



SSC8135GSB

P-Channel Enhanced MOSFET

> Features

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

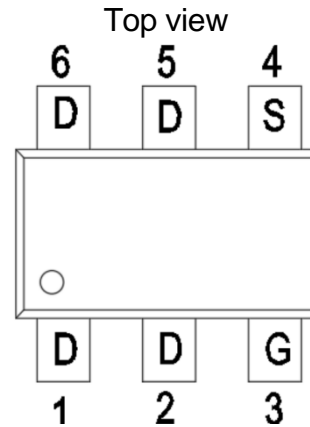
> Applications

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

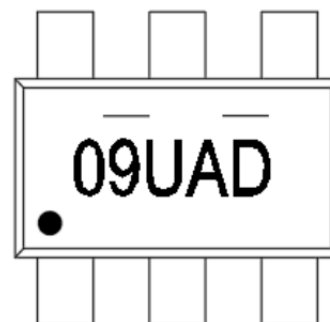
> Ordering Information

| 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:

- 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.

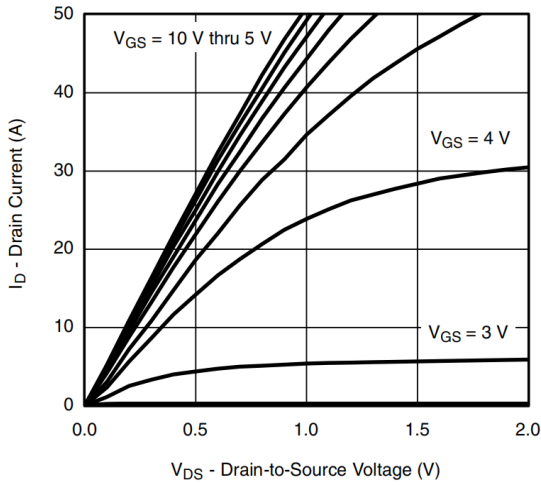


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

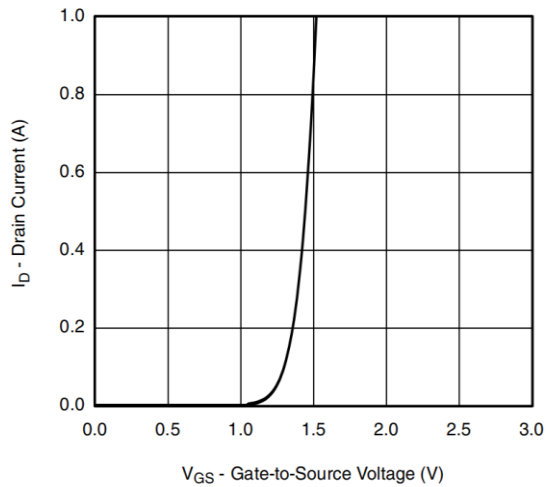
| Symbol | Parameter | Test Conditions | Min | Typ. | Max | Unit |
|---------------|---------------------------------|---|------|------|-----------|---------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0V, I_D=-250\mu A$ | -30 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}, I_D=-250\mu A$ | -0.7 | -1.0 | -1.3 | V |
| $R_{DS(on)}$ | Drain-Source On-Resistance | $V_{GS}=-4.5V, I_D=-1A$ | | 27 | 36 | mR |
| | | $V_{GS}=-2.5V, I_D=-1A$ | | 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 | | |



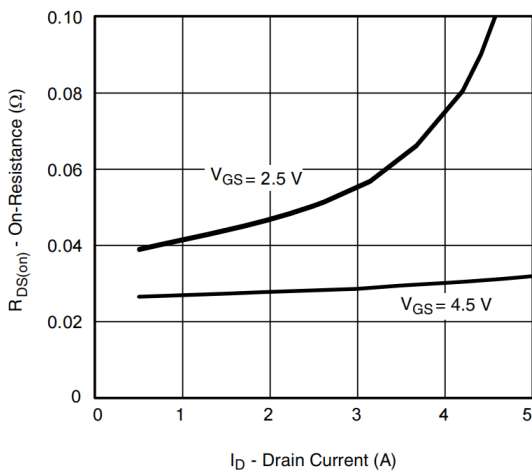
Typical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



