SSC8025GS6

P-Channel Enhancement Mode MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
-20V	±12V	28mR@-4V5	-5A
		45mR@-2V5	

➢ Description

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package.

➢ Applications

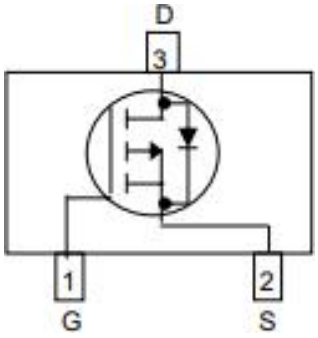
- Load Switch
- Portable Devices
- DCDC conversion

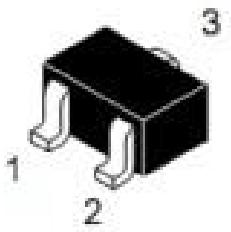
➢ Ordering Information

Device	Package	Shipping
SSC8025GS6	SOT23	3000/Reel

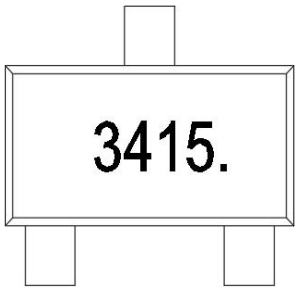
➢ Pin configuration

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 [a]	-5	A
I_{DM}	Pulsed Drain Current [b]	-20	A
P_D	Power Dissipation [c]	0.9	W
P_{DSM}	Power Dissipation [a]	0.55	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 [a]		235	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		145	

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper,in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The current rating is based on the t≤ 10s thermal resistance rating.

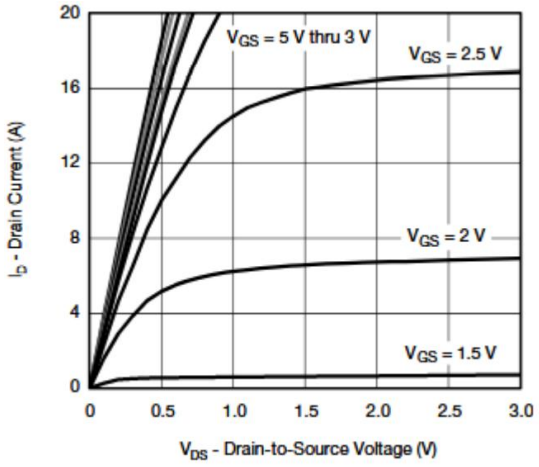
b. Repetitive rating, pulse width limited by junction temperature.

c. 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.

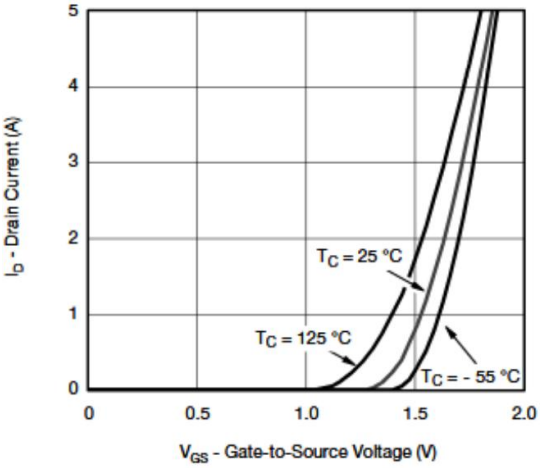
➢ **Electronics Characteristics**(T_A=25℃ unless otherwise noted)

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	-0.45	-0.7	-1	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=-4.5V, ID=-4A		28	36	mR
		VGS=-2.5V, ID=-3A		45	60	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=-16V, VGS=0V			-1	uA
I_{GSS}	Gate-Source leak current	VGS=±12V, VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=-5V, ID=-3.5A		9		S
V_{SD}	Forward Voltage	VGS=0V, IS=-1.6A		-0.75	-1.2	V
Ciss	Input Capacitance	VDS=-10V, VGS=0V, f=1MHz		830		pF
Coss	Output Capacitance			190		
Crss	Reverse Transfer Capacitance			97		
$T_{D(ON)}$	Turn-on delay time	VDS=-10V, VGEN=-4.5V, RL=4R, RG=1R, ID=-2.5A		10		ns
Tr	Rise Time			30		
$T_{D(OFF)}$	Turn-off delay time			20		
Tf	Fall Time			11		
Qg	Total Gate charge	VGS=-4.5V, VDS=-10V, ID=-4A		15		nC
Qgs	Gate Source charge			2.3		
Qgd	Gate Drain charge			2.2		

