



SSC8L3622GN6

Dual N-Channel Enhancement MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
60V	$\pm 20V$	12m Ω @10V	37A
		15.5m Ω @4.5V	

➤ Description

The SSC8L3622GN4 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.

100% UIS + ΔV_{DS} + R_g Tested!

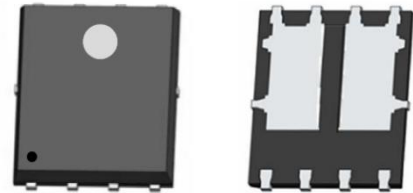
➤ Applications

- Inverter
- DC-DC Converter
- Half and Full Bridge Topology
- Motor Drive Control

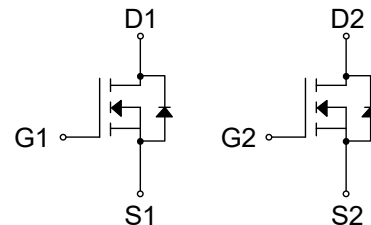
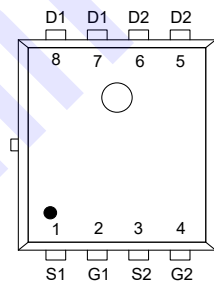
➤ Ordering Information

Device	Package	Shipping
SSC8L3622GN6	PDFN5X6-8L	5000/Reel

➤ Pin configuration



PDFN5x6-8L (Top View)



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	60	V	
V_{GSS}	Gate-to-Source Voltage	± 20	V	
I_D	Continuous Drain Current ^b	$T_C = 25^\circ\text{C}$	37	A
		$T_C = 100^\circ\text{C}$	24	A
I_{DSM}	Continuous Drain Current ^a	$T_A = 25^\circ\text{C}$	10	A
		$T_A = 70^\circ\text{C}$	8	A
I_{DM}	Pulsed Drain Current ^b	120	148	
P_D	Power Dissipation ^c	$T_C = 25^\circ\text{C}$	36	W
		$T_C = 100^\circ\text{C}$	14	W
P_{DSM}	Power Dissipation ^a	$T_A = 25^\circ\text{C}$	2.6	W
		$T_A = 70^\circ\text{C}$	1.7	W
I_{AS}	Avalanche Current ^b $L = 0.5\text{mH}$	11	A	
E_{AS}	Avalanche Energy ^b $L = 0.5\text{mH}$	30	mJ	
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	Ratings	Max.	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance ^a	47	60	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	3.5	4.5	

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

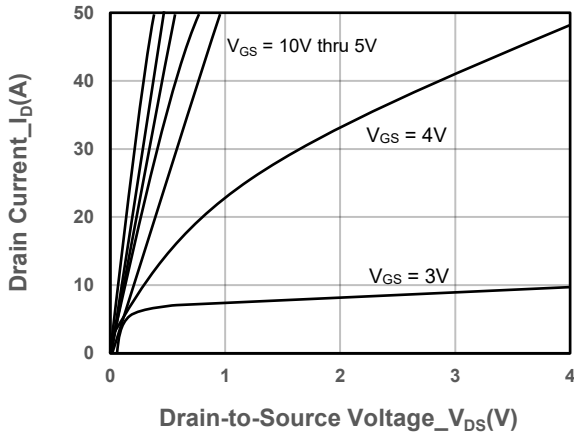


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

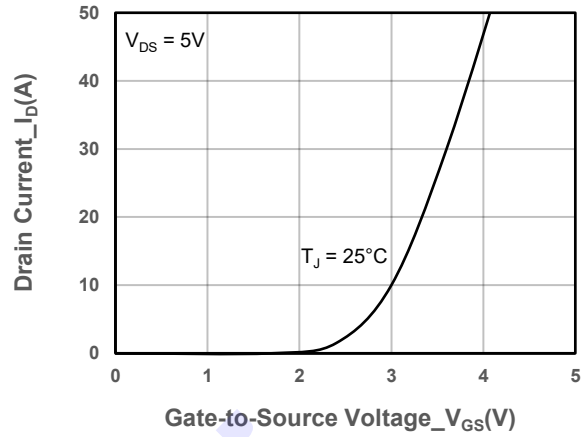
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	1	1.7	2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 15A		12	16.5	mΩ
		V _{GS} = 4.5V, I _D = 10A		15.5	20	
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
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 10A		0.7	1.2	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		1.3		Ω
Input Capacitance	C _{ISS}	V _{DS} = 30V, V _{GS} = 0V, f = 1MHz		600		pF
Output Capacitance	C _{OSS}			205		
Reverse Transfer Capacitance	C _{RSS}			8		
Total Gate Charge	Q _G	V _{GS} = 10V, V _{DS} = 30V, I _D = 15A		9.6		nC
Gate to Source Charge	Q _{GS}			1.9		
Gate to Drain Charge	Q _{GD}			1.3		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 10V, V _{DS} = 30V, I _D = 15A, R _G = 3Ω		3.5		ns
Rise Time	T _r			10.8		
Turn-off Delay Time	T _{D(OFF)}			9.6		
Fall Time	T _f			4.3		
Diode Recovery Time	T _{rr}	I _F =20A, di/dt=100A/us		23		ns
Diode Recovery Charge	Q _{rr}	I _F =20A, di/dt=100A/us		13.5		nC



