



SSC8035GS6A

P-Channel Enhanced MOSFET

➤ Features

VDS	VGS	RDSON Typ.	ID
-30V	±12V	46mR@-10V	-4.2A
		54mR@-4V5	
		72mR@-2V5	

➤ Description

The SSC8035GS6A is P-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion and power switch applications.

➤ Applications

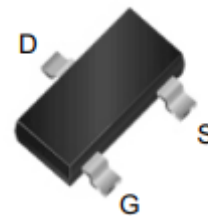
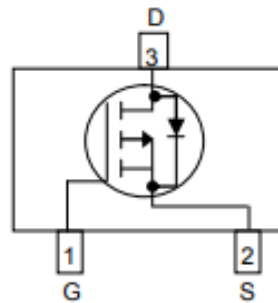
- Load Switch
- Portable Switch
- DCDC conversion
- Charging
- Driver for Relay, Motor, Solenoid, LED etc.

➤ Ordering Information

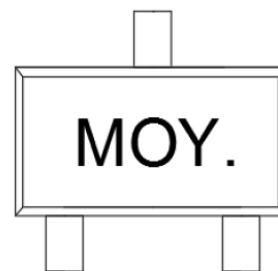
Device	Package	Shipping
SSC8035GS6A	SOT-23-3L	3000/Reel

➤ Pin configuration

Top view



SOT-23-3L



Marking



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

Symbol	Parameter	Ratings	Unit
V_{DSS}	Drain-to-Source Voltage	-30	V
V_{GSS}	Gate-to-Source Voltage	± 12	V
I_D	Continuous Drain Current ^a	-4.2	A
I_{DM}	Pulsed Drain Current ^b	-20	A
P_D	Power Dissipation ^c	1.45	W
P_{DSM}	Power Dissipation ^a	0.93	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 ^a		140	$^{\circ}\text{C}/\text{W}$
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		90	

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 $T_{J(MAX)}=150^{\circ}\text{C}$, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

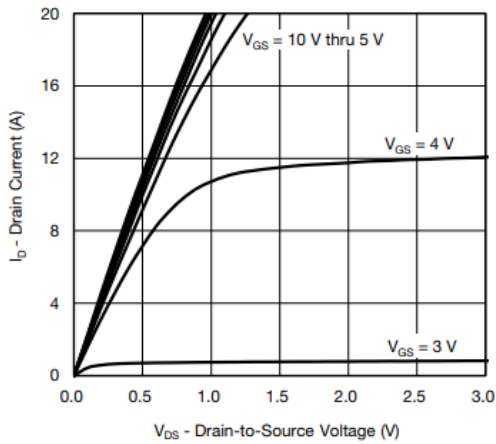


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

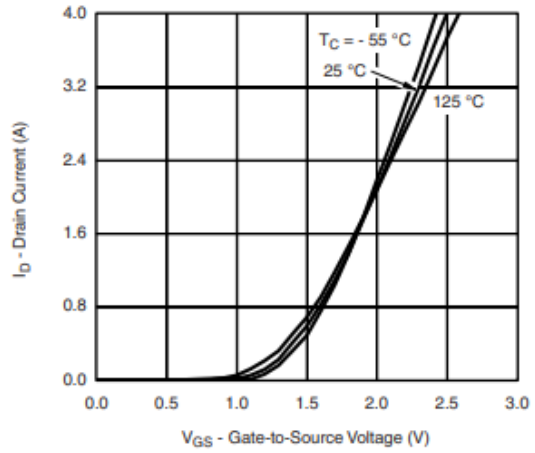
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.6	-0.9	-1.3	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-10V, I_D=-4A$		46	65	mR
		$V_{GS}=-4.5V, I_D=-2A$		54	75	
		$V_{GS}=-2.5V, I_D=-1A$		72	110	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
I_{GSS}	Gate-Source leak current	$V_{GS}=\pm 12V, V_{DS}=0V$			± 100	nA
G_{FS}	Transconductance	$V_{DS}=-10V, I_D=-5A$		9		s
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=-2A$			1.3	V
C_{iss}	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V,$ $f=1MHz$		980		pF
C_{oss}	Output Capacitance			133		
C_{rss}	Reverse Transfer Capacitance			101		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=-10V, R_L=15R$ $V_{DS}=-15V, R_G=6R, I_D=-4.2A$		11		ns
T_r	Rise time			6		
$T_{D(OFF)}$	Turn-off delay time			40		
T_f	Fall time			9		
Q_G	Total Gate Charge	$V_{GS}=-10V, V_{DS}=-15V$ $I_D=-4.2A$		18		nC
Q_{GS}	Gate to Source Charge			2.7		
Q_{GD}	Gate to Drain Charge			3.9		



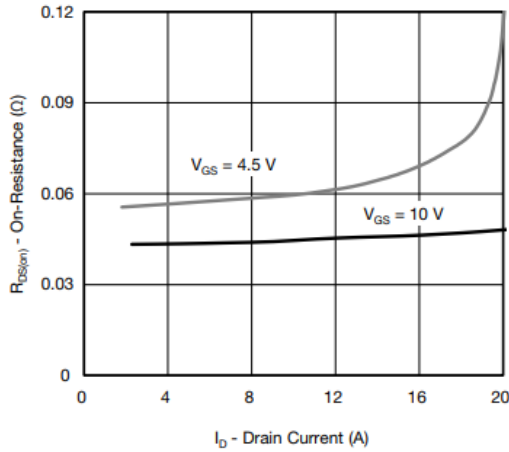
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)



