

SSC8124GS6B
N-Channel Enhancement Mode MOSFET

 ➤ **Features**

VDS	VGS	RDSON Typ.	ID
20V	±12V	22mR@4V5	6A
		25mR@2V5	
		32mR@1V8	

 ➤ **Description**

This device is a N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology. This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

 ➤ **Applications**

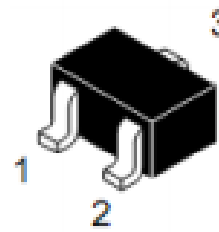
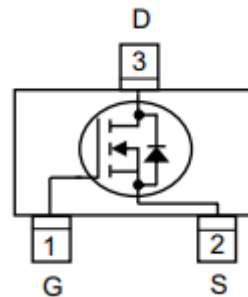
- Load Switch
- Portable Devices
- DCDC conversion

 ➤ **Ordering Information**

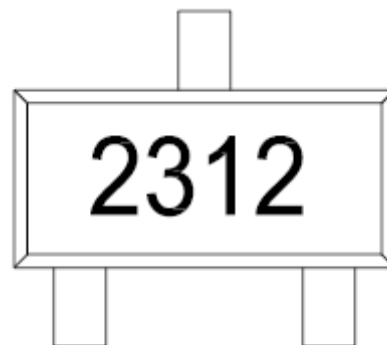
Device	Package	Shipping
SSC8124GS6B	SOT23	3000/Reel

 ➤ **Pin configuration**

Top view



SOT23



Marking

➤ **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	± 12	V
I_D	Continuous Drain Current	5.6	A
I_{DM}	Pulsed Drain Current	18	A
P_D	Power Dissipation	0.55	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		227	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		112	

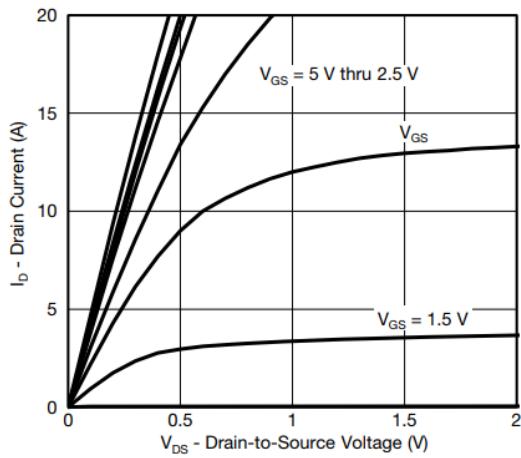
➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu\text{A}$	20			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.4	0.6	0.9	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=4.5V, I_D=5A$		22	25	mR
		$V_{GS}=2.5V, I_D=3.5A$		25	33	
		$V_{GS}=1.8V, I_D=2.8A$		32	44	

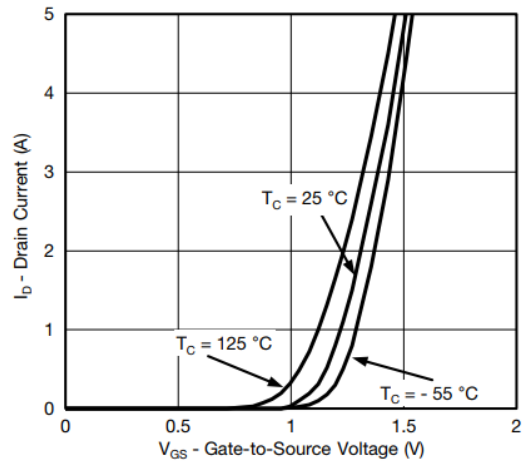
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=16V, V_{GS}=0V$			1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			± 100	nA
G_{FS}	Forward Transconductance	$V_{DS}=5V, I_D=3.6A$		7	14	S
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=1.1A$		0.8	1.15	V

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
C_{iss}	Input Capacitance	$V_{DS}=10V, V_{GS}=0V,$ $F=1MHz$		469		pF
C_{oss}	Output Capacitance			81		
C_{rss}	Reverse Transfer Capacitance			49		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=4.5V,$ $V_{DS}=5V, R_G=6R, I_D=3.6A$			15	ns
$T_{D(OFF)}$	Turn-off delay time				60	

