

100V N-Channel Enhancement Mode MOSFET

MAIN CHARACTERISTICS

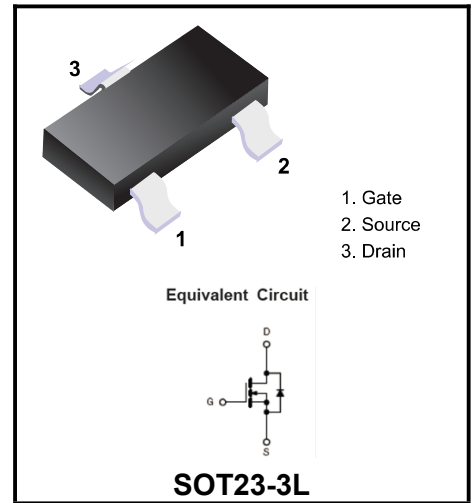
| | |
|--|--------|
| I_D | 5A |
| V_{DSS} | 100V |
| R_{DS(on)-typ(@V_{GS}=10V)} | <115mΩ |

Features

- ◆TrenchFET Power MOSFET
- ◆Load Switch for Portable Devices.
- ◆DC/DC Converter

Mechanical Data

- ◆SOT23-3L Small Outline Plastic Package.
- ◆Epoxy UL: 94V-0.
- ◆Mounting Position: Any.



Product Specification Classification

| Part Number | Package | Marking | Pack |
|-------------|----------|---------|--------------|
| G1003A | SOT23-3L | G1003A | 3000PCS/Tape |

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameters | Symbol | Value | Unit |
|--|------------------------|----------|-------------|
| Drain-Source Voltage | V_{DS} | 100 | V |
| Gate-Source Voltage | V_{GS} | ±20 | V |
| Continuous Drain Current | I_D | 5.0 | A |
| Pulsed Drain Current(note1) | I_{DM} | 24 | |
| Power Dissipation | P_D | 400 | mW |
| Junction Temperature | T_J | 150 | °C |
| Storage Temperature | T_{stg} | -55-+150 | °C |
| Thermal Resistance From Junction to Ambient (note 2) | R_{θJA} | 312.5 | °C/W |

Electrical Characteristics

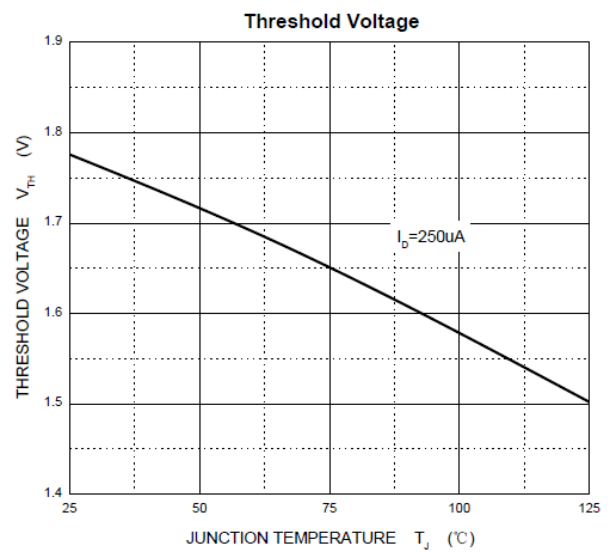
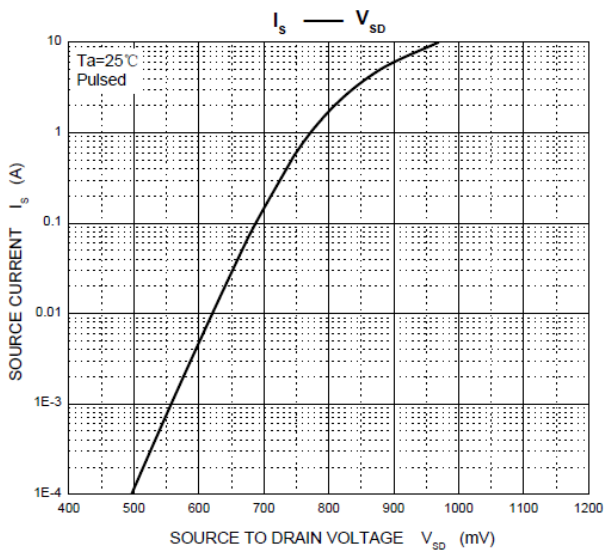