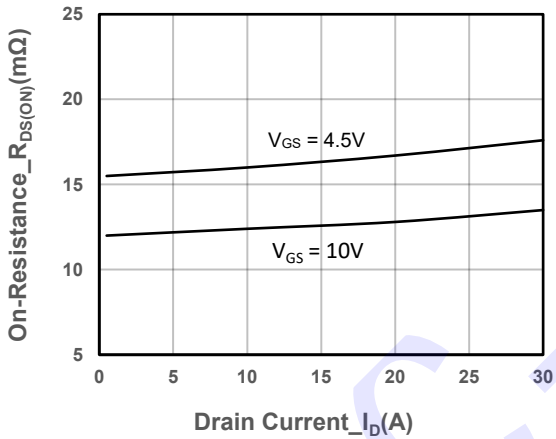
➤ **Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)**



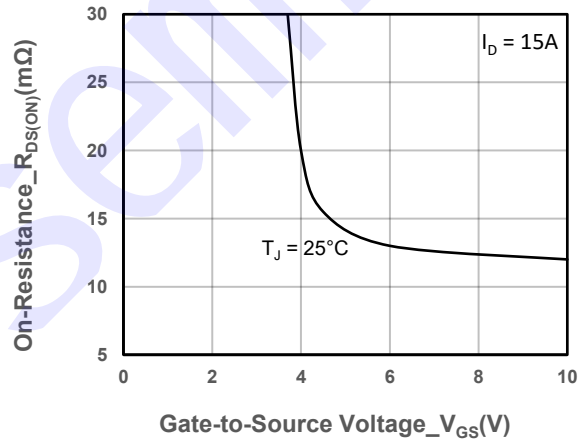
Output Characteristics



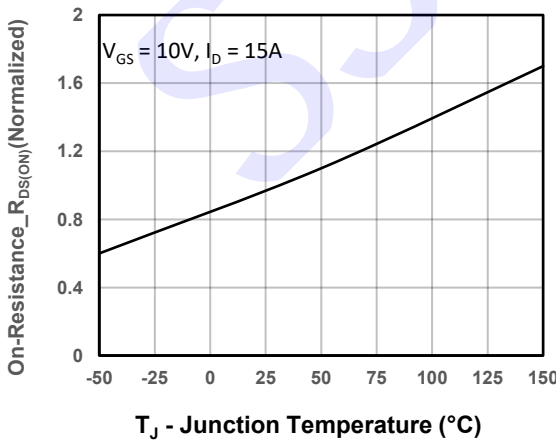
Transfer Characteristics



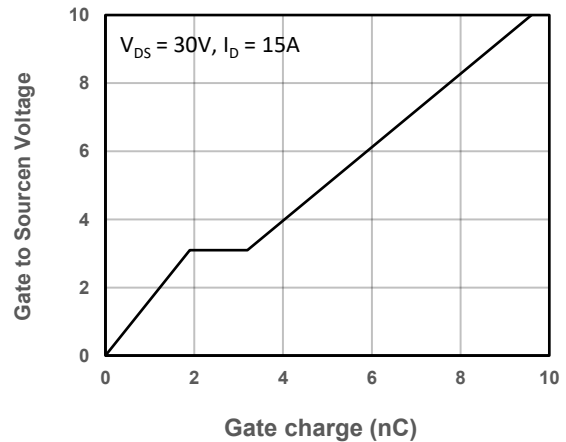
On-Resistance vs. Drain Current and Gate Voltage



