



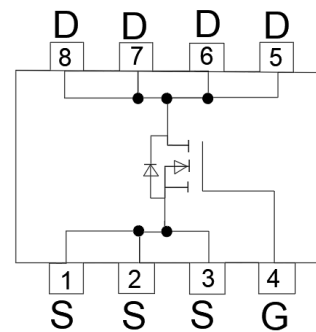
SSC8148GS1

N-Channel Enhanced MOSFET

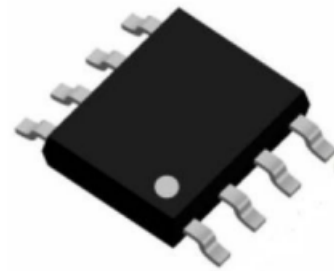
➤ Features

VDS	VGS	RDSON Typ.	ID
45V	±20V	7mΩ@10V	63A
		14mΩ@4V5	

➤ Pin configuration



Top View



SOP8

➤ Description

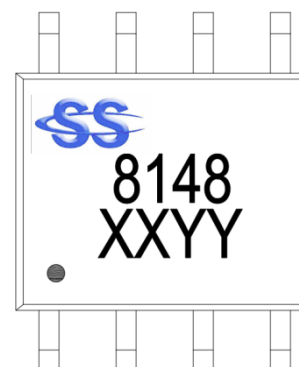
This device uses advanced trench Technology to provide excellent RDSON and low gate charge. This device is suitable for use as a load switch or in PWM applications.

➤ Applications

- Load Switch
- Portable Devices
- DCDC conversion
- Power supplies
- Motor Drive Control
- Synchronous rectification

➤ Ordering Information

Device	Package	Shipping
SSC8148GS1	SOP8	4000/Reel



Marking



➤ **Absolute Maximum Ratings(TA = 25°C unless otherwise noted)**

Symbol	Parameter	Ratings	Unit
V _{DSS}	Drain-to-Source Voltage	45	V
V _{GSS}	Gate-to-Source Voltage	±20	V
I _D	Continuous Drain Current ^d	T _C = 25°C	A
		T _C = 100°C	
I _{DSM}	Continuous Drain Current ^a	T _A = 25°C	A
		T _A = 70°C	
I _{DM}	Pulsed Drain Current ^b	252	A
P _D	Power Dissipation ^c	T _C = 25°C	W
		T _C = 100°C	
P _{DSM}	Power Dissipation ^a	T _A = 25°C	W
		T _A = 70°C	
I _{AS}	Avalanche Current ^b L=0.5mH Single Pulse	26	A
E _{AS}	Avalanche Energy ^b L=0.5mH Single Pulse	169	mJ
T _J	Operation junction temperature	-55~150	°C
T _{STG}	Storage temperature range	-55~150	

➤ **Thermal Resistance Ratings(TA = 25°C unless otherwise noted)**

Symbol	Parameter	Ratings	Unit
R _{θJA}	Junction-to-Ambient Thermal Resistance ^a	26	°C/W
R _{θJC}	Junction-to-Case Thermal Resistance	2.8	

Note:

- The value of R_{θJA} is measured with the device mounted on 1 in² FR-4 board with 2oz.copper, in a still air environment with T_A = 25°C. The value in any given application depends on the user is specific board design. The power dissipation is based on the t ≤ 10s thermal resistance rating.
- Repetitive rating, pulse width limited by junction temperature.
- The power dissipation P_D is based on T_{J(MAX)} = 150°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.

