



SSC8022GS6

N-Channel Enhancement Mode MOSFET

➤ Features

| VDS | VGS | RDSON Typ. | ID |
|-----|------|------------|------|
| 20V | ±12V | 35mR@4V5 | 3.5A |
| | | 45mR@2V5 | |

➤ 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. Excellent thermal and electrical capabilities.

➤ Applications

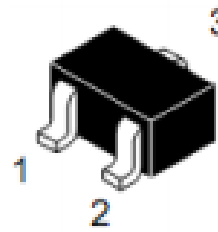
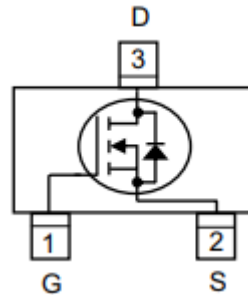
- Load Switch
- Portable Devices
- DCDC conversion

➤ Ordering Information

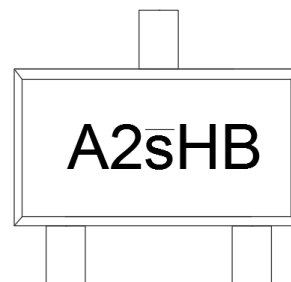
| Device | Package | Shipping |
|------------|---------|-----------|
| SSC8022GS6 | SOT23 | 3000/Reel |

➤ Pin configuration

Top view



SOT23



Marking



➤ **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 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 | | 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 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.

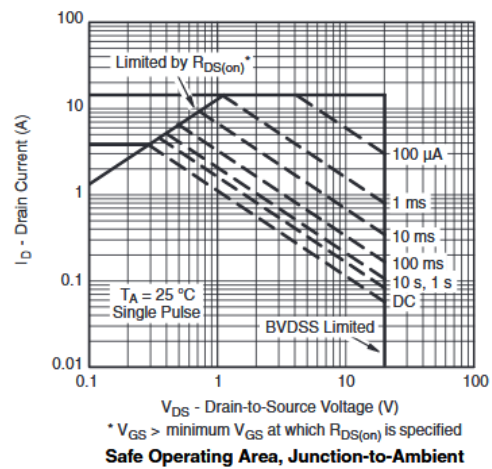
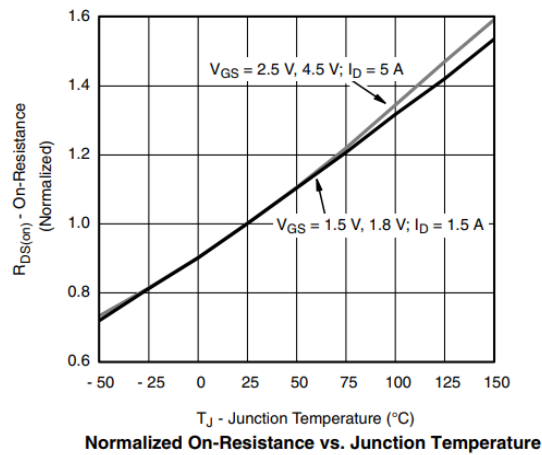
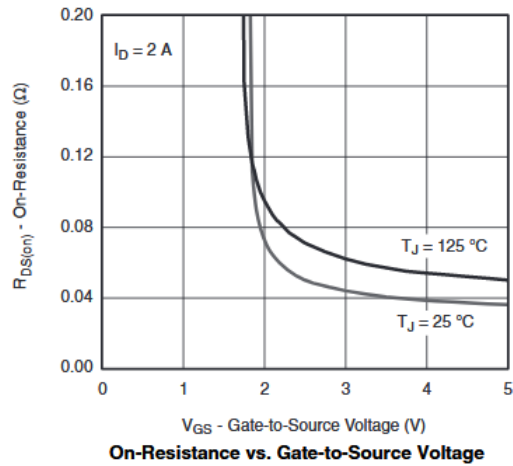
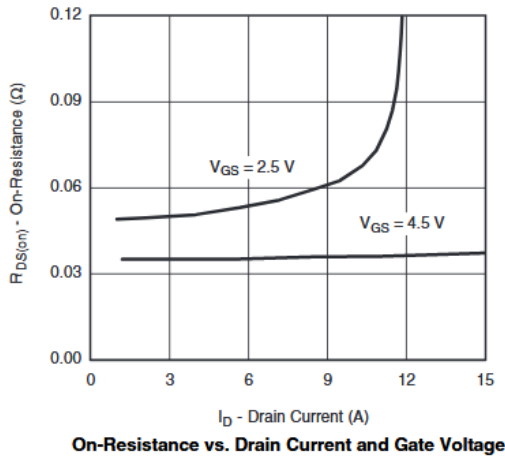
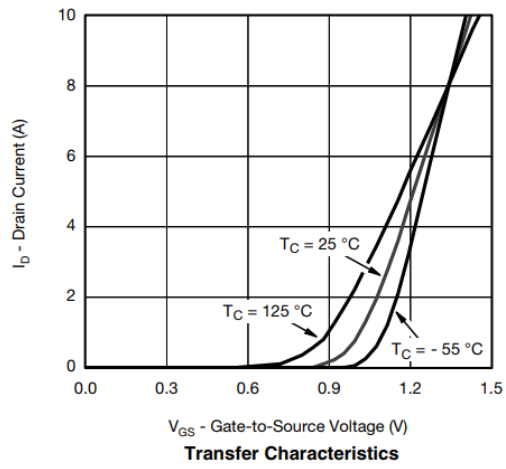
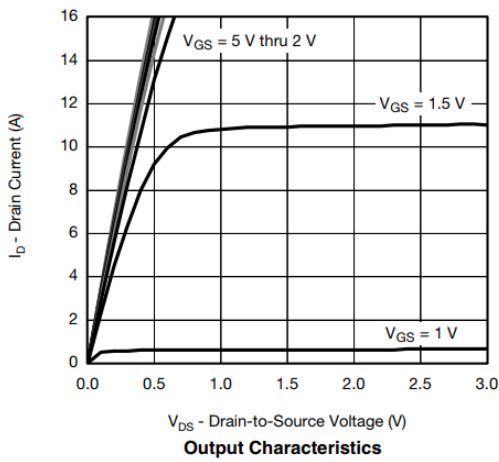


