



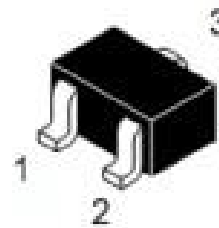
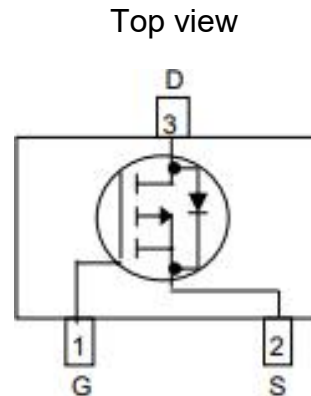
SSC8025GS6

P-Channel Enhancement Mode MOSFET

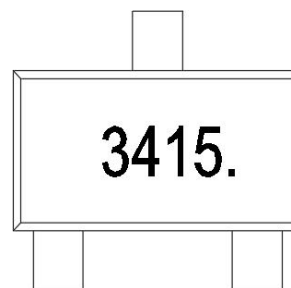
➤ Features

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

➤ Pin configuration



SOT23



Marking

➤ 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 |



➤ **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 | -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 | $^{\circ}\text{C}$ |
| 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 | | 235 | $^{\circ}\text{C}/\text{W}$ |
| $R_{\theta JC}$ | Junction-to-Case Thermal Resistance | | 145 | |

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.

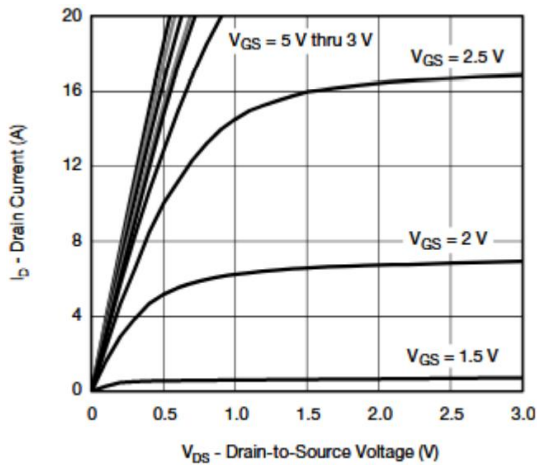


➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

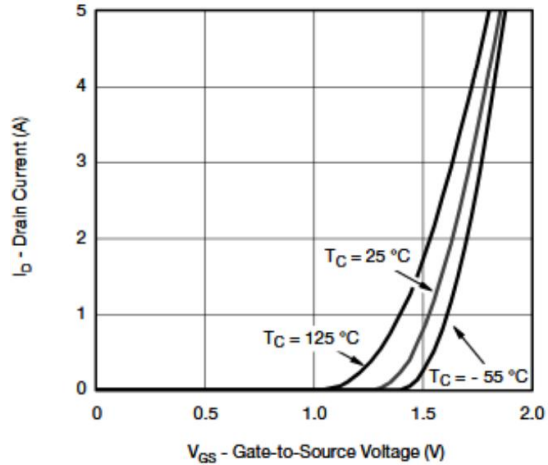
| Symbol | Parameter | Test Conditions | Min | Typ. | Max | Unit |
|---------------|------------------------------------|---|-------|-------|-----------|---------|
| $V_{(BR)DSS}$ | Drain-Source Breakdown Voltage | $V_{GS}=0V, I_D=-250\mu A$ | -20 | | | V |
| $V_{GS(th)}$ | Gate Threshold Voltage | $V_{DS}=V_{GS}, I_D=-250\mu A$ | -0.45 | -0.7 | -1 | V |
| $R_{DS(on)}$ | Drain-Source On- Resistance | $V_{GS}=-4.5V, I_D=-4A$ | | 28 | 36 | mR |
| | | $V_{GS}=-2.5V, I_D=-3A$ | | 45 | 60 | |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=-16V, V_{GS}=0V$ | | | -1 | μA |
| I_{GSS} | Gate-Source leak current | $V_{GS}=\pm 12V, V_{DS}=0V$ | | | ± 100 | nA |
| G_{FS} | Transconductance | $V_{DS}=-5V, I_D=-3.5A$ | | 9 | | S |
| V_{SD} | Forward Voltage | $V_{GS}=0V, I_S=-1.6A$ | | -0.75 | -1.2 | V |
| C_{iss} | Input Capacitance | $V_{DS}=-10V, V_{GS}=0V, f=1MHz$ | | 830 | | pF |
| C_{oss} | Output Capacitance | | | 190 | | |
| C_{rss} | Reverse Transfer Capacitance | | | 97 | | |
| $T_{D(ON)}$ | Turn-on delay time | $V_{DS}=-10V,$ $V_{GEN}=-4.5V, R_L=4R, R_G=1R,$ $I_D=-2.5A$ | | 10 | | ns |
| T_r | Rise Time | | | 30 | | |
| $T_{D(OFF)}$ | Turn-off delay time | | | 20 | | |
| T_f | Fall Time | | | 11 | | |
| Q_g | Total Gate charge | $V_{GS}=-4.5V, V_{DS}=-10V, I_D=-4A$ | | 15 | | nC |
| Q_{gs} | Gate Source charge | | | 2.3 | | |
| Q_{gd} | Gate Drain charge | | | 2.2 | | |