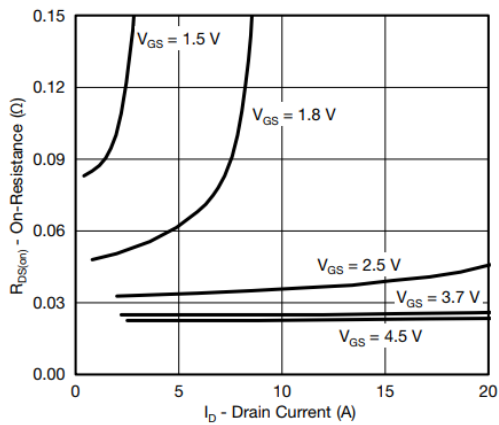
➤ **Typical Characteristics** ($T_A = 25^\circ\text{C}$ unless otherwise noted)



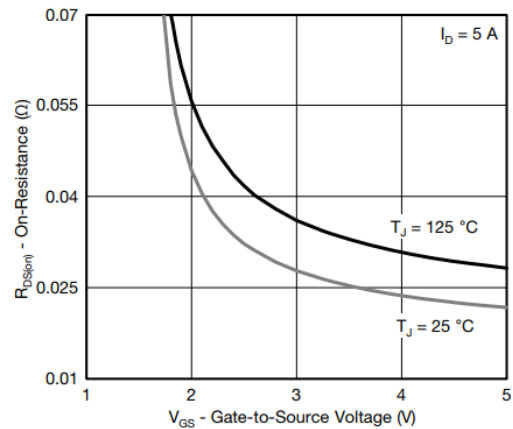
Output Characteristics



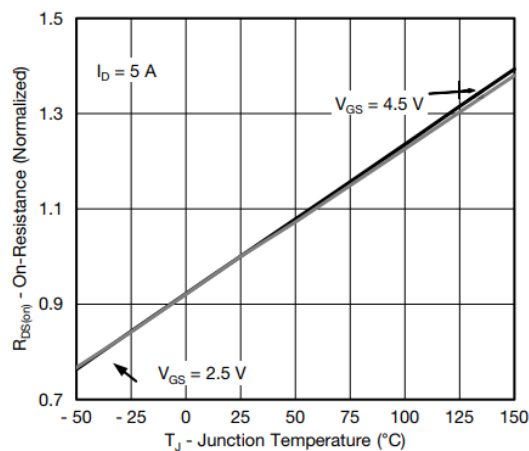
Transfer Characteristics



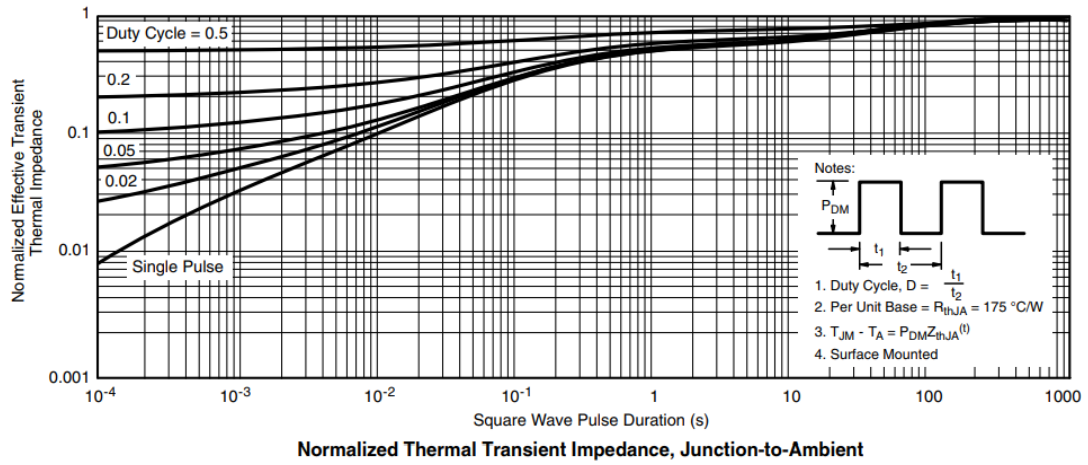
On-Resistance vs. Drain Current and Gate Voltage