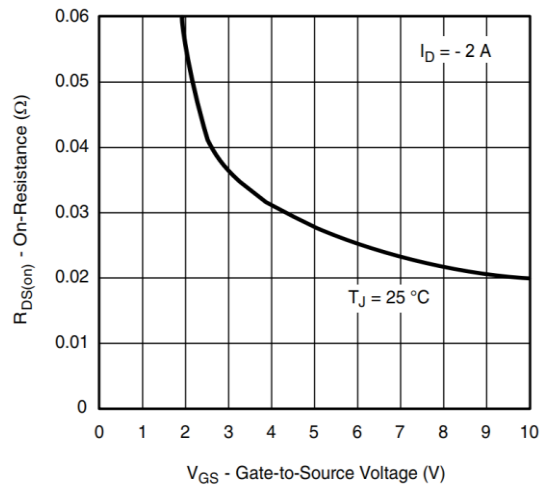
Output Characteristics



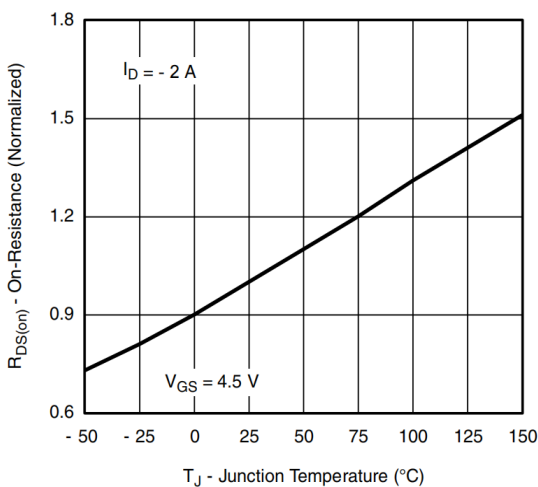
Transfer Characteristics



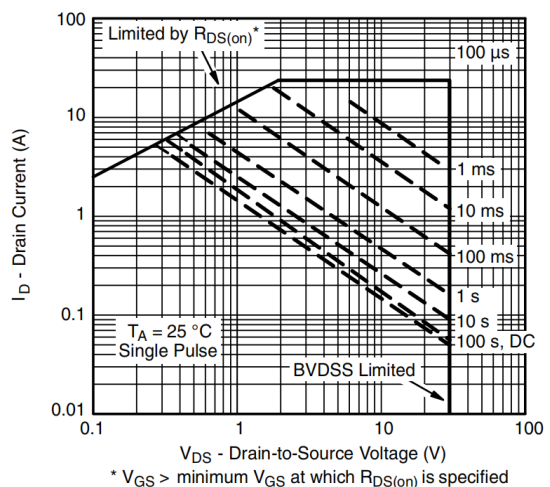
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage



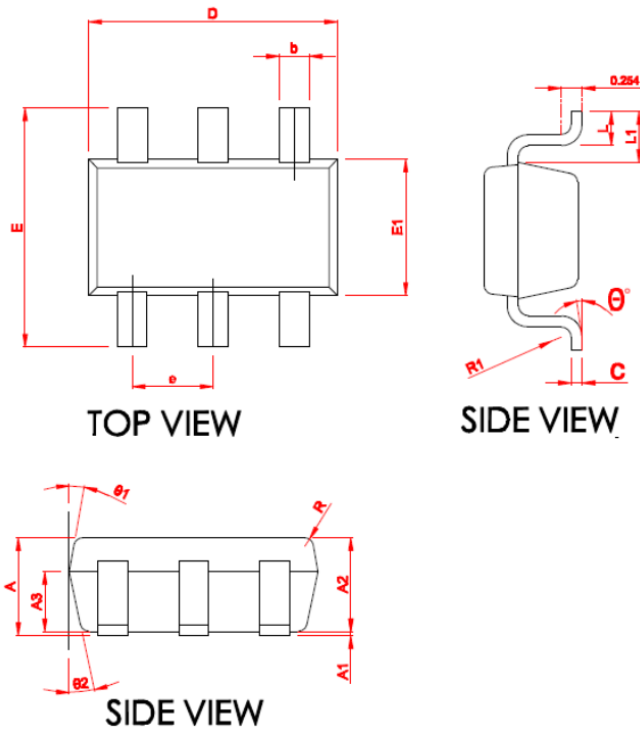
On-Resistance vs. Junction Temperature



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° |

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