SSC8125GS6

P-Channel Enhancement Mode MOSFET with ESD Protection

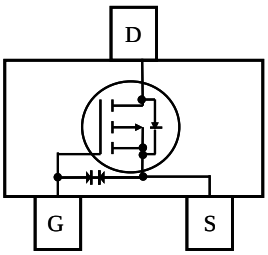
- **Features**

VDS	VGS	RDSon TYP	ID	ESD
-20V	±8V	36mR@-4V5 45mR@-2V5 57mR@-1V8 66mR@-1V5	-4A	3kV

- **Applications**
  - Load Switch
  - Portable Devices
  - DCDC Conversion

- **Pin configuration**

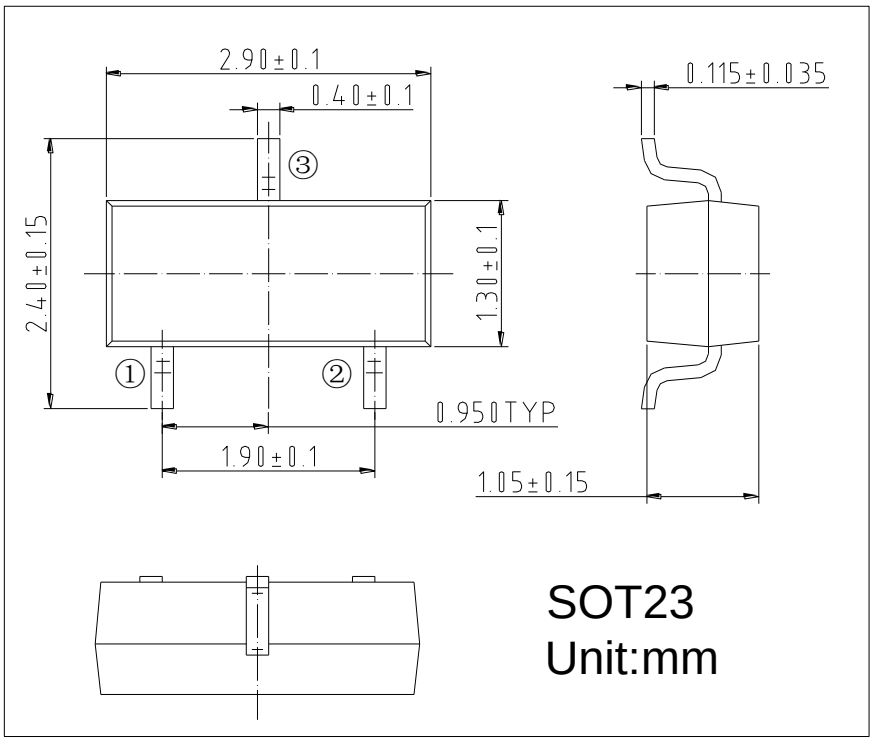
Top View



- **General Description**

This device uses advanced trench technology to provide excellent RDS(ON) , low gate charge and operation with gate voltages as low as 1.5V and it is protected from ESD. These feathures make it suitable for use as a load switch or in PWM applications.

- **Package Information**



- **Absolute Maximum Ratings** @ T_A = 25°C unless otherwise noted

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DSS}	-20	V
Gate-Source Voltage		V_{GSS}	±8	V
Drain Current[1]	Continuous	I_D	-4	A
	Pulsed		-20	
Power Dissipation[1]		P_D	450	mW
Junction and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

- **Electrical Characteristics** @ T_A = 25°C unless otherwise noted

Parameter[2]	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250uA	-20	--	--	V
Zero Gate Voltage Drain Curren	I_{DSS}	V_{DS} = -20V, V_{GS} = 0V	--	--	-1	uA
		T_J=55°C			-5	
Gate-Body Leakage	I_{GSS}	V_{GS} = ±8V, V_{DS} = 0V	--	--	±10	uA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = -250uA	-0.4	-0.6	-0.9	V
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	V_{GS} = -4.5V, I_D = -4A	--	36	41	mR
		V_{GS} = -2.5V, I_D = -3A	--	45	52	
		V_{GS} = -1.8V, I_D = -2A	--	57	62	
		V_{GS} = -1.5V, I_D = -1A	--	66	72	
Forward Transconductance	G_{FS}	V_{DS} =-5V, I_D = -4A	--	16	--	S
Diode Forward Voltage	V_{SD}	V_{GS} = 0V, I_{SD} = 1.6A		0.7	1.3	V
Input Capacitance	C_{ISS}	V_{DS} = -10V, V_{GS} = 0V F = 1.0MHz	--	418	--	pF
Output Capacitance	C_{OSS}		--	136	--	
Reverse Transfer Capacitance	C_{RSS}		--	56	--	
Total Gate Charge	Q_G	V_{DS}=-10V, I_D=-4A, V_{GS}=5V	--	9	--	nC
Gate-Source Charge	Q_{GS}		--	2.9	--	
Gate-Drain	Q_{GD}		--	3.6	--	
Turn-On Delay Time	$T_{D(ON)}$	V_{GS} = -5V, V_{GS} = -10V R_L = 1.5R ,R_{GEN} = 3R	--	--	18	ns
Turn-Off Delay Time	$T_{D(OFF)}$		--	--	70	

