



SSC8135GSB

P-Channel Enhanced MOSFET

> Features

VDS	VGS	RDS(on) Typ.	ID
-30V	±12V	27mΩ@-4V5	-6A
		35mΩ@-2V5	

> Description

The SSC8035GSB is P-Channel enhancement MOS Field Effect Transistor. Uses advanced trench technology and design to provide excellent RDS(on) with low gate charge. This device is suitable for use in DC-DC conversion and power switch applications.

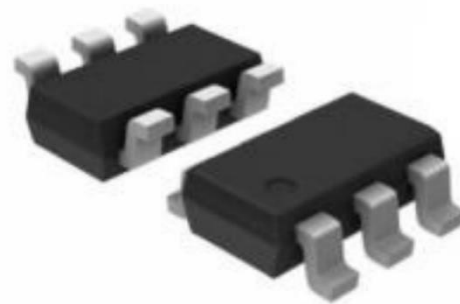
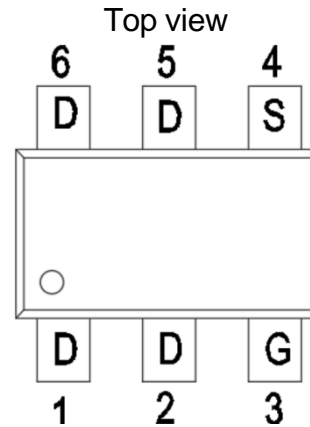
> Applications

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

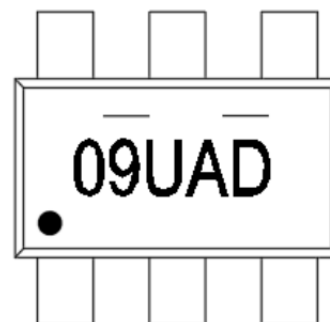
> Ordering Information

Device	Package	Shipping
SSC8135GSB	SOT-23-6L	3000/Reel

> Pin configuration



SOT-23-6L



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	-6	A
I_{DM}	Pulsed Drain Current ^b	-24	A
P_D	Power Dissipation ^a	1.6	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		80	$^{\circ}\text{C}/\text{W}$

Note:

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

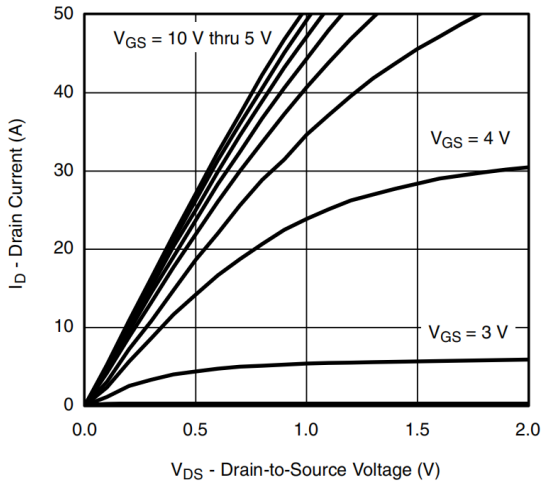


➤ **Electronics Characteristics** ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

