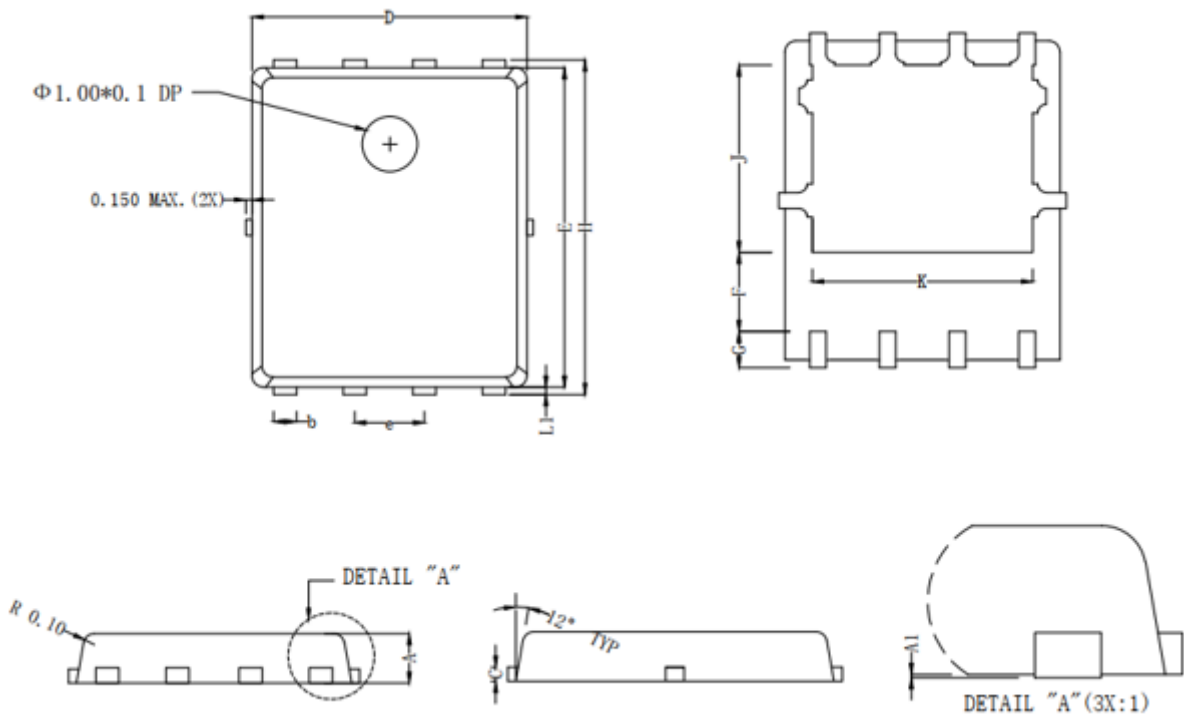


On-Resistance vs. Junction Temperature



Safe Operating Area vs. Junction-to-Ambient

➤ Package Information



Symbol	Dimensions In Millimeters		
	Min.	Nom.	Max.
A	0.90	1.00	1.10
A1	0.00	0.03	0.05
b	0.25	0.03	0.35
c	0.254 REF		
D	4.80	4.90	5.00
F	1.35 REF		
E	5.65	5.75	5.85
e	1.27 BSC		
H	5.90	6.00	6.10
L1	0.10	0.13	0.16
G	0.55 REF		
K	4.00 REF		
J	3.45 REF		



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