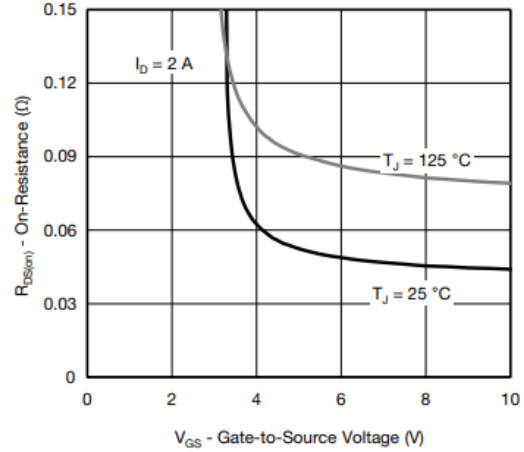
Output Characteristics



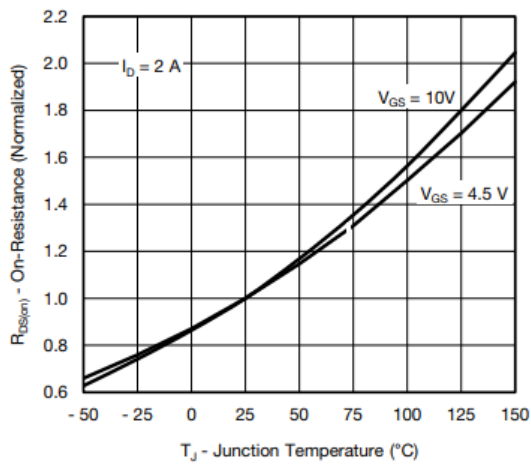
Transfer Characteristics



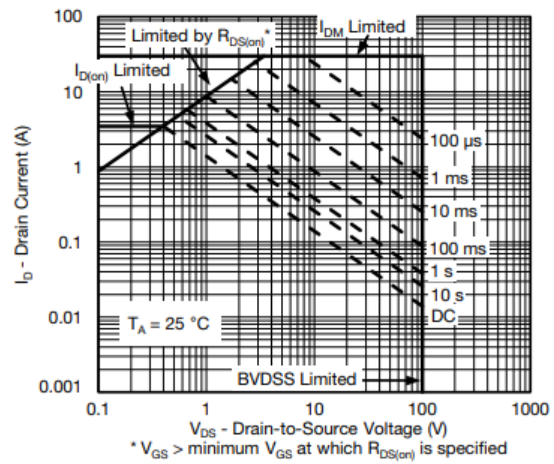
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Gate-to-Source Voltage



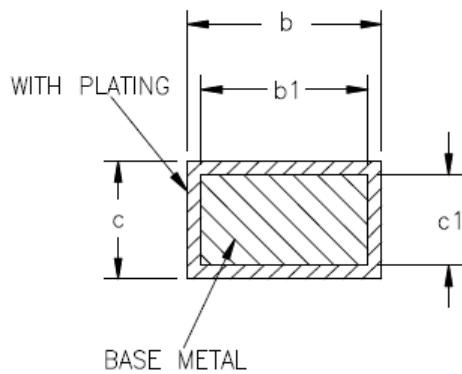
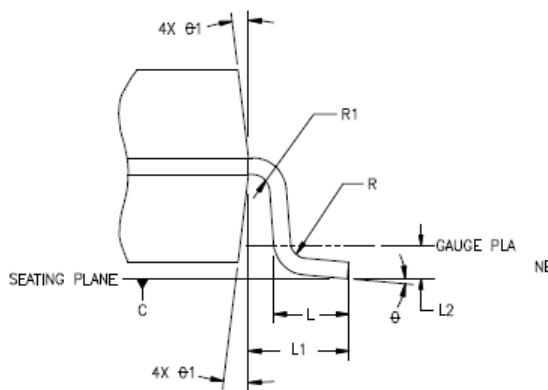
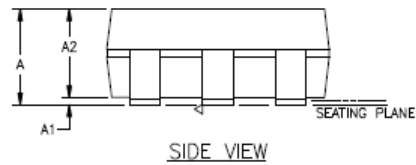
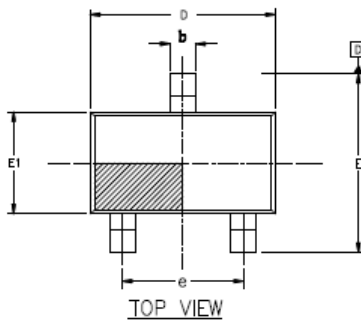
On-Resistance vs. Junction Temperature



Safe Operating Area, Junction-to-Ambient



➤ Package Information



SYMBOL	MIN	NOM	MAX
A	--	--	1.35
A1	0	--	0.15
A2	1.0	1.1	1.2
b	0.35	--	0.45
b1	0.32	--	0.38
c	0.14	--	0.20
c1	0.14	0.15	0.16
D	2.82	2.92	3.02
E	2.60	2.80	3.00
E1	1.526	1.626	1.726
e	1.8	1.9	2.0
L	0.35	0.45	0.6
L1	0.6REF		
L2	0.25REF		
R	0.1	--	--
R1	0.1	--	--
θ	0°	4°	8°
θ1	5°	10°	15°

NOTES:
 1. ALL DIMENSIONS REFER TO JEDEC STANDARD MO-178
 2. DIMENSION D DOES NOT INCLUDE MOLD FLASH
 3. DIMENSION E1 DOES NOT INCLUDE MOLD FLASH
 4. FLASH OR PROTRUSION SHALL NOT EXCEED 0.25mm PER SIDE.

SOT23-3L



➤ **History Version**

V1.0	Product datasheet	2019-12-3
V2.1	Update POD	2020-08-28

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