SSC8120GS6

N-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID	ESD
20V	±12V	310mR@4V5	1.2A	1.2K
		490mR@2V5		
		850mR@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

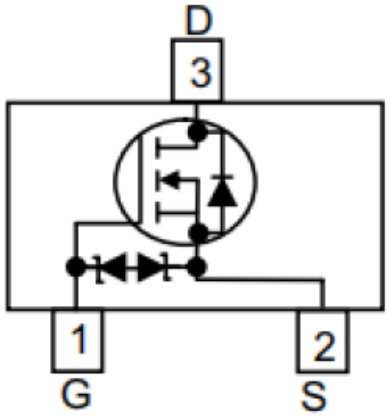
- Load Switch
- Portable Devices
- DCDC conversion

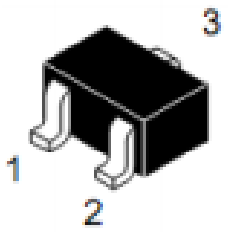
➢ Ordering Information

Device	Package	Shipping
SSC8120GS6	SOT23	3000/Reel

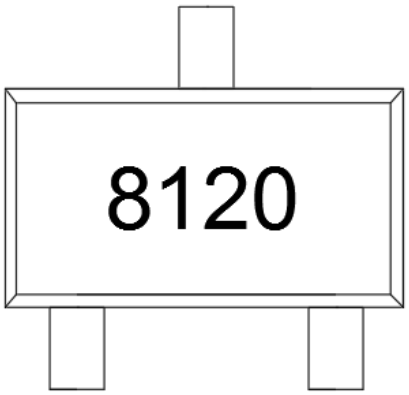
➢ Pin configuration

Top view





SOT23



Marking

➢ **Absolute Maximum Ratings**(T_A=25℃ 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	1.2	A
I_{DM}	Pulsed Drain Current	3	A
P_D	Power Dissipation	0.25	W
T_J	Operation junction temperature	-55 to 150	℃
T_{STG}	Storage temperature range	-55 to 150	℃

➢ **Thermal Resistance Ratings**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Typical	Maximum	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance		499	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		299	

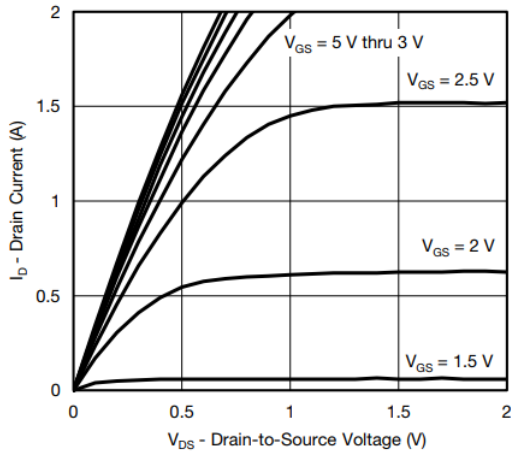
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V,ID=250uA	20			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS,ID=250uA	0.35	0.6	1	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=4.5V,ID=0.5A		310	450	mR
		VGS=2.5V,ID=0.5A		490	765	
		VGS=1.8V,ID=0.35A		850	1300	

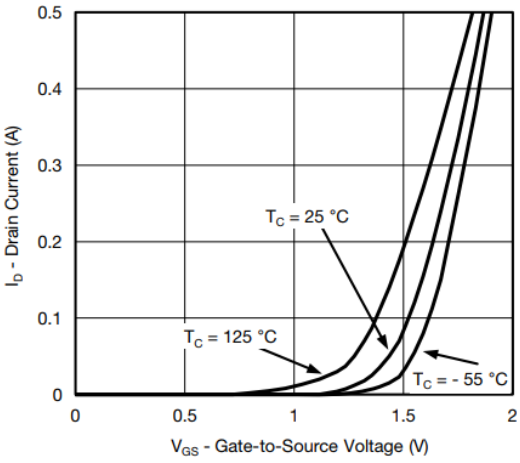
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	VDS=16V,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±12V,VDS=0V			±10	uA
G_{FS}	Forward Transconductance	VDS=5V,ID=0.5A		11		S
V_{SD}	Forward Voltage	VGS=0V,IS=0.11A		0.7	1.3	V