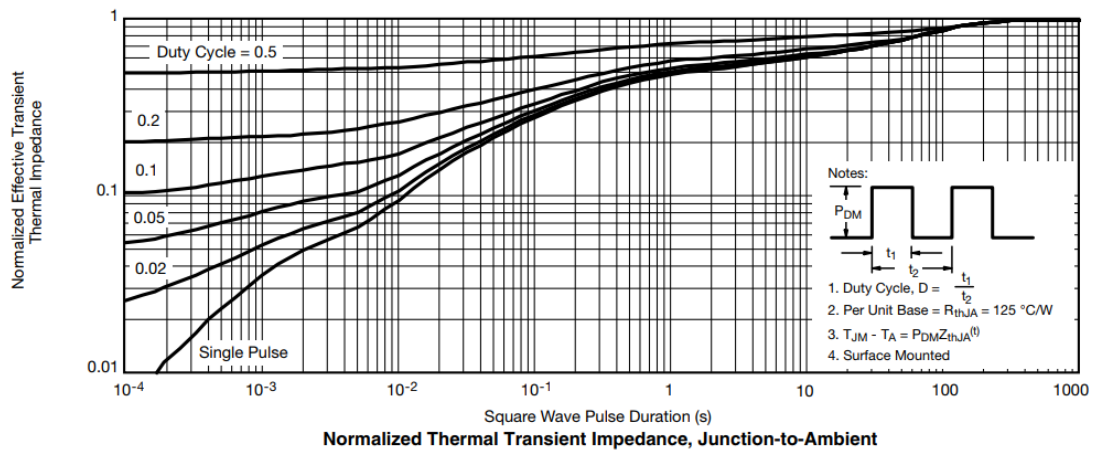
➤ **Electronics Characteristics**($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| 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 | $V_{DS}=V_{GS}, I_D=250\mu A$ | 0.4 | 0.7 | 1.2 | V |
| $R_{DS(on)}$ | Drain-Source On- Resistance | $V_{GS}=4.5V, I_D=3.5A$ | | 35 | 50 | mR |
| | | $V_{GS}=2.5V, I_D=3A$ | | 45 | 65 | |
| I_{DSS} | Zero Gate Voltage Drain Current | $V_{DS}=20V, V_{GS}=0V$ | | | 1 | μA |
| I_{GSS} | Gate-Source leak current | $V_{GS}=\pm 12V, V_{DS}=0V$ | | | ± 100 | nA |
| G_{FS} | Transconductance | $V_{DS}=5V, I_D=3.5A$ | | 8 | 13 | S |
| V_{SD} | Forward Voltage | $V_{GS}=0V, I_S=1.1A$ | | 0.8 | 1.15 | V |
| C_{iss} | Input Capacitance | $V_{DS}=10V, V_{GS}=0V, f=1MHz$ | | 450 | | pF |
| C_{oss} | Output Capacitance | | | 70 | | |
| C_{rss} | Reverse Transfer Capacitance | | | 43 | | |
| $T_{D(ON)}$ | Turn-on delay time | $V_{GS}=4.5V,$ $V_{DS}=5V, R_G=6R, I_D=3.5A$ | | 6 | | ns |
| T_r | Rise Time | | | 9 | | |
| $T_{D(OFF)}$ | Turn-off delay time | | | 18 | | |
| T_f | Fall Time | | | 12 | | |
| Q_g | Total Gate charge | $V_{GS}=4.5V, V_{DS}=10V, I_D=3A$ | | 11 | | nC |
| Q_{gs} | Gate to Source charge | | | 1.1 | | |
| Q_{gd} | Gate to Drain charge | | | 3.3 | | |



