



SSC8L40GN6

N-Channel Enhancement Mode MOSFET

➤ **Features**

VDS	VGS	RDSON Typ.	ID
40V	±20V	1.9mR@10V	100A
		3mR@4V5	

➤ **Description**

This device uses advanced trench technology to provide excellent RDSON and low gate charge. This device is suitable for use as a load switch or in PWM applications.

➤ **Applications**

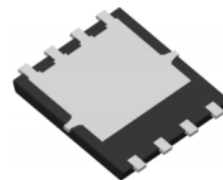
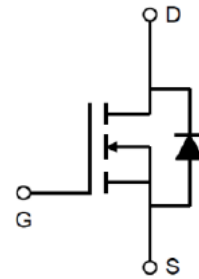
- Load Switch
- Portable Devices
- DCDC conversion

➤ **Ordering Information**

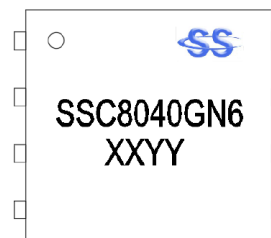
Device	Package	Shipping
SSC8L40GN6	PDFN5x6	5000/Reel

➤ **Pin configuration**

Top view



Bottom View



(XX: year/YY: week)

Marking



➤ **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 ^a	100	A
I_{DM}	Pulsed Drain Current ^b	150	A
P_D	Power Dissipation ^c	75	W
P_{DSM}	Power Dissipation ^a	6.5	W
T_J	Operation junction temperature	-55 to 150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55 to 150	$^{\circ}\text{C}$

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

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a		22	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	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 current rating 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.

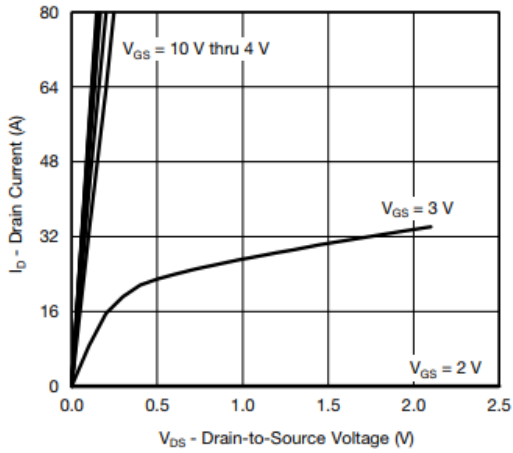


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

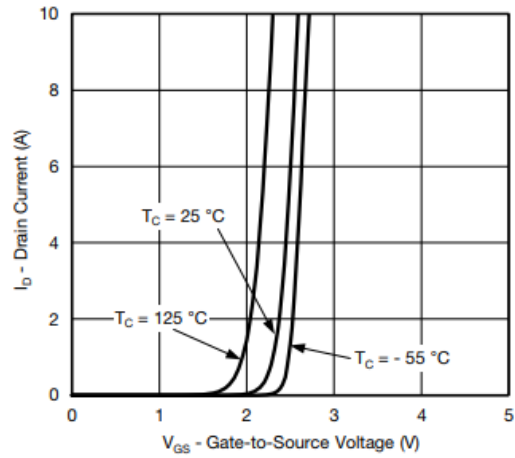
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
V(BR)DSS	Drain-Source Breakdown Voltage	VGS=0V, ID=250uA	40			V
VGS (th)	Gate Threshold Voltage	VDS=VGS, ID=250uA	1	2	3	V
RDS(on)	Drain-Source On- Resistance	VGS=10V, ID=24A		1.9	2.6	mR
		VGS=4.5V, ID=12A		3	4.2	
IDSS	Zero Gate Voltage Drain Current	VDS=40V, VGS=0V			1	uA
IGSS	Gate-Source leak current	VGS=±20V, VDS=0V			±100	nA
VSD	Forward Voltage	VGS=0V, IS=1A			1.3	V
Ciss	Input Capacitance	VDS=20V, VGS=0V, f=1MHZ		3820		pF
Coss	Output Capacitance			700		
Crss	Reverse Transfer Capacitance			350		
Qg	Total Gate Charge	VDS=20V , ID=20A , VGS=4.5V		24		
Qgs	Gate to source charge			14.9		
Qgd	Gate to drain charge			6.9		
TD(ON)	Turn-on delay time	VGEN=10V, VDS=15V, RL=15R,		32		ns
TD(OFF)	Turn-off delay time	RG=3R, ID=1A		56		



