



SSC8L61GS1

P-Channel Enhancement Mode MOSFET

➤ Features

V_{DS}	V_{GS}	$R_{DS(ON)}$ Typ.	I_D
-60V	$\pm 20V$	18m Ω @-10V	-30A

➤ Description

This device is P-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 + ΔV_{DS} + R_g Tested!

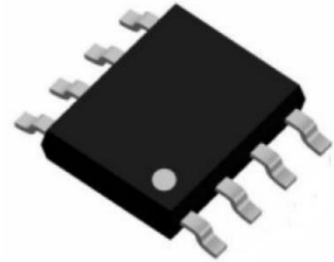
➤ Applications

- Load Switch
- PWM Application
- Power Management

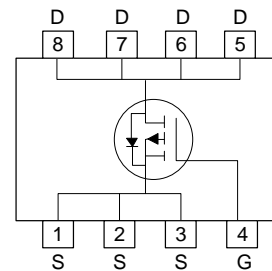
➤ Ordering Information

Device	Package	Shipping
SSC8L61GS1	SOP-8	4000/Reel

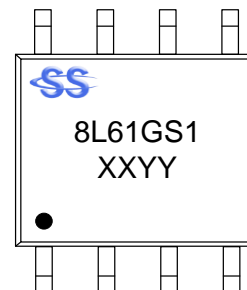
➤ Pin configuration



SOP-8



Pin Configuration (Top View)



Marking

(XYY: 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 ^d	$T_C=25^\circ\text{C}$	-30
		$T_C=100^\circ\text{C}$	-15
I_{DSM}	Continuous Drain Current ^a	$T_A=25^\circ\text{C}$	-9
		$T_A=70^\circ\text{C}$	-7
I_{DM}	Pulsed Drain Current ^b	-90	A
P_D	Power Dissipation ^c	$T_C=25^\circ\text{C}$	27.8
		$T_C=100^\circ\text{C}$	11.1
P_{DSM}	Power Dissipation ^a	$T_A=25^\circ\text{C}$	2.98
		$T_A=70^\circ\text{C}$	1.9
E_{AS}	Avalanche Energy ^b L=0.5mH Single Pulse	50	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	42	°C/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	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 is specific board design. The power dissipation is based on the $t \leq 10s$ 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.

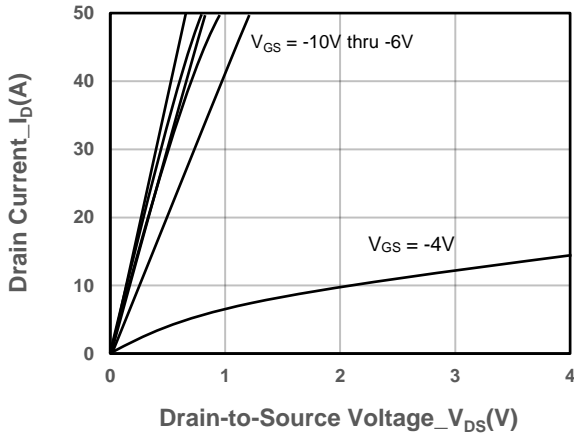


➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

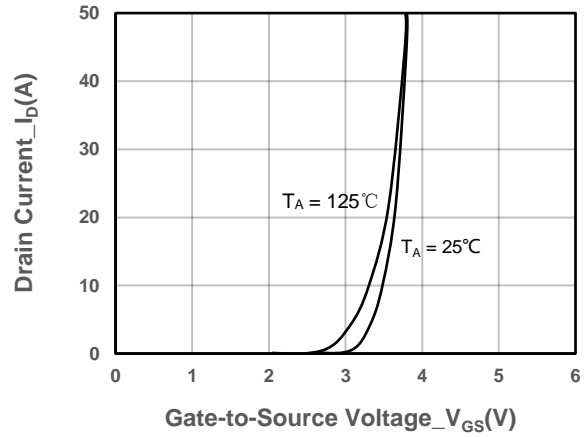
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-60			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250uA	-1	-1.8	-2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -6A		18	28	mΩ
Zero Gate 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 = -1A		-0.75	-1.4	V
Gate Resistance	R _G	V _{DS} = 0V, f = 1MHz		8		Ω
Input Capacitance	C _{ISS}	V _{DS} = -30V, V _{GS} = 0V, f = 1MHz		1500		pF
Output Capacitance	C _{OSS}			250		
Reverse Transfer Capacitance	C _{RSS}			12		
Total Gate Charge	Q _G	V _{GS} = -10V, V _{DS} = -30V, I _D = -5A		21		nC
Gate to Source Charge	Q _{GS}			3.6		
Gate to Drain Charge	Q _{GD}			3		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = -10V, V _{DD} = -30V, R _L = 3Ω, R _G = 3Ω, I _D = -5A		16		ns
Rise Time	T _r			18		
Turn-off Delay Time	T _{D(OFF)}			40		
Fall Time	T _f			45		



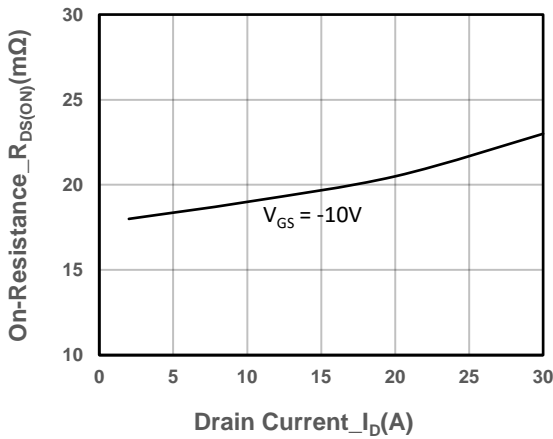
➤ **Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)**