Notes :

1. Surface Mounted on FR4 Board, t < 10 sec.
2. Pulse Test: Pulse Width < 300μs, Duty Cycle < 2%

- **Typical Performance Characteristics**

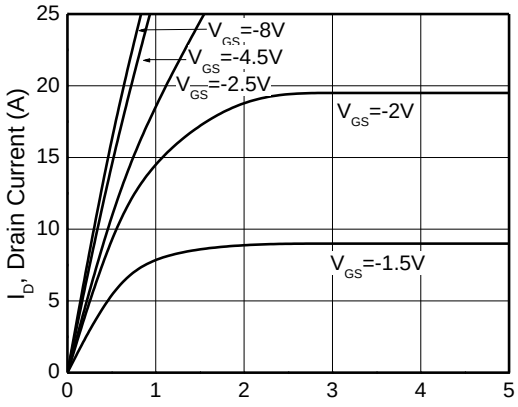


Figure 1. Output Characteristics

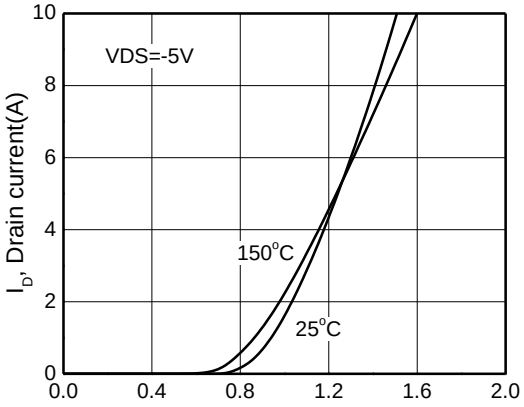


Figure 2. Transfer Characteristics

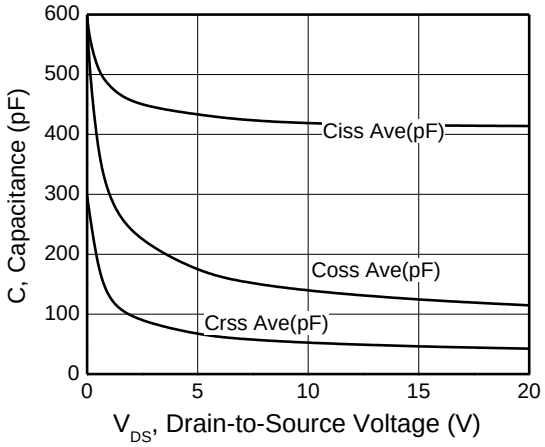


Figure 3. Capacitance

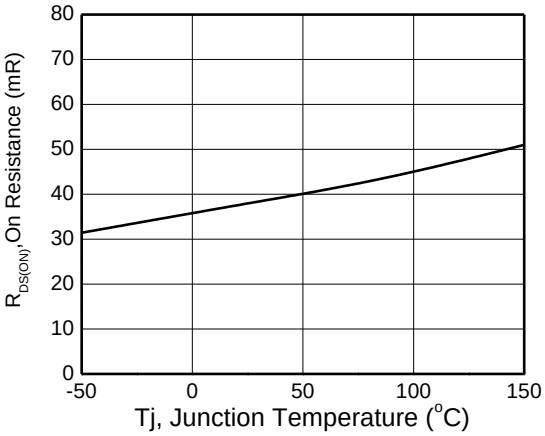


Figure 4. On Resistance vs. Temperature

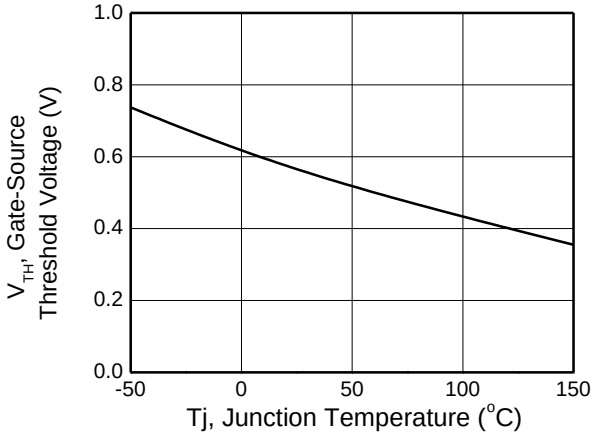


Figure 5. Gate Threshold vs. Temperature

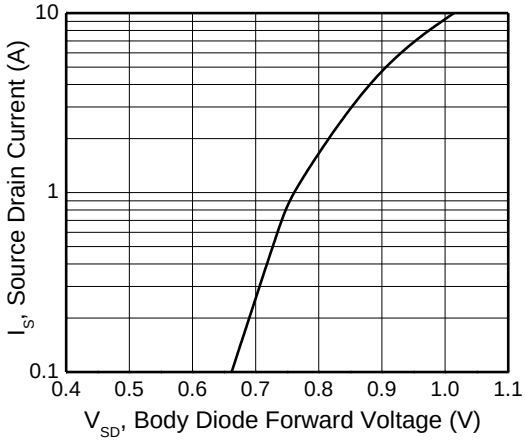


Figure 6. Diode Forward Characteristics

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