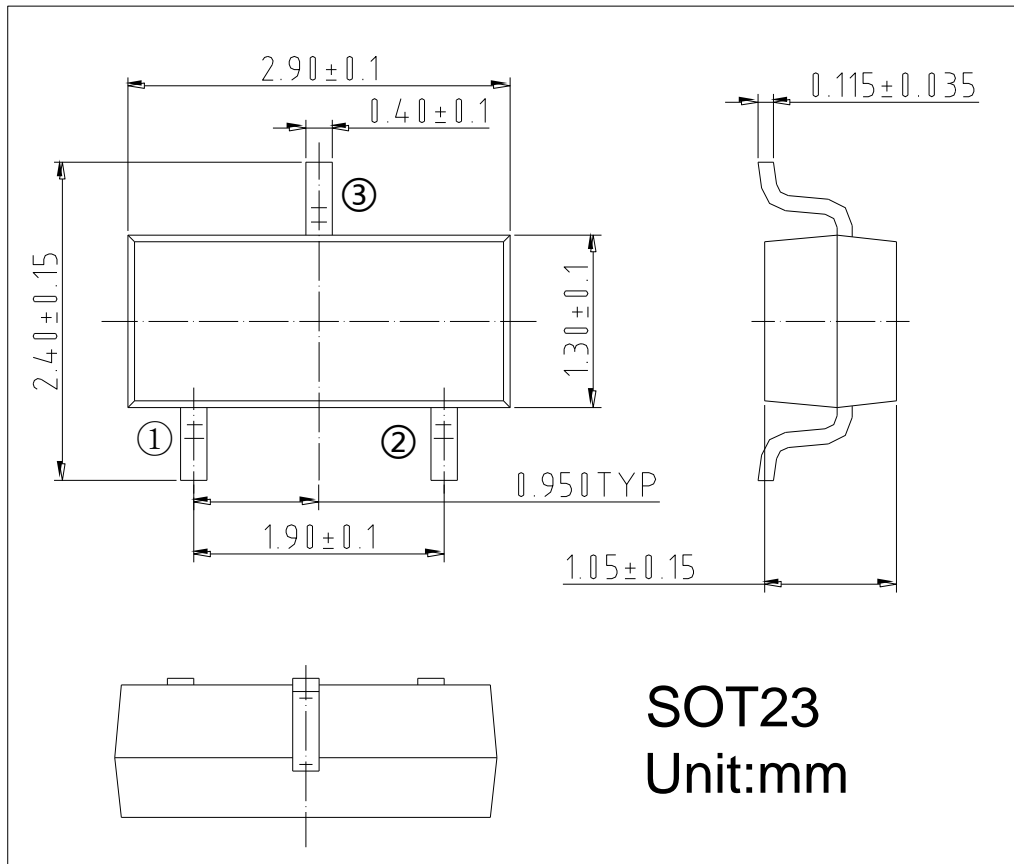
➤ **Typical Characteristics** ($T_A=25^\circ\text{C}$ unless otherwise noted)





