



## SSC8LA0GS1

### N-Channel Enhancement Mode MOSFET

#### ➤ Features

VDS	VGS	RDS(on) Typ.	ID
100V	±20V	9.5mR@10V	12A
		13.5mR@4V5	

#### ➤ Description

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

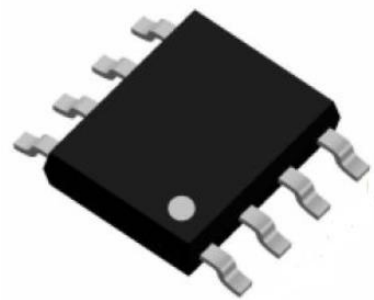
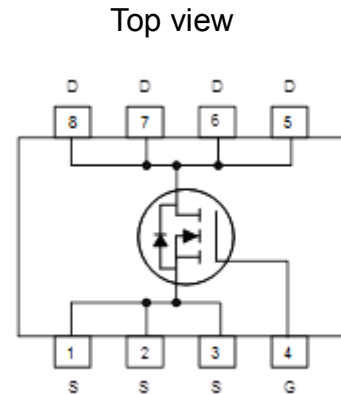
#### ➤ Applications

- Load Switch
- Industrial and motor drive applications
- DCDC conversion and ACDC converters

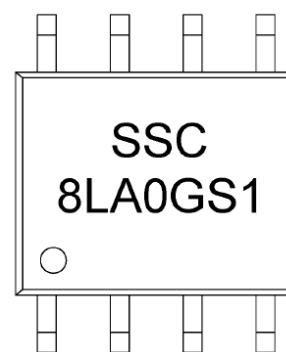
#### ➤ Ordering Information

Device	Package	Shipping
SSC8LA0GS1	SOP8	2500/Reel

#### ➤ Pin configuration



SOP8



Marking



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

Symbol	Parameter	Ratings	Unit
$V_{DSS}$	Drain-to-Source Voltage	100	V
$V_{GSS}$	Gate-to-Source Voltage	$\pm 20$	V
$I_D$	Continuous Drain Current <sup>a</sup>	12	A
$I_{DM}$	Pulsed Drain Current <sup>b</sup>	76	A
$P_D$	Power Dissipation <sup>c</sup>	7.5	W
$P_{DSM}$	Power Dissipation <sup>a</sup>	3	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 <sup>a</sup>		45	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		20	

Note:

- The value of  $R_{\theta JA}$  is measured with the device mounted on 1 in<sup>2</sup> 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.

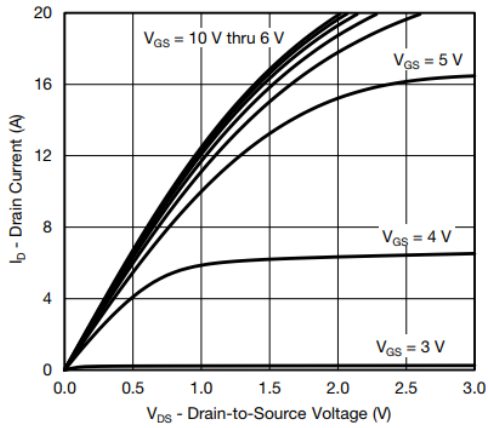


➤ **Electronics Characteristics**( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

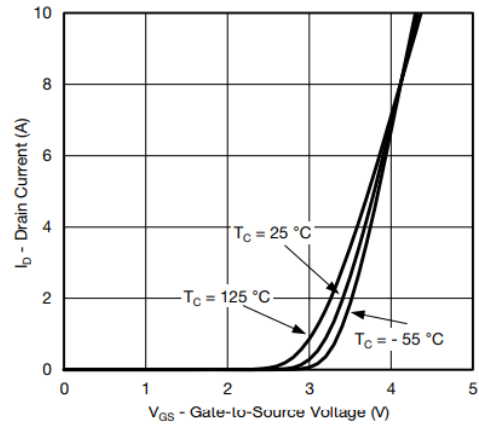
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	100			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	1	1.2	2.2	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=10V, I_D=11.5A$		9.5	12	mR
		$V_{GS}=4.5V, I_D=10A$		13.5	15	
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS}=100V, V_{GS}=0V$			1	$\mu A$
$I_{GSS}$	Gate-Source leak current	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
$G_{FS}$	Transconductance	$V_{DS}=25V, I_D=10A$		46		S
$V_{SD}$	Forward Voltage	$V_{GS}=0V, I_S=6A$		0.8	1.5	V
$C_{iss}$	Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1\text{MHz}$		2400		pF
$C_{oss}$	Output Capacitance			186		
$C_{rss}$	Reverse Transfer Capacitance			15		
$Q_G$	Total Gate Charge			46		
$Q_{GS}$	Gate Source Charge	$V_{GS}=10V, V_{DS}=20V, I_D=12A$		8		nC
$Q_{GD}$	Gate Drain Charge			12		
$T_{D(ON)}$	Turn-on delay time			20		
$T_r$	Rise Time	$V_{GS}=10V,$ $V_{DS}=30V, R_G=3R,$ $R_L=30R$		10		ns
$T_{D(OFF)}$	Turn-off delay time			30		
$T_f$	Fall Time			12		