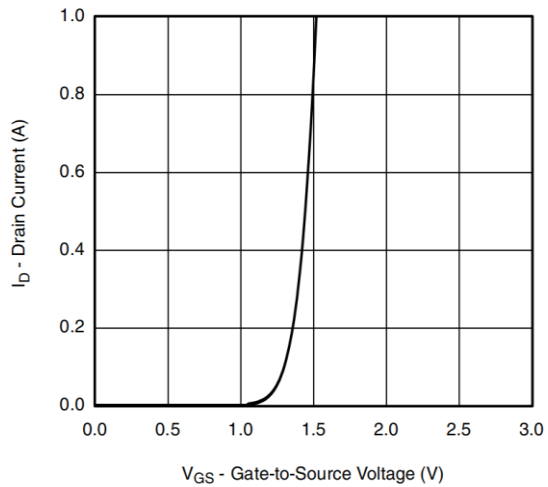
Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.7	-1.0	-1.3	V
$R_{DS(on)}$	Drain-Source On- Resistance	$V_{GS}=-4.5V, I_D=-1A$		27	36	m Ω
		$V_{GS}=-2.5V, I_D=-1A$		35	46	
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	$V_{DS}=-10V, I_D=-2A$		9		s
V_{SD}	Forward Voltage	$V_{GS}=0V, I_S=-1A$		0.8	1.3	V
C_{iss}	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		1520		pF
C_{oss}	Output Capacitance			170		
C_{rss}	Reverse Transfer Capacitance			155		
$T_{D(ON)}$	Turn-on delay time	$V_{GS}=-4.5V, R_L=15R$ $V_{DS}=-15V, R_G=6R, I_D=-1A$		21		ns
T_r	Rise time			10		
$T_{D(OFF)}$	Turn-off delay time			62		
T_f	Fall time			23		
Q_G	Total Gate Charge	$V_{GS}=-4.5V, V_{DS}=-15V, I_D=-1A$		21		nC
Q_{GS}	Gate to Source Charge			3.7		
Q_{GD}	Gate to Drain Charge			5.3		



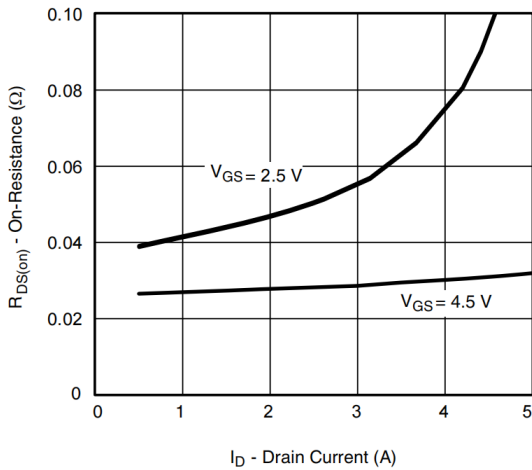
Typical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