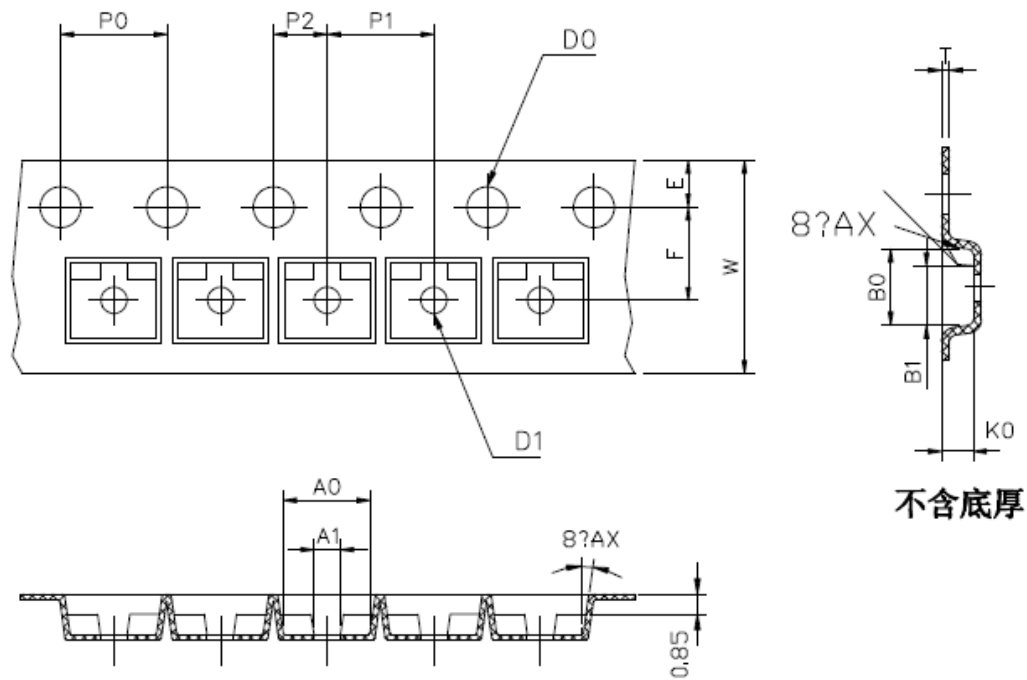


➤ Package Information





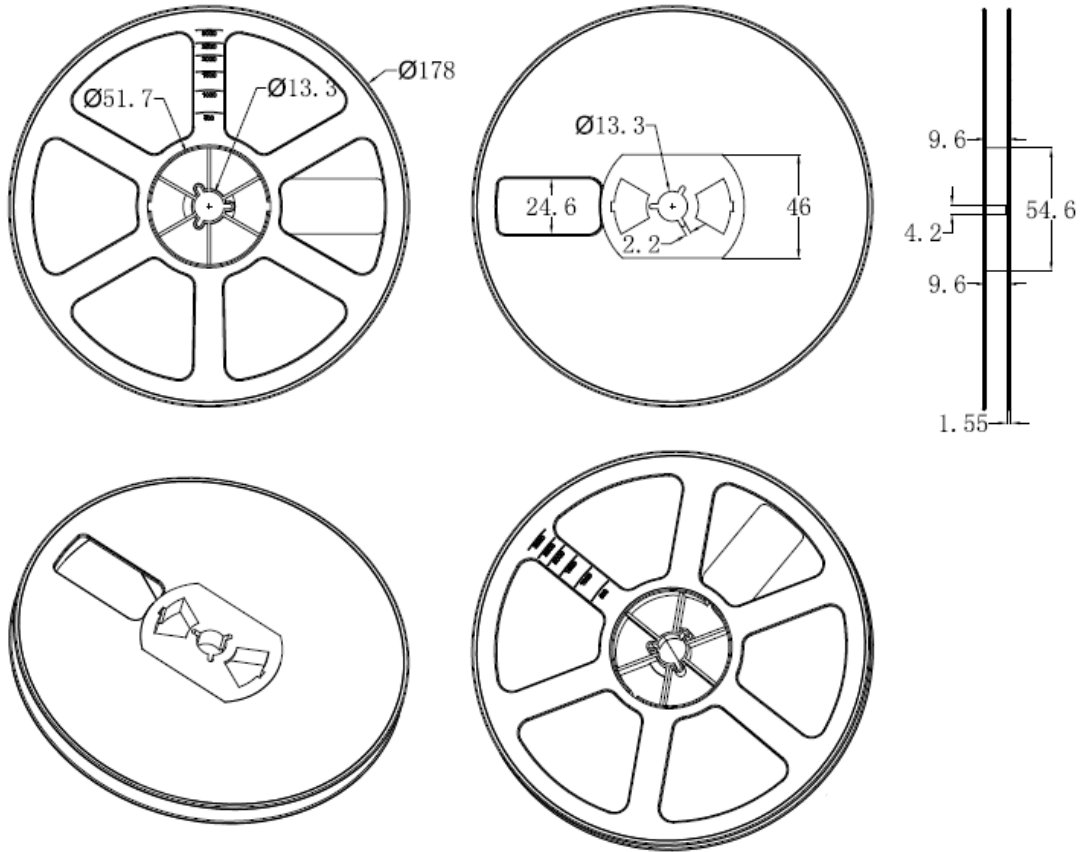
TAPE AND REEL DATA



| | | | | | | | | | |
|--------|-----------|-----------|-----------|----------------|-----------|----------------|----------------|----------------|----------------|
| Symbol | A0 | A1 | B0 | B1 | K0 | D ₀ | D ₁ | P ₀ | P ₁ |
| Spec | 3.15±0.10 | 1.15±0.10 | 2.80±0.10 | 2.15±0.10 | 1.30±0.10 | 1.55±0.10 | 1.10±0.10 | 4.00±0.10 | 4.00±0.10 |
| Symbol | W | E | F | P ₂ | t | t1 | 10*P0 | 4-P0 | |
| Spec | 7.95±0.05 | 1.70±0.05 | 3.50±0.10 | 2.00±0.10 | 0.21±0.02 | 0.05以上 | 40.00±0.10 | 4.00±0.10 | |

NOTE:

- 1.材料: PC+PS导电
- 2:10个链孔的累积公差不能超过0.2MM;
- 3.250MM带子的扇形不得超过1MM;
- 4.按照EIA-481-D的要求。





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