



SSC8022GS6

N-Channel Enhancement Mode MOSFET

➤ Features

V _{DS}	V _{GS}	R _{DS(ON)} Typ.	I _D
20V	±12V	35mΩ@4.5V	3.5A
		45mΩ@2.5V	

➤ Description

This device is produced with high cell density DMOS trench technology, which is especially used to minimize on-state resistance. This device particularly applications suits low voltage 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. Excellent thermal and electrical capabilities.

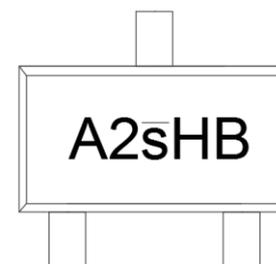
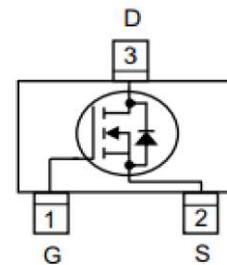
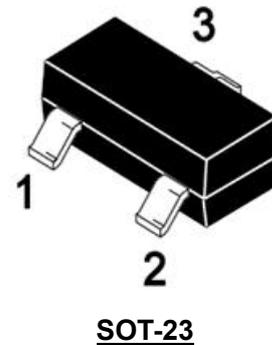
➤ Applications

- Load Switch
- Portable Devices
- DCDC Conversion

➤ Ordering Information

Device	Package	Shipping
SSC8022GS6	SOT-23	3000/Reel

➤ Pin configuration





➤ **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 ^a	3.5	A
I_{DM}	Pulsed Drain Current ^b	10	A
P_D	Power Dissipation ^c	0.9	W
P_{DSM}	Power Dissipation ^a	0.5	W
T_J	Operation junction temperature	-55~150	$^{\circ}\text{C}$
T_{STG}	Storage temperature range	-55~150	$^{\circ}\text{C}$

➤ **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 ^a		260	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		150	

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 power dissipation 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.