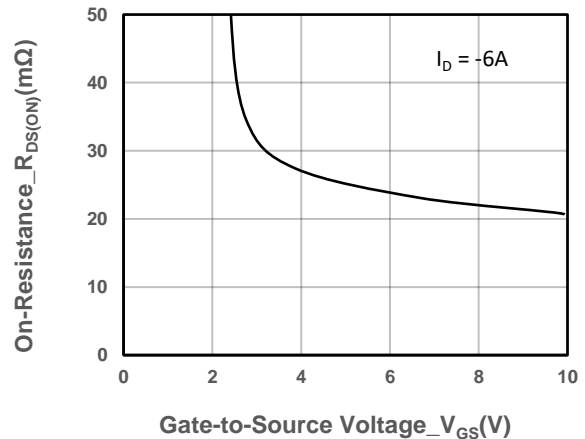
Output Characteristics



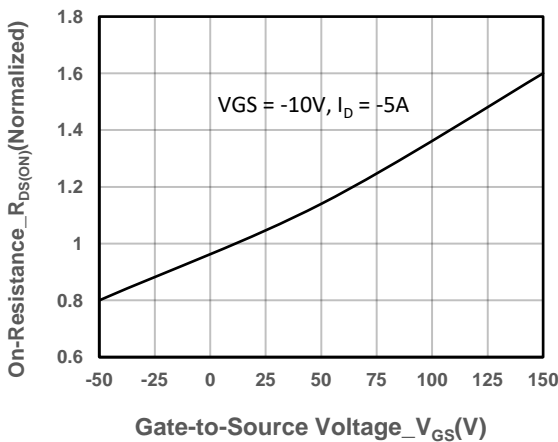
Transfer Characteristics



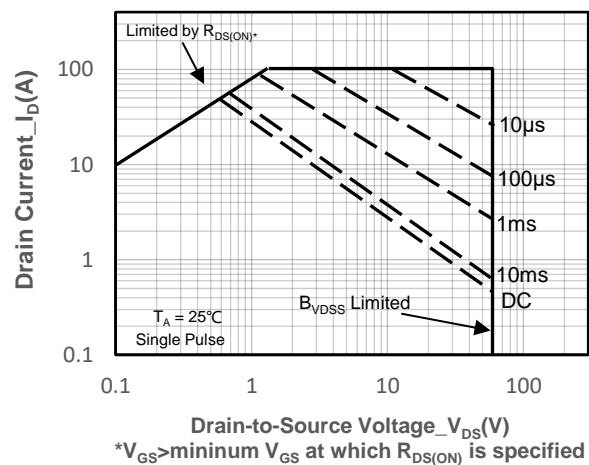
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

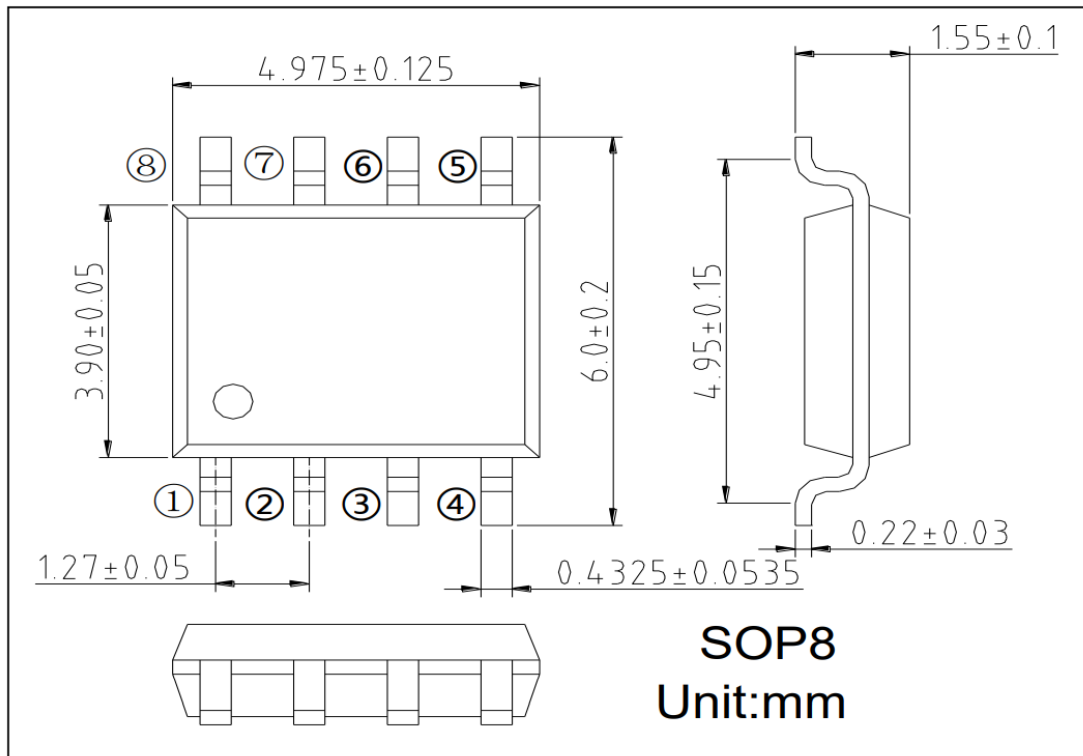


On-Resistance vs. Junction Temperature



Safe Operating Area vs. Junction-to-Ambient

➤ Package Information



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