



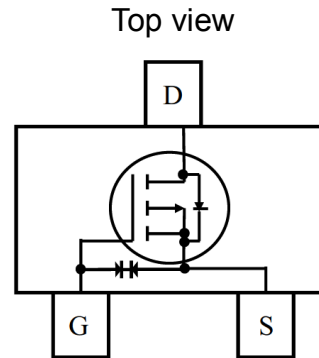
SSC8125GS6

P-Channel Enhancement Mode MOSFET with ESD Protection

➤ Features

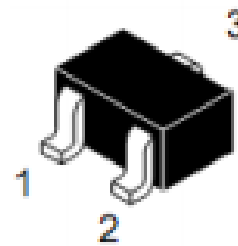
VDS	VGS	RDSON Typ.	ID	ESD
-20V	±8V	36mR@-4V5	-4A	3kV
		45mR@-2V5		
		57mR@-1V8		
		66mR@-1V5		

➤ Pin configuration



➤ Description

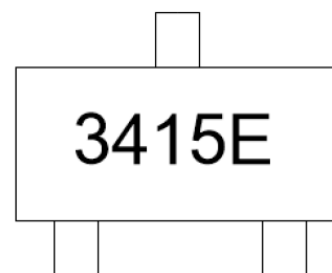
This device uses advanced trench technology to provide excellent RDSON, low gate charge and operation with gate voltages as low as 1.5V and it is protected from ESD. These features make it suitable for use as a load switch or in PWM applications.



SOT23

➤ Applications

- Load Switch
- Portable Devices
- DCDC conversion



Marking

➤ Ordering Information

Device	Package	Shipping
SSC8125GS6	SOT23	3000/Reel



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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	-20	V
V_{GSS}	Gate-to-Source Voltage	± 8	V
I_D	Continuous Drain Current ^a	-4	A
I_{DM}	Pulsed Drain Current ^b	-20	A
P_D	Power Dissipation ^c	0.9	W
P_{DSM}	Power Dissipation ^a	0.45	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		280	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		140	

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 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.

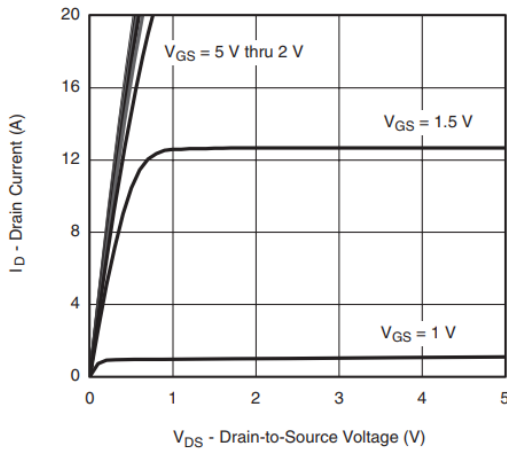


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

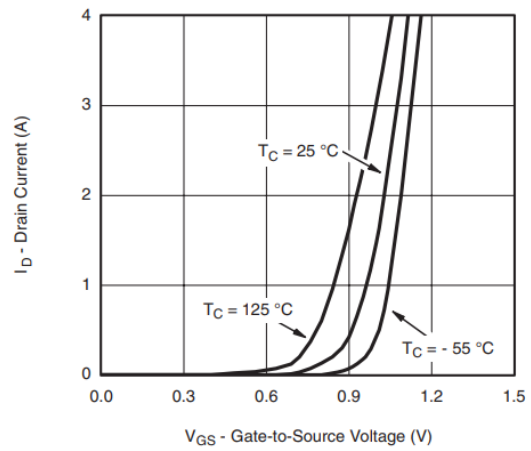
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.4	-0.6	-0.9	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-4.5V, I_D=-4A$		36	41	mR
		$V_{GS}=-2.5V, I_D=-3A$		45	52	
		$V_{GS}=-1.8V, I_D=-2A$		57	62	
		$V_{GS}=-1.5V, I_D=-1A$		66	72	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-20V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 8V, V_{DS}=0V$			± 10	μA
G_{FS}	Transconductance	$V_{DS}=-5V, I_D=-4A$		16		S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=-1.6A$		-0.7	-1.3	V
C_{iss}	Input Capacitance	$V_{DS}=-10V, V_{GS}=0V, F=1MHz$		418		pF
C_{oss}	Output Capacitance			136		
C_{rss}	Reverse Transfer Capacitance			56		
$T_{D(ON)}$	Turn-on delay time		$V_{GS}=-5V,$ $V_{DS}=-10V, R_L=1.5R, R_G=3R$		18	
T_r	Rise time			12		
$T_{D(OFF)}$	Turn-off delay time			70		
T_f	Fall time			25		