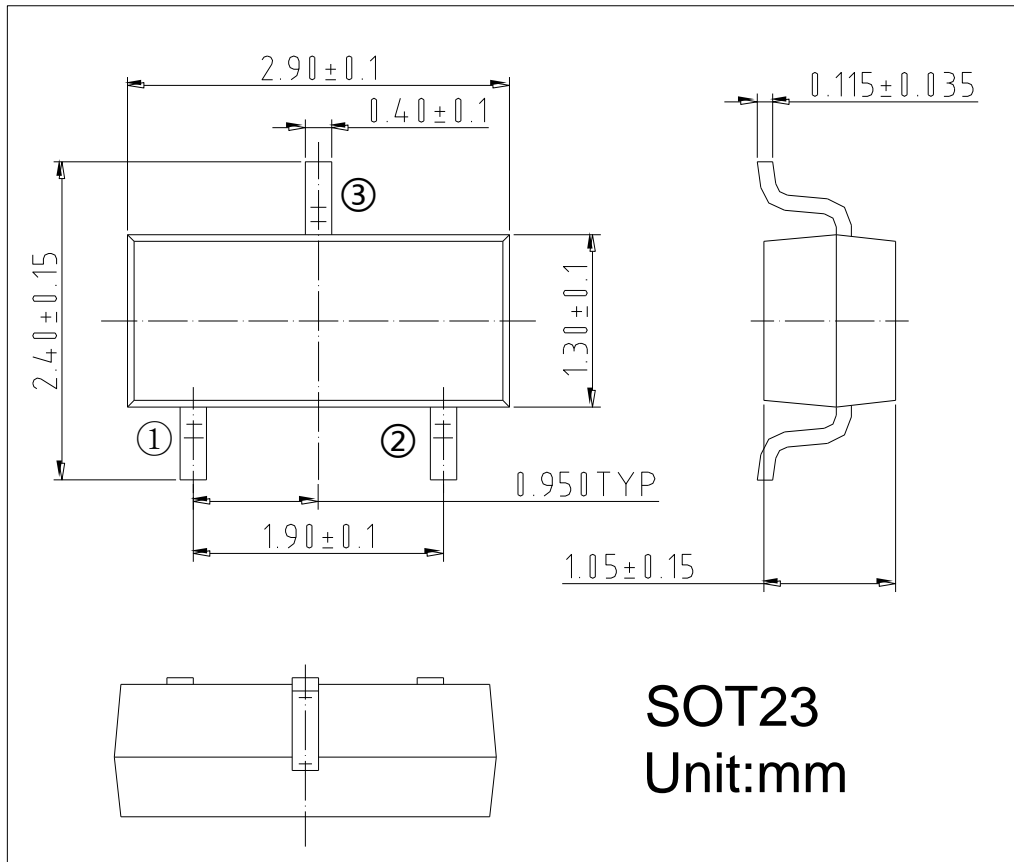
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature



➤ **Package Information**



DISCLAIMER

AFSEMI RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. AFSEMI DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICIENCE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

THE GRAPHS PROVIDED IN THIS DOCUMENT ARE STATISTICAL SUMMARIES BASED ON A LIMITED NUMBER OF SAMPLES AND ARE PROVIDED FOR INFORMATIONAL PURPOSE ONLY. THE PERFORMANCE CHARACTERISTICS LISTED IN THEM ARE NOT TESTED OR GUARANTEED. IN SOME GRAPHS, THE DATA PRESENTED MAY BE OUTSIDE THE SPECIFIED OPERATING RANGE (E.G. OUTSIDE SPECIFIED POWER SUPPLY RANGE) AND THEREFORE OUTSIDE THE WARRANTED RANGE.