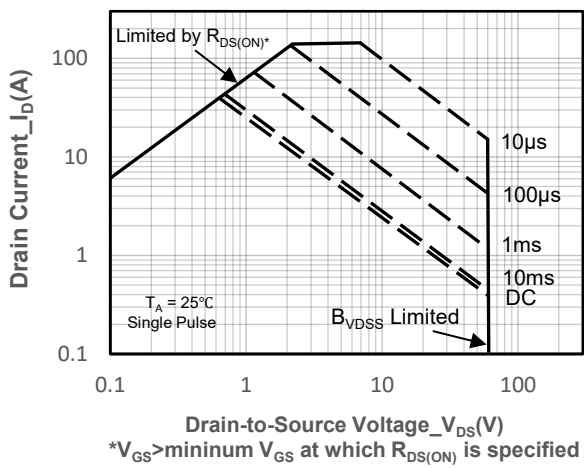
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature



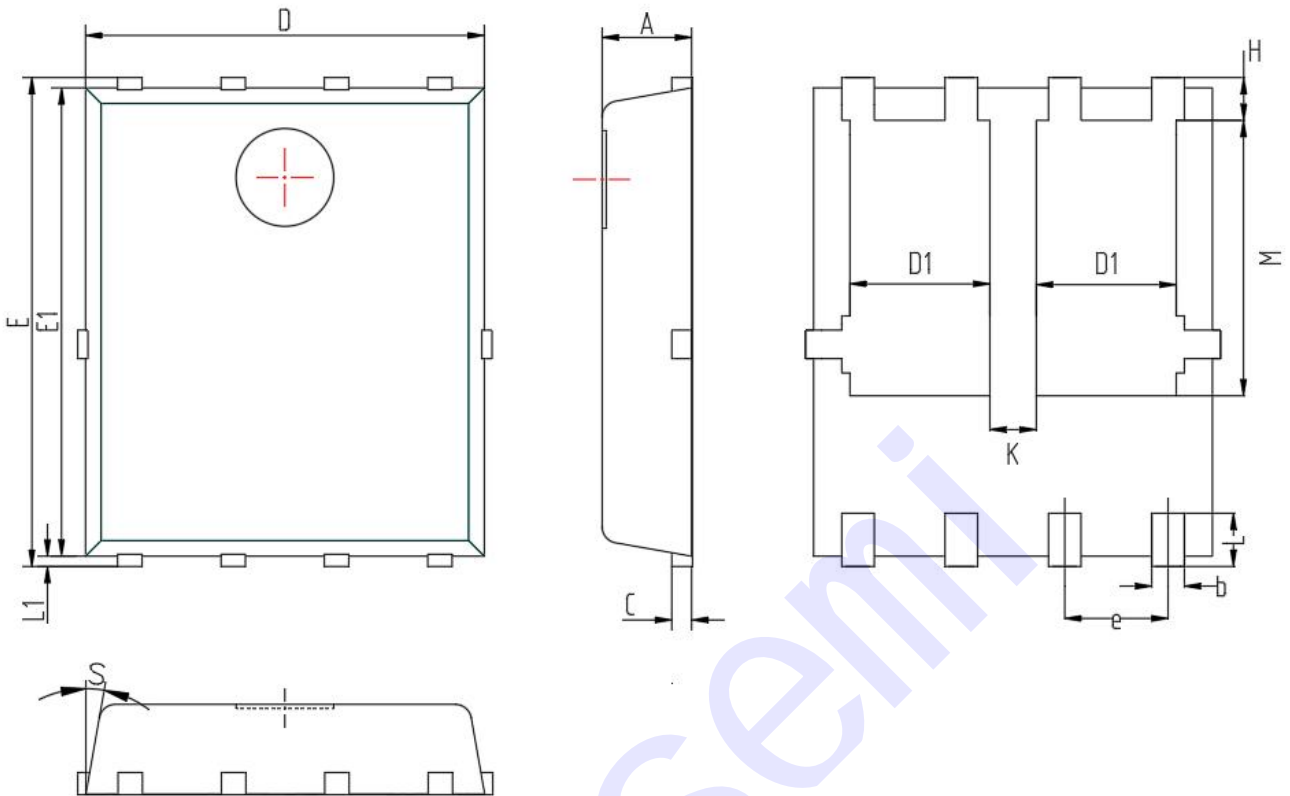
Gate-Source Voltage vs. Gate charge



Safe Operating Area vs. Junction-to-Ambient

SSC-semi

➤ Package Information



Symbol	MILL IMETER		
	Min	Nom	Max
A	0.9	1.10	1.20
b	0.25	0.30	0.5
C	0.20	0.25	0.35
D	4.80	5.00	5.20
D1	1.50	1.70	1.80
E	5.90	6.00	6.30
E1	5.60	5.75	5.90
e	1.27BSC		
H	0.48	0.58	0.80
K	0.50	0.60	0.70
L	0.50	0.60	0.84
L1	0.10	0.15	0.30
M	3.30	3.48	3.67
S	12° BSC		



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