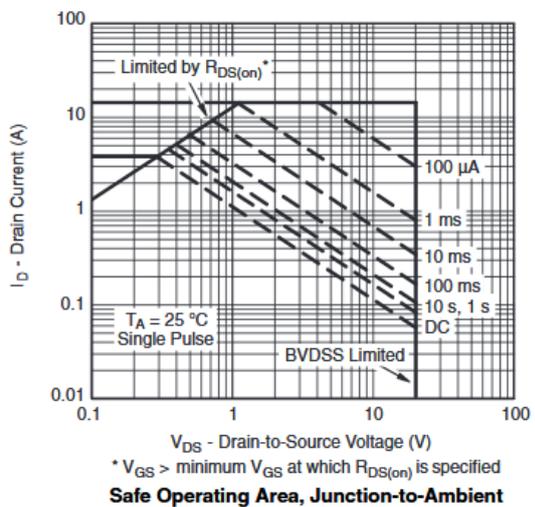
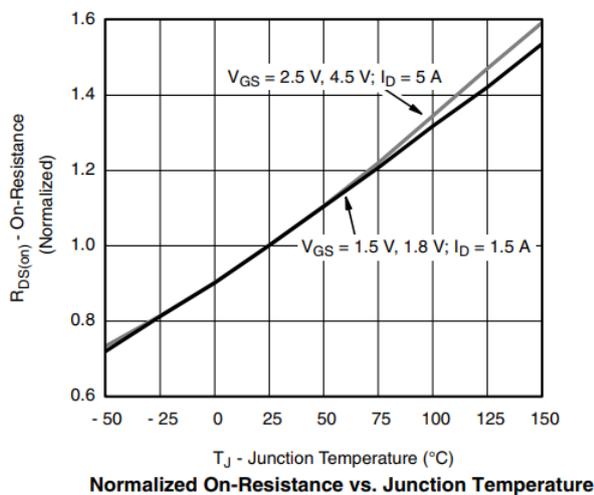
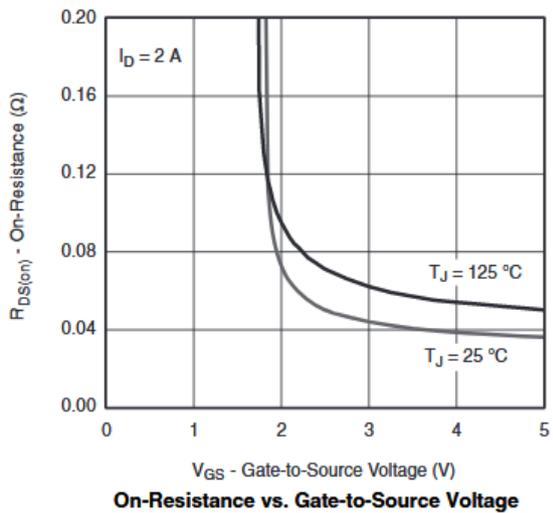
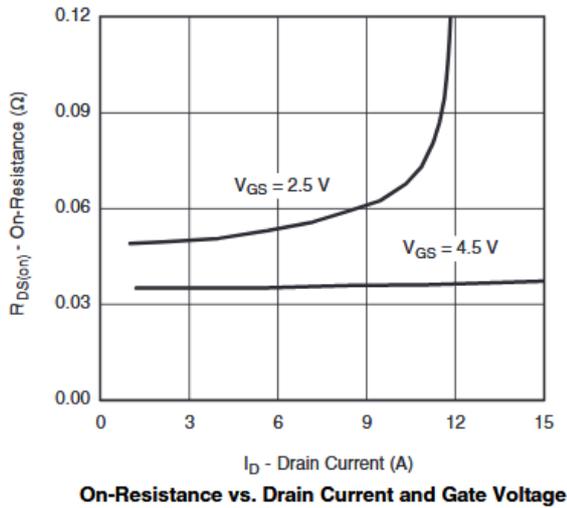
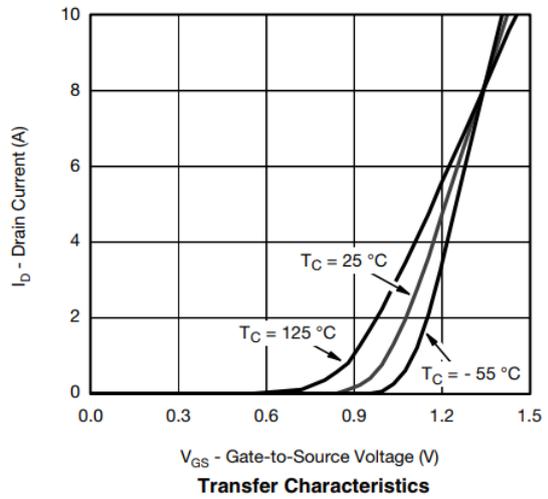
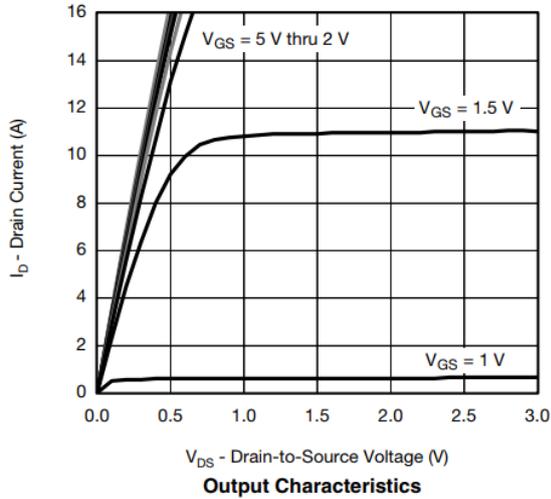