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
Ciss	Input Capacitance	VDS=10V, VGS=0V, F=1MHZ		110		pF
Coss	Output Capacitance			15		
Crss	Reverse Transfer Capacitance			12		
$T_{D(ON)}$	Turn-on delay time	VGS=4.5V, VDS=5V, RG=6R,ID=0.3A			5	ns
$T_{D(OFF)}$	Turn-off delay time				26	

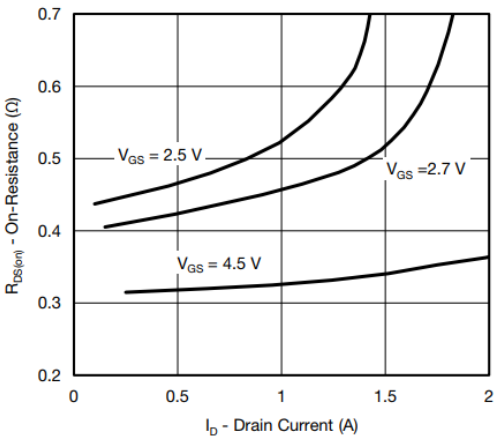
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



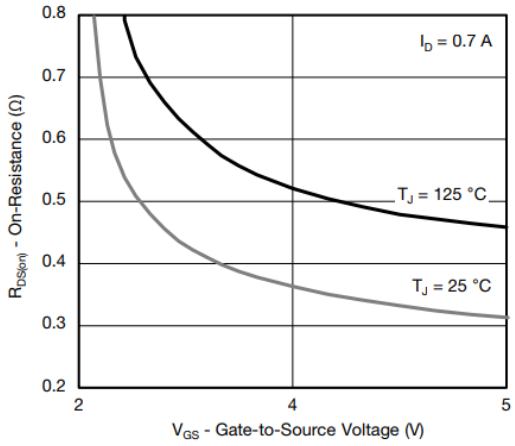