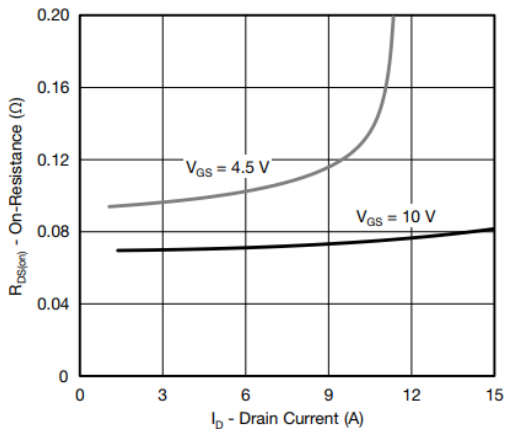
➤ **Typical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise noted)



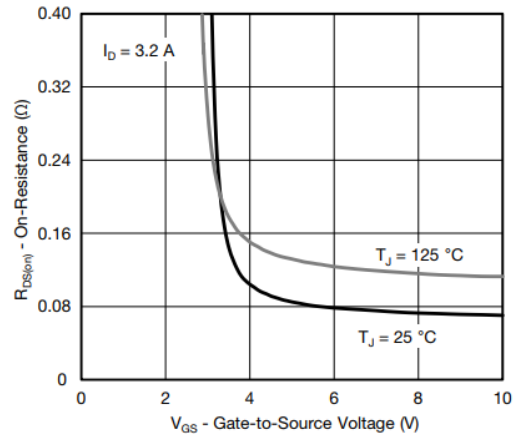
**Output Characteristics**



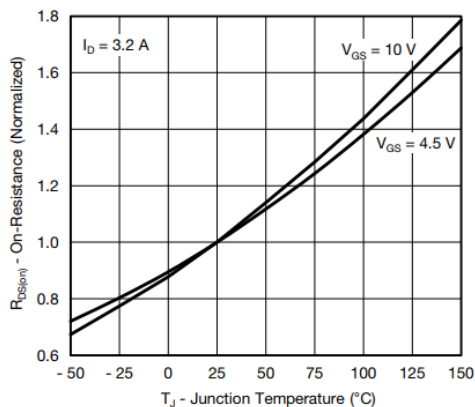
**Transfer Characteristics**



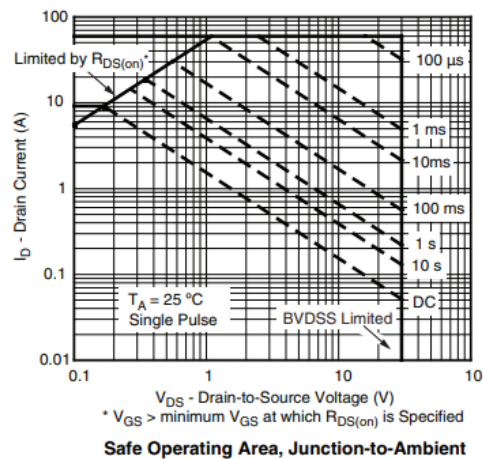
**On-Resistance vs. Drain Current and Gate Voltage**