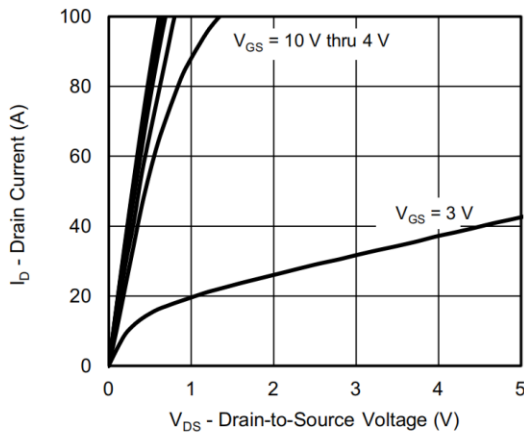
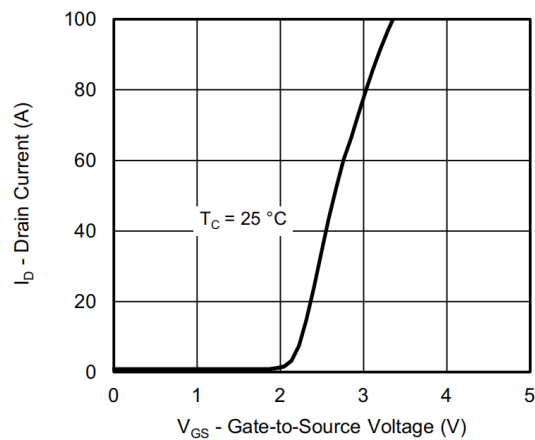
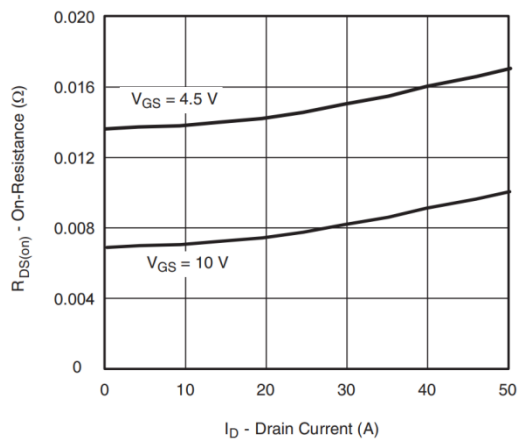
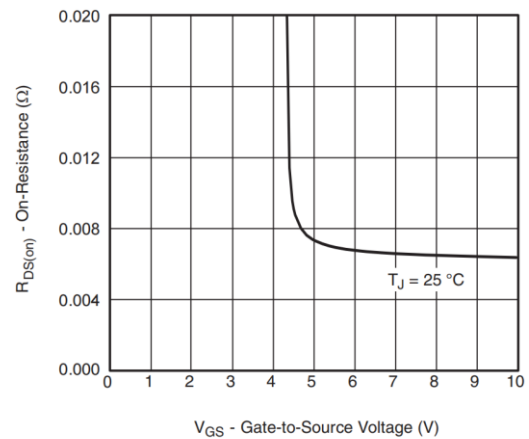
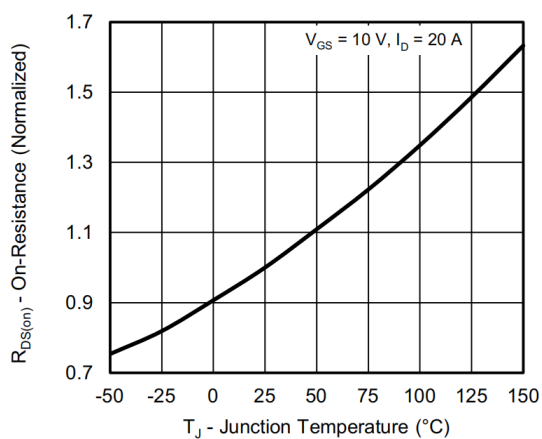
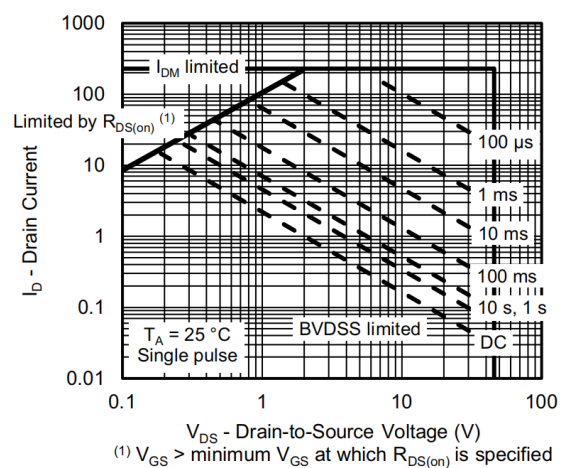