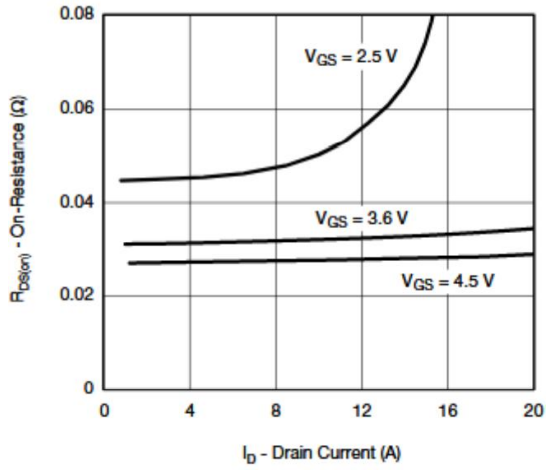
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



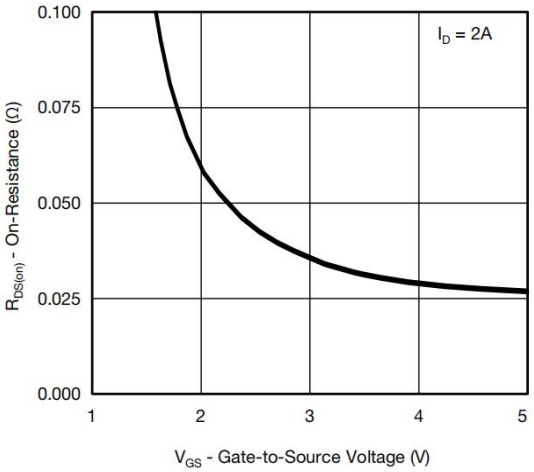
Output Characteristics



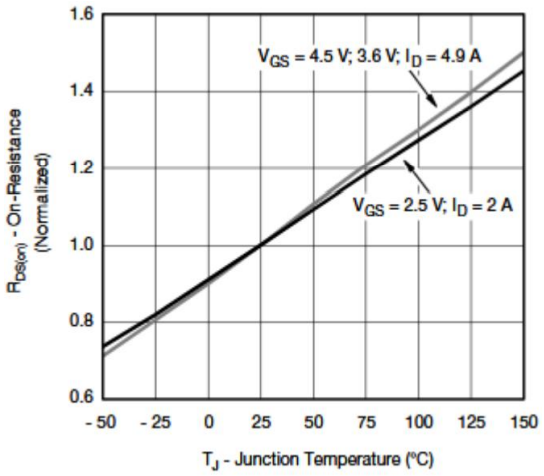
Transfer Characteristics



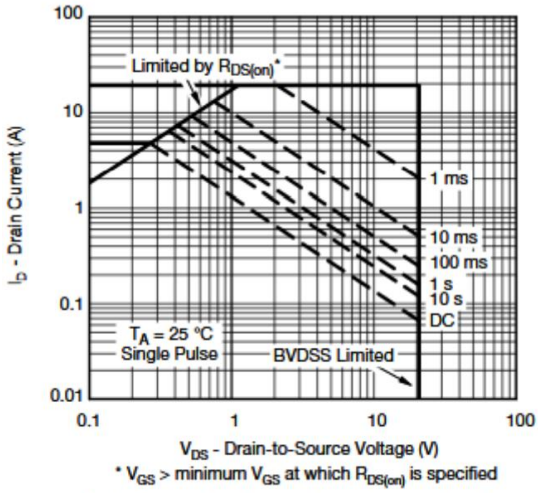
On Resistance vs. Drain Current



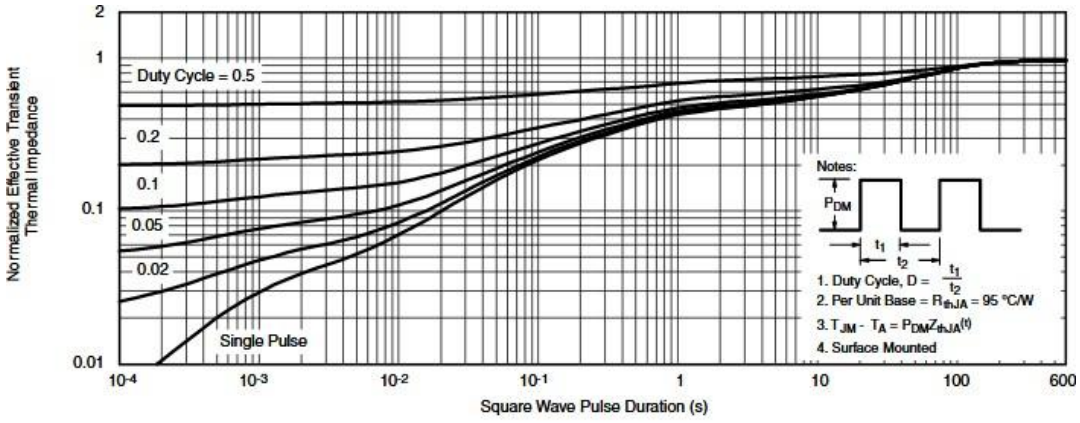
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature