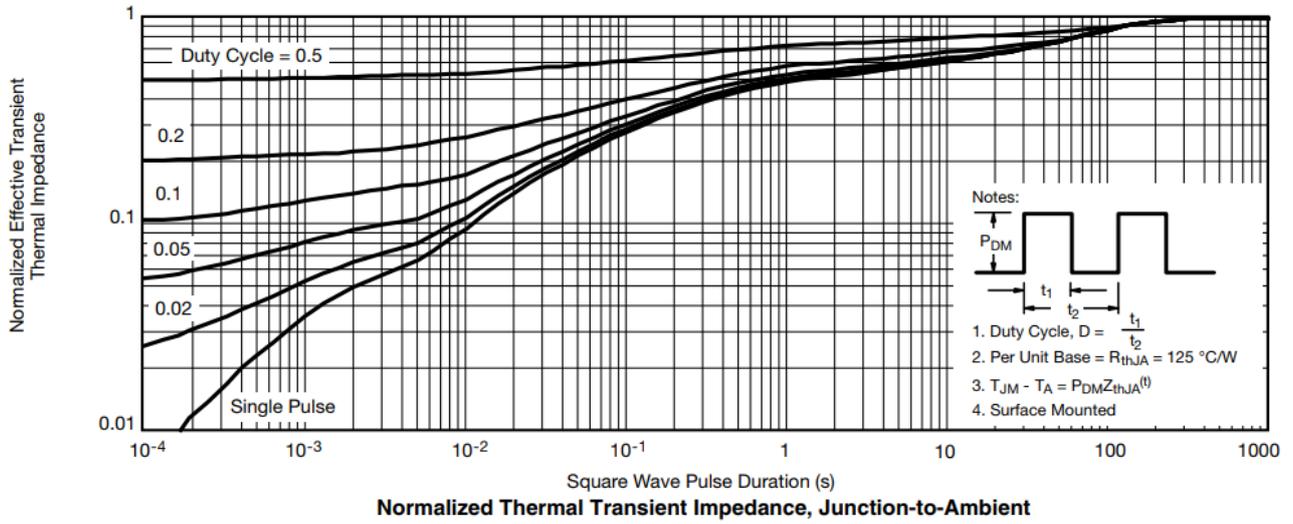
➤ **Electrical Characteristics (T_A=25°C unless otherwise noted)**

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	20			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	0.4	0.7	1.2	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 4.5V, I _D = 3.5A		35	50	mΩ
		V _{GS} = 2.5V, I _D = 3A		45	65	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 20V, V _{GS} = 0V			1	μA
Gate-Source Leak Current	I _{GSS}	V _{GS} = ±12V, V _{DS} = 0V			±100	nA
Transconductance	G _{FS}	V _{DS} = 5V, I _D = 3.5A		8	13	S
Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 1.1A		0.8	1.15	V
Input Capacitance	C _{ISS}	V _{DS} = 10V, V _{GS} = 0V, f = 1MHz		450		pF
Output Capacitance	C _{OSS}			70		
Reverse Transfer Capacitance	C _{RSS}			43		
Turn-on Delay Time	T _{D(ON)}	V _{GS} = 4.5V, V _{DS} = 5V, R _G = 6Ω, I _D = 3.5A,		6		ns
Rise Time	T _r			9		
Turn-off Delay Time	T _{D(OFF)}			18		
Fall Time	T _f			12		
Total Gate Charge	Q _G	V _{GS} =4.5V, V _{DS} =10V, I _D =3A		11		nC
Gate Source Charge	Q _{GS}			1.1		
Gate Drain Charge	Q _{GD}			3.3		