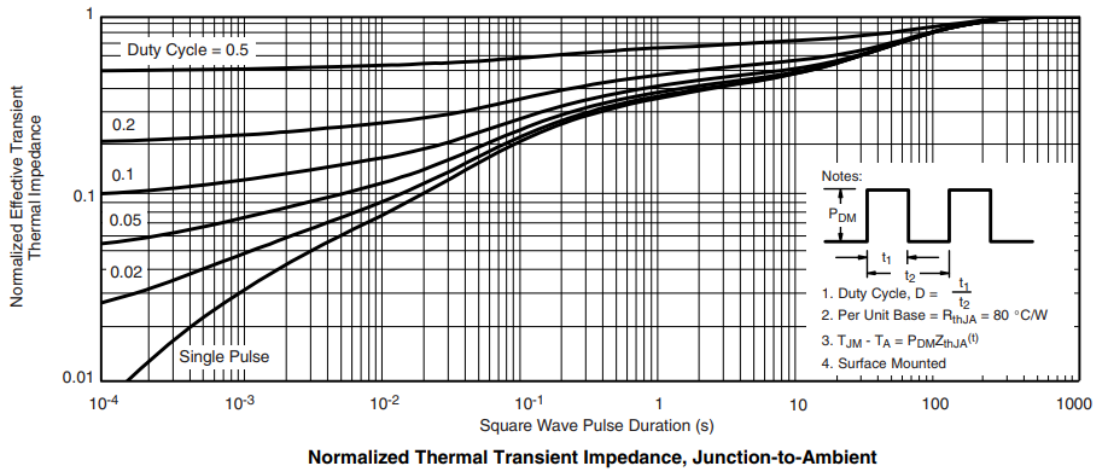
**On-Resistance vs. Gate-to-Source Voltage**



**On-Resistance vs. Junction Temperature**

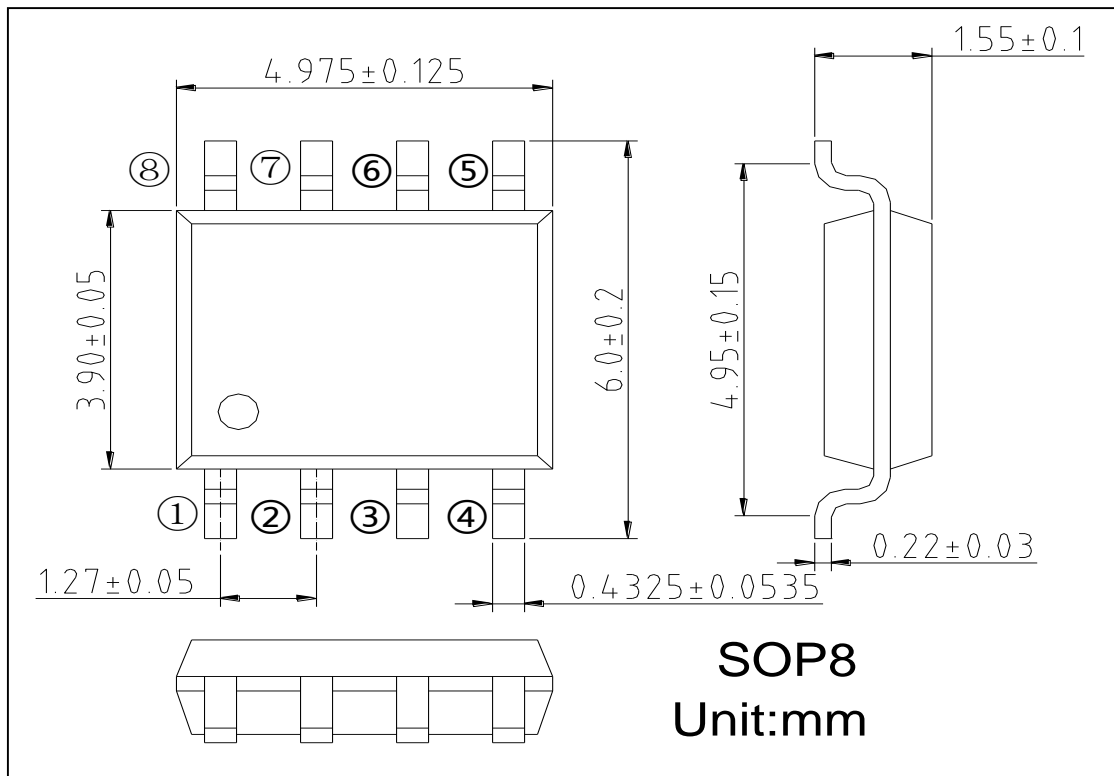


**Safe Operating Area, Junction-to-Ambient**





➤ Package Information



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