Output Characteristics



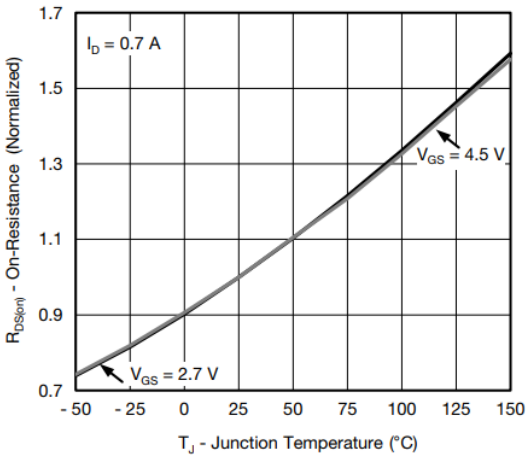
Transfer Characteristics



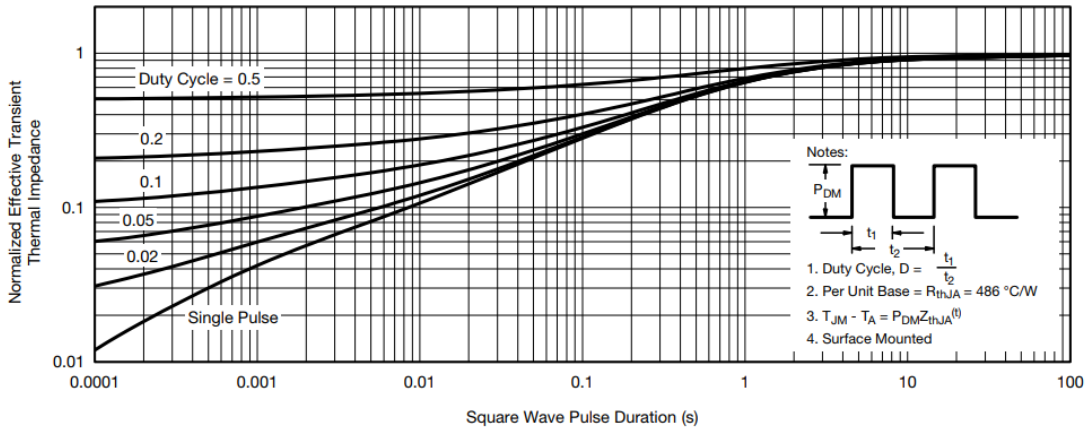
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage

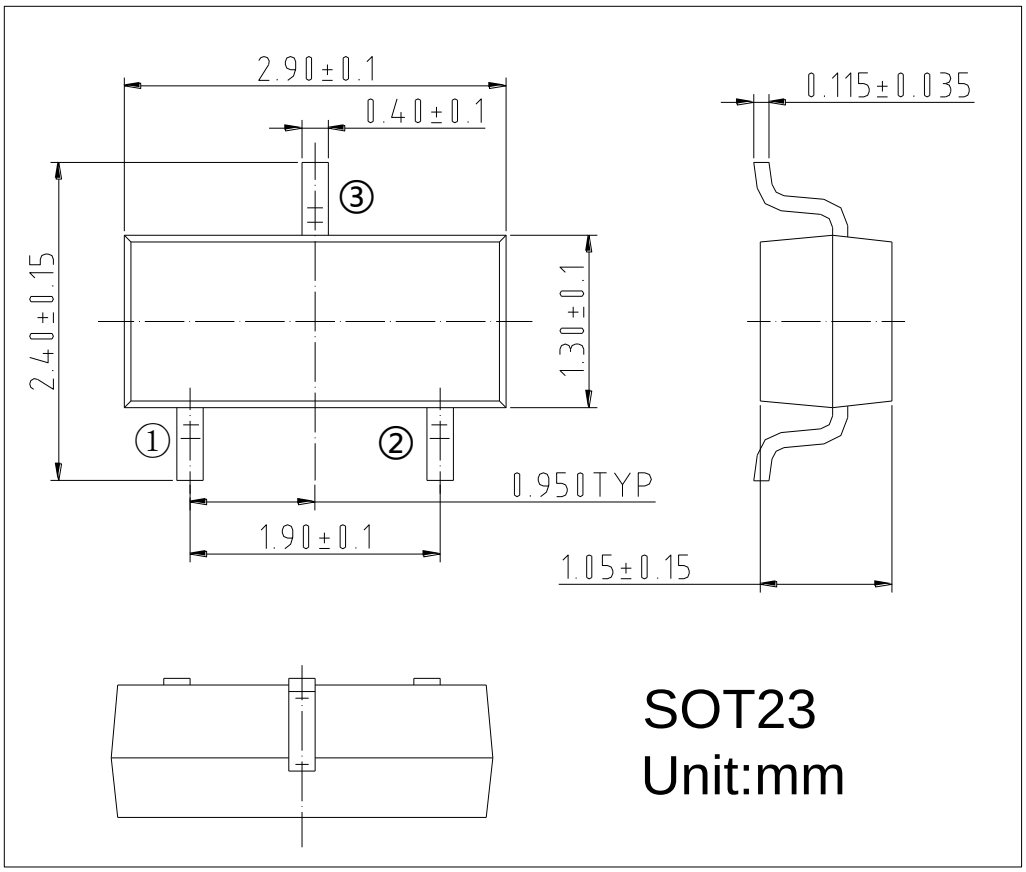


On-Resistance vs. Junction Temperature



Normalized Thermal Transient Impedance, Junction-to-Ambient

➢ Package Information



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