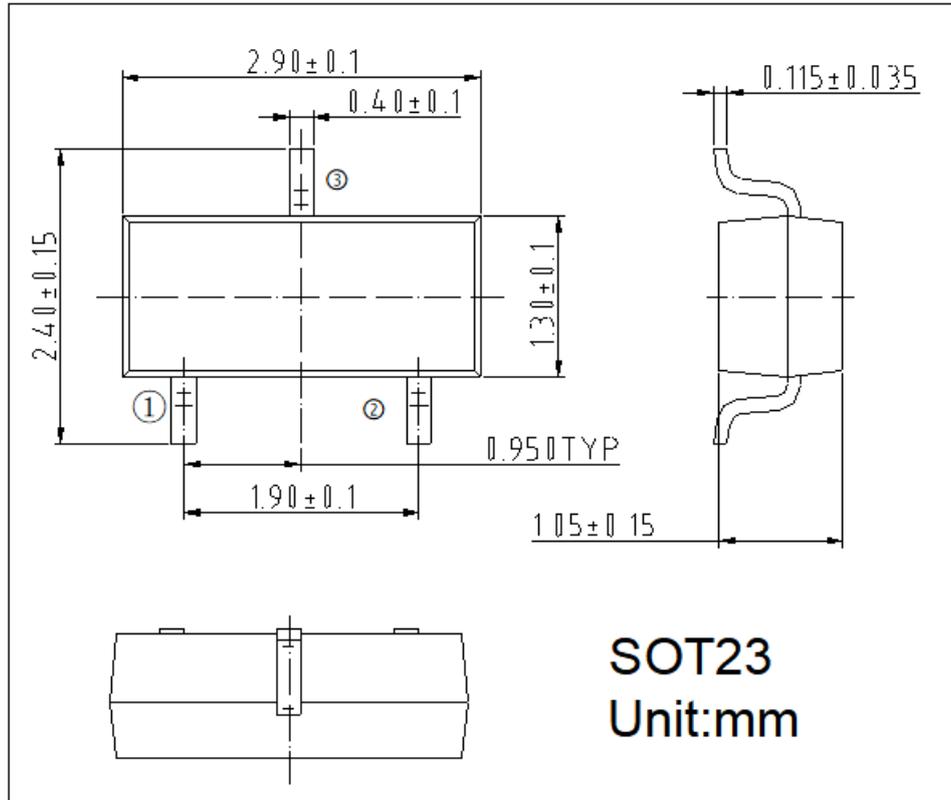


➤ **Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)**



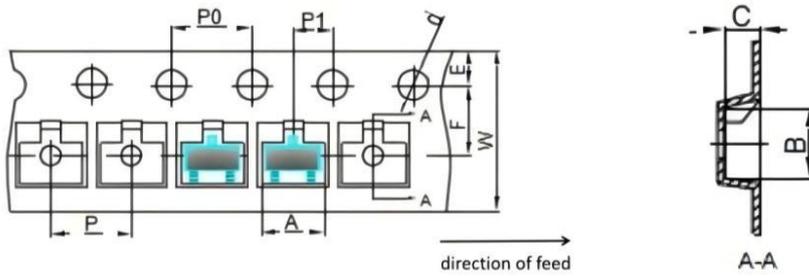


➤ Package Information



➤ SOT-23 Tape and reel

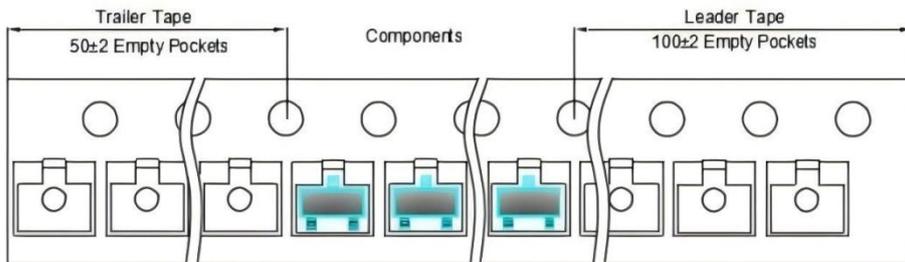
SOT-23 Embossed Carrier Tape



Dimensions are in millimeter

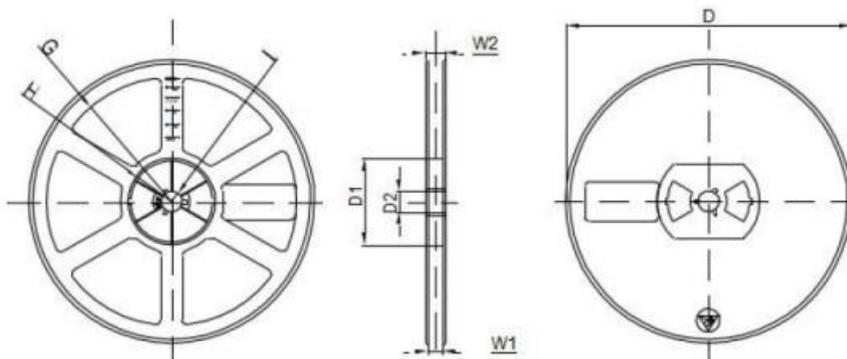
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15±0.1	2.77±0.1	1.22±0.1	Ø1.50	1.75±0.1	3.5±0.05	4.0±0.1	4.0±0.1	2±0.05	8±0.1

SOT-23 Tape Leader and Trailer



SOT23 带尾(空封 40 格)、带头 (空封 100 格) 空封数

SOT-23 Reel



Dimensions are in millimeter

Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	Ø54±0.2	13.3±0.2	R79.00	R26.00	R6.50±0.2	9±0.5	12±0.5



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