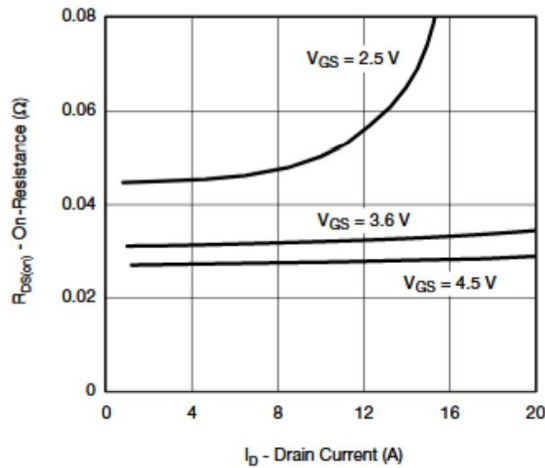
➤ Typical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)



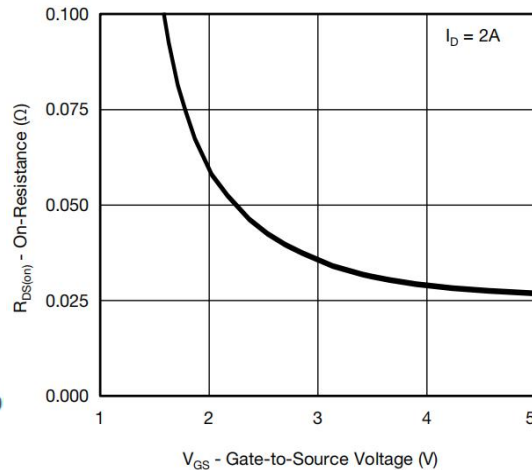
Output Characteristics



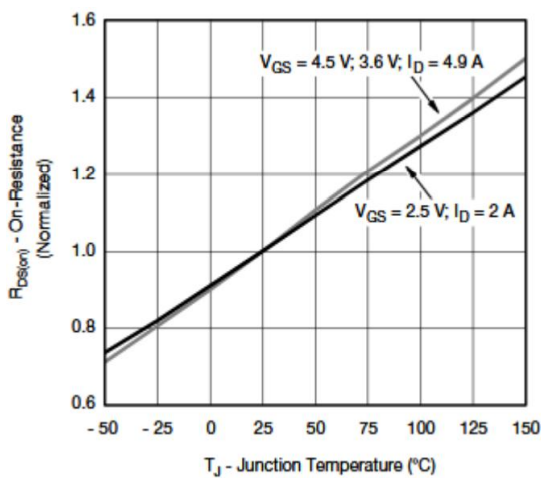
Transfer Characteristics



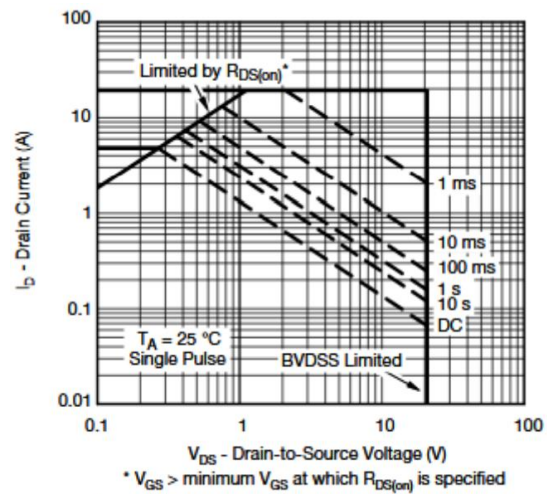
On Resistance vs. Drain Current