➤ **Electronics Characteristics(TA = 25°C unless otherwise noted)**

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = 250\mu A$	45			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.2	2	3	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS} = 10V, I_D = 20A$		7	9.5	mΩ
		$V_{GS} = 4.5V, I_D = 15A$		14	18.5	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 40V, V_{GS} = 0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS} = \pm 20V, V_{DS} = 0V$			±100	nA
G_{FS}	Transconductance	$V_{DS} = 5V, I_D = 20A$		27		S
V_{SD}	Forward Voltage	$V_{GS} = 0V, I_S = 10A$		0.8	1.4	V
R_g	Gate Resistance	$V_{DS} = 0V, f = 1MHz$		1		Ω
C_{iss}	Input Capacitance	$V_{DS} = 20V, V_{GS} = 0V, f = 1MHz$		2250		pF
C_{oss}	Output Capacitance			190		
C_{rss}	Reverse Capacitance			160		
$T_{D(ON)}$	Turn-on delay time	$V_{GS} = 10V, R_L = 1\Omega$ $V_{DS} = 20V, R_G = 3\Omega$		9.5		ns
T_r	Rise time			28		
$T_{D(OFF)}$	Turn-off delay time			27		
T_f	Fall time			9.5		
Q_G	Total Gate Charge	$V_{GS} = 10V, V_{DS} = 20V$ $I_D = 20A$		42		nC
Q_{GS}	Gate Source Charge			9.5		
Q_{GD}	Gate Drain Charge			9		
T_{rr}	Diode Recovery Time	$I_F = 20A, di/dt = 200A/\mu s$		19		ns
Q_{rr}	Diode Recovery Charge	$I_F = 20A, di/dt = 200A/\mu s$		24		nC

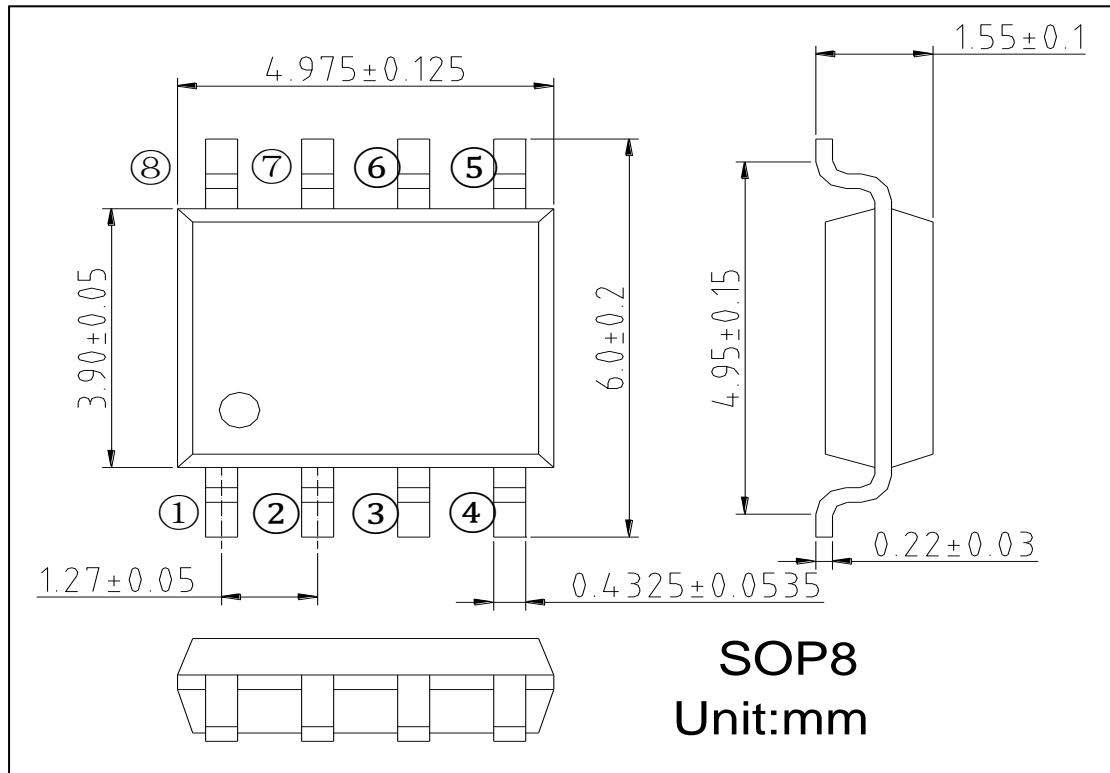


➤ **Typical Characteristics**($T_A = 25^\circ\text{C}$ unless otherwise noted)

**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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