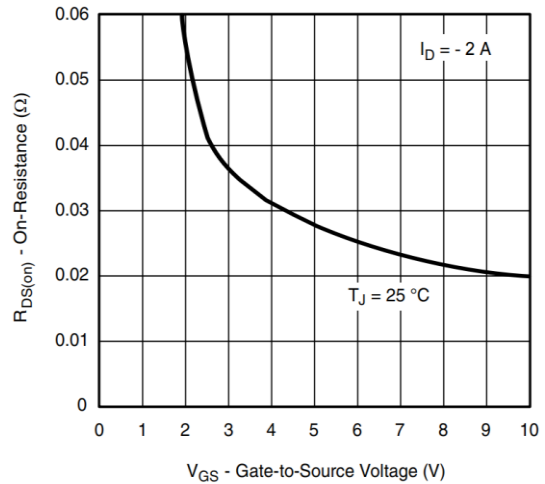
Output Characteristics



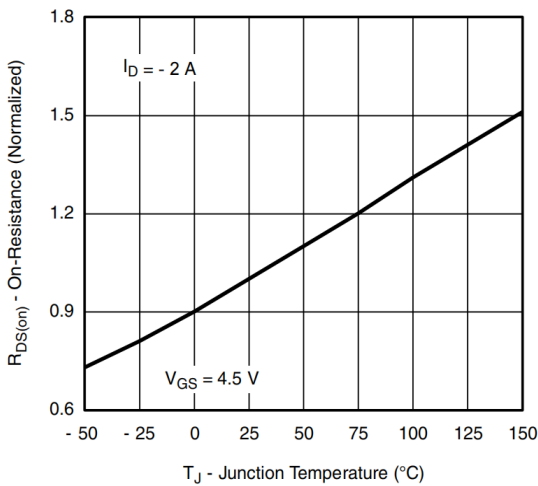
Transfer Characteristics



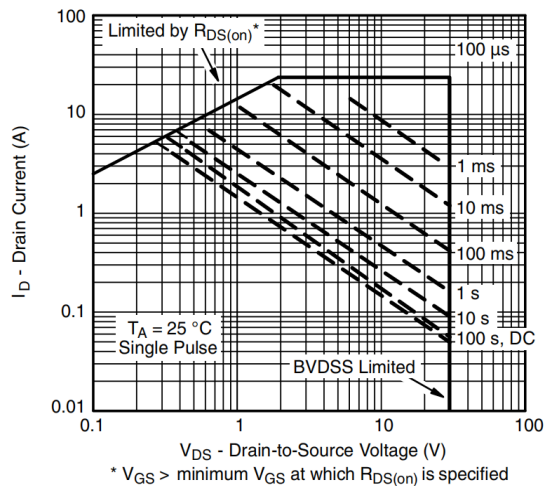
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



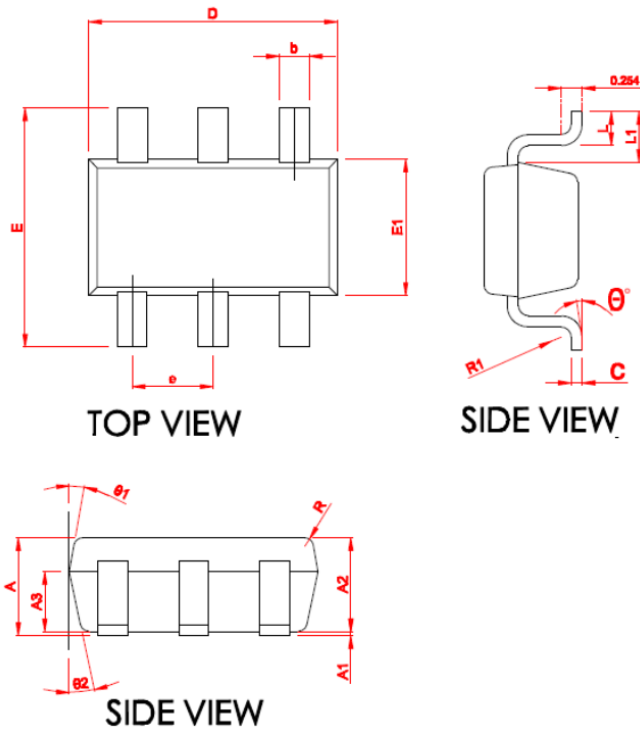
On-Resistance vs. Junction Temperature



Safe Operating Area



➤ Package Information



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	1.06	1.15	1.24
* A1	0.01	0.05	0.09
* A2	1.05	1.10	1.15
A3	0.65	0.70	0.75
* b	0.30	0.35	0.45
* c	0.117	0.127	0.157
* D	2.87	2.92	2.97
* E	2.72	2.80	2.88
* E1	1.55	1.60	1.65
* e	0.90	0.95	1.00
* L	0.32	0.40	0.48
* L1	0.55	0.60	0.65
R	0.10 REF		
R1	0.12 REF		
* theta	0	--	8°
theta1	8°	10°	12°
theta2	10°	12°	14°

➤ History Version

V1.0	Product datasheet	2023-02-14
------	-------------------	------------

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 LICENCE 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.

OUR PRODUCT SPECIFICATIONS ARE ONLY VALID IF OBTAINED THROUGH THE COMPANY'S OFFICIAL WEBSITE, CRM SYSTEM, OR OUR SALES PERSONNEL CHANNELS. IF CHANGES OR SPECIAL VERSIONS ARE INVOLVED, THEY MUST BE STAMPED WITH A QUALITY SEAL AND MARKED WITH A SPECIAL VERSION NUMBER TO BE VALID.