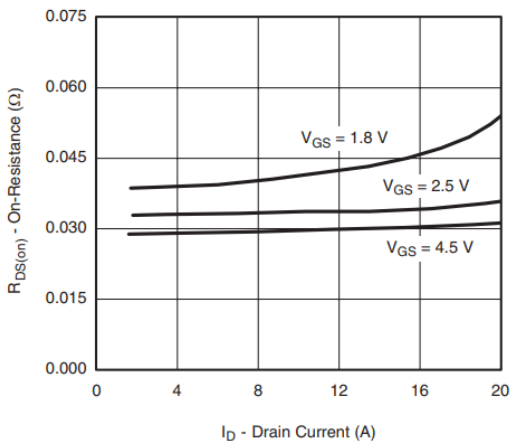
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



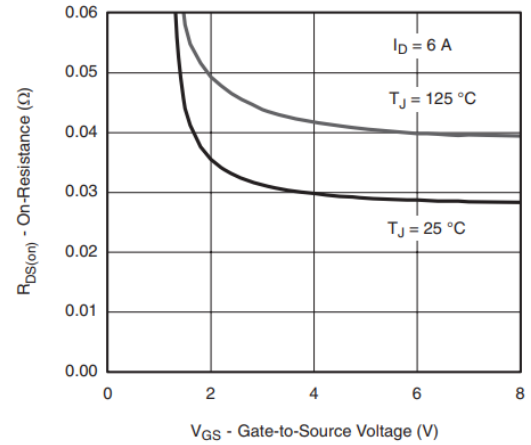
Output Characteristics



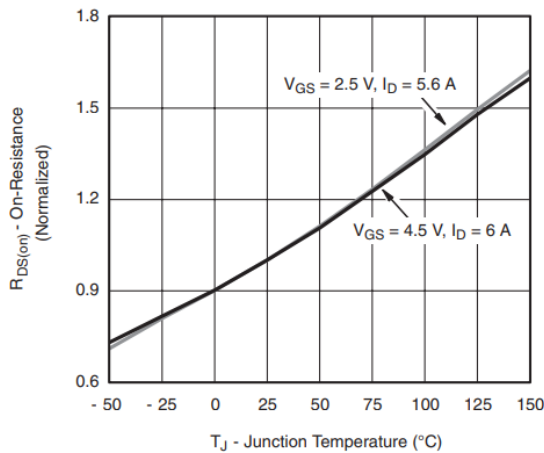
Transfer Characteristics



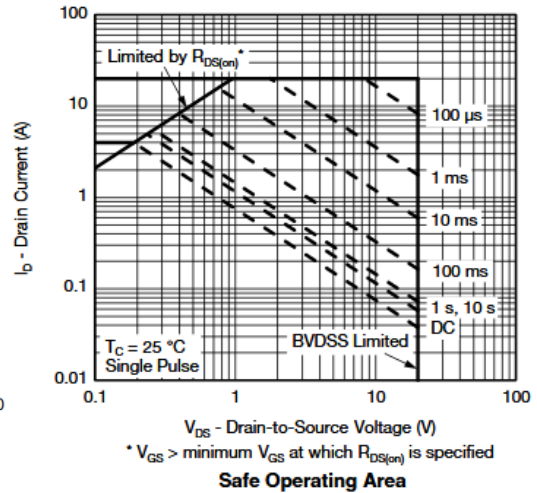
On-Resistance vs. Drain Current and Gate Voltage