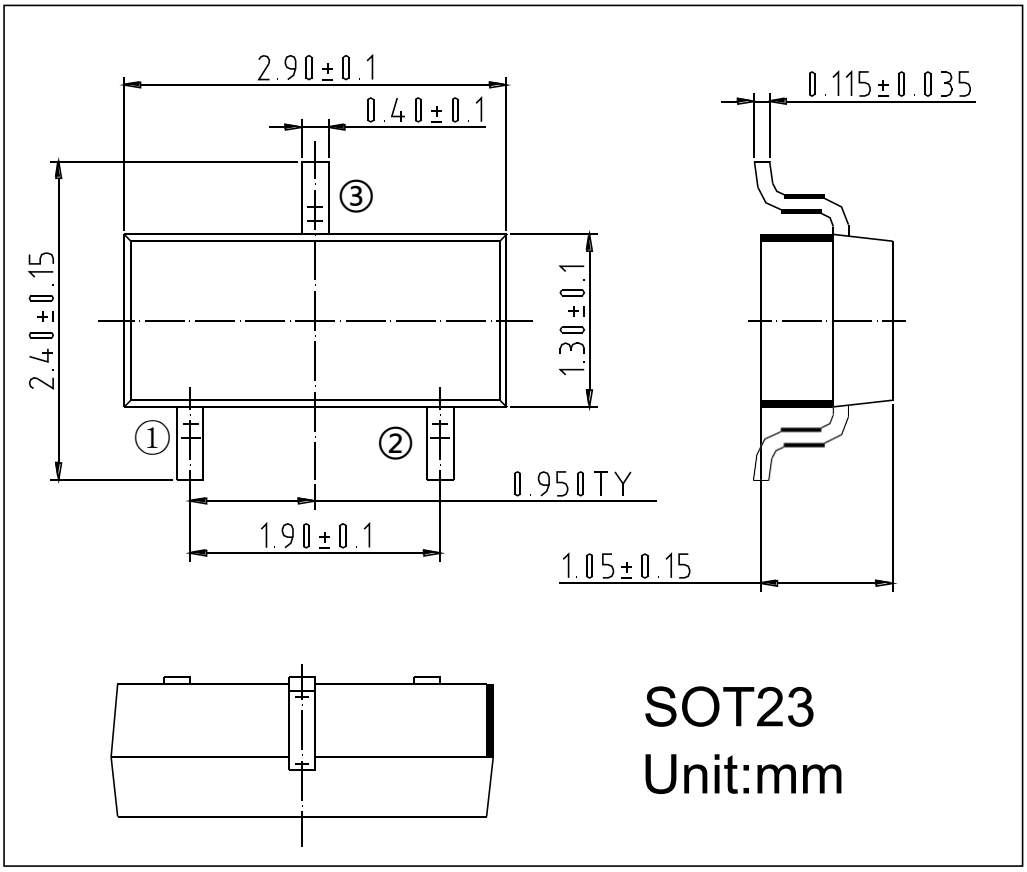


Safe Operating Area, Junction-to-Ambient



Normalized Thermal Transient Impedance, Junction-to-Ambient

➢ Package Information



➢ History Version

V1.0	Product datasheet release	2021-01-04
V1.1	Cancel Ron@VGS=-1.8V test item	2021-03-30
V1.2	Marking changed from “8025” to “3415.“	2021-04-28
V1.3	Adjust Typical Characteristics	2022-06-01

DISCLAIMER