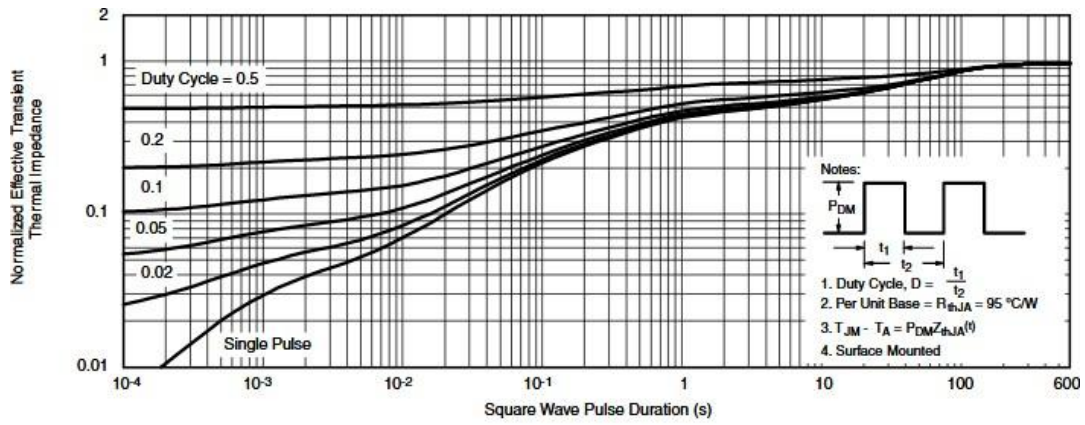
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Junction Temperature

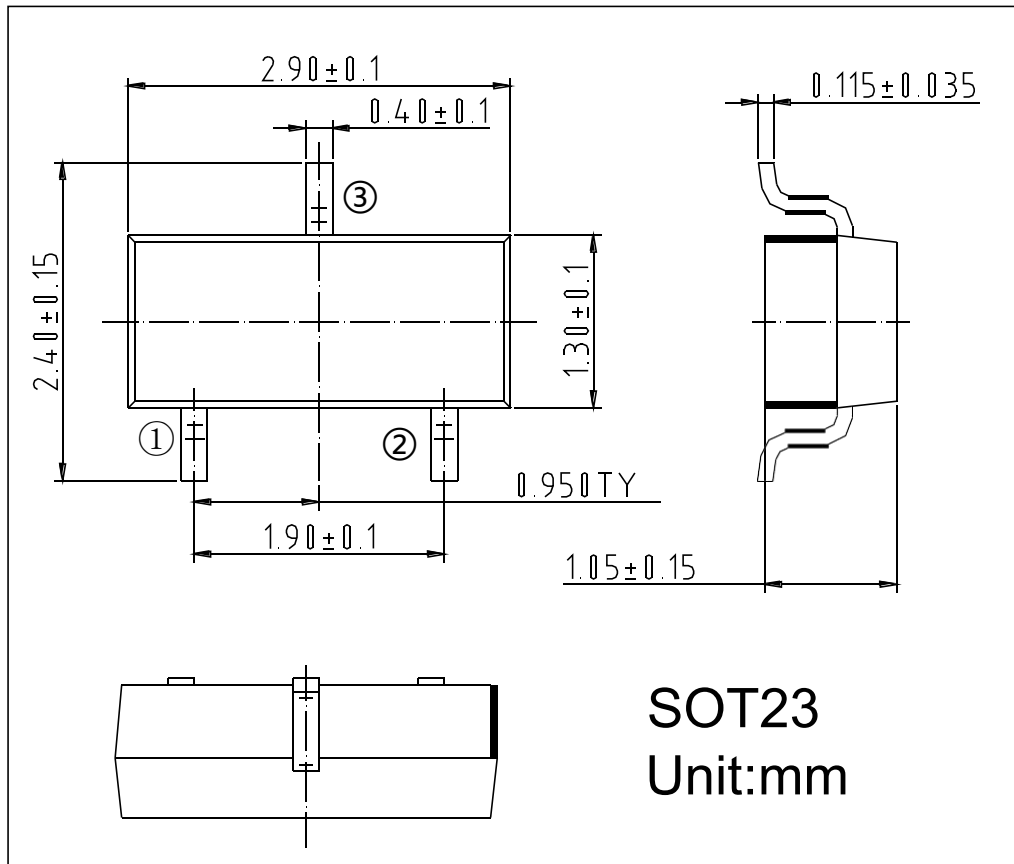


Safe Operating Area, Junction-to-Ambient



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 |

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