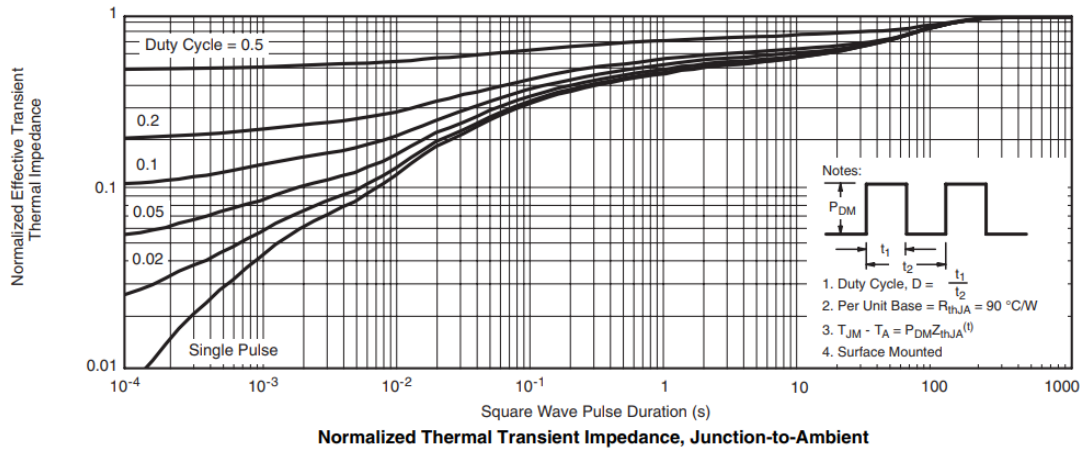
On-Resistance vs. Gate-to-Source Voltage



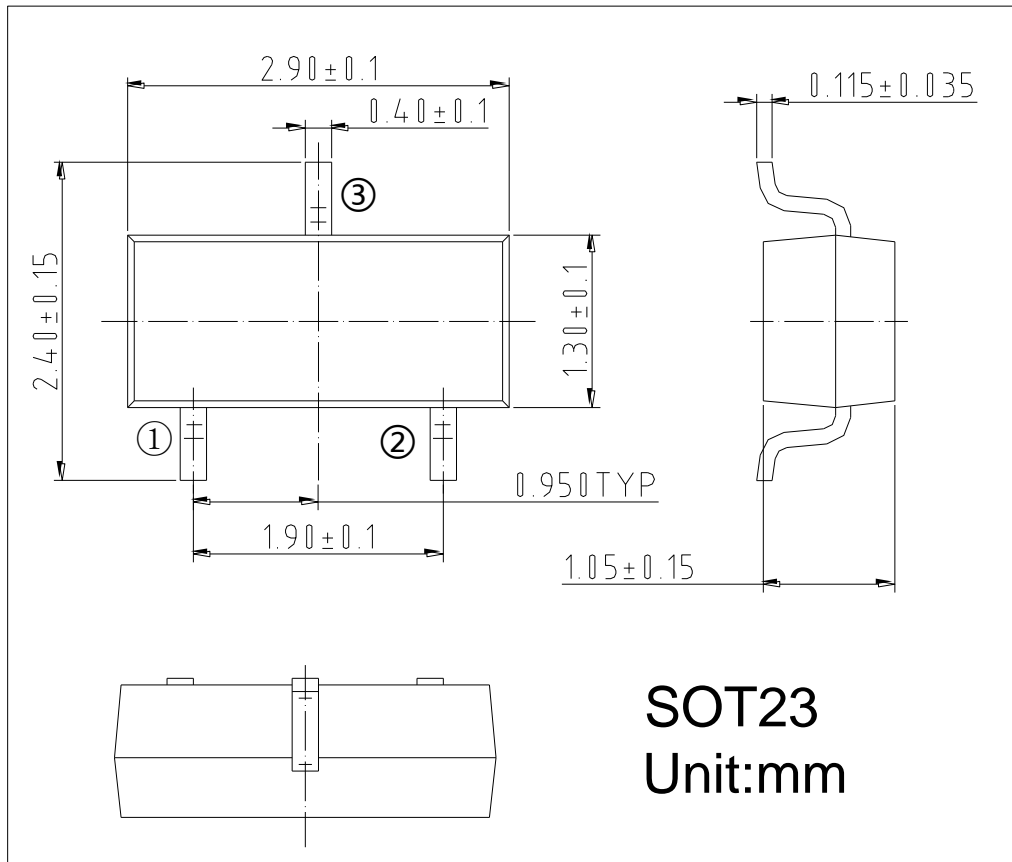
On-Resistance vs. Junction Temperature



Safe Operating Area
* $V_{GS} >$ minimum V_{GS} at which $R_{DS(on)}$ is specified



➤ **Package Information**



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