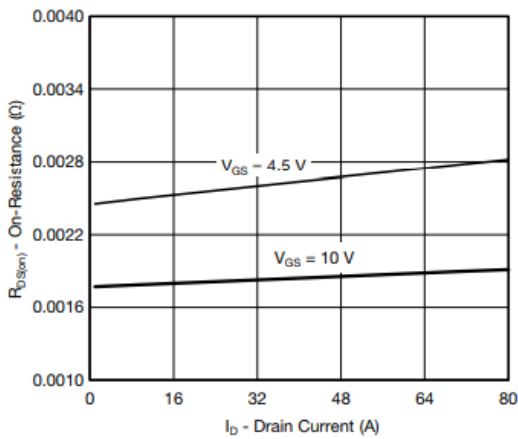
➤ **Typical Characteristics** ($T_A = 25^\circ\text{C}$ unless otherwise noted)



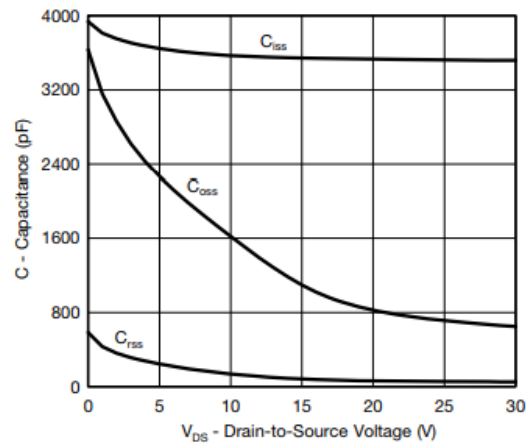
Output Characteristics



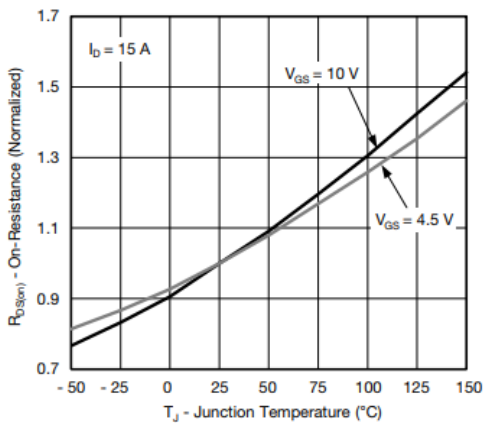
Transfer Characteristics



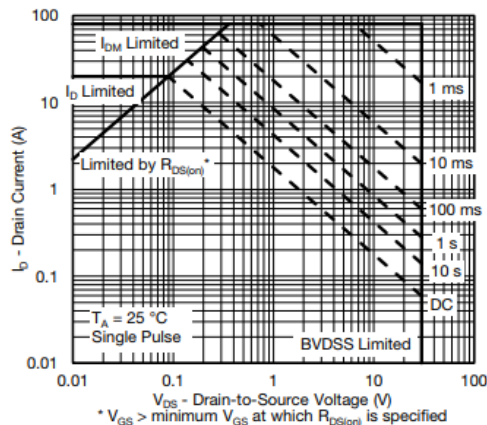
On-Resistance vs. Drain Current



Capacitance



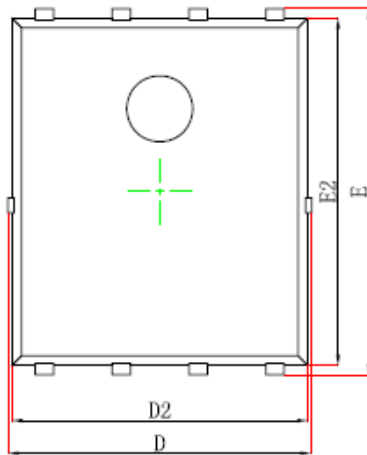
On-Resistance vs. Junction Temperature



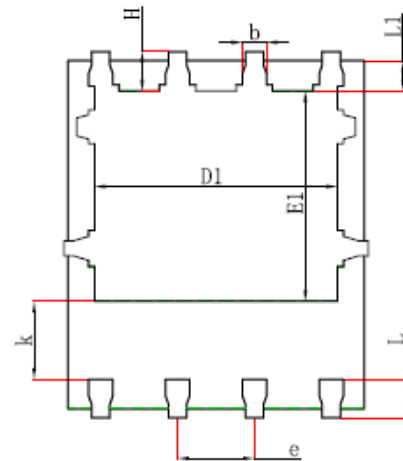
Safe Operating Area



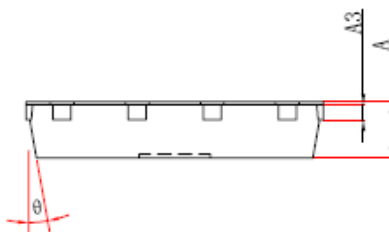
➤ Package Information



Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

Package : DNF5X6-8L

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°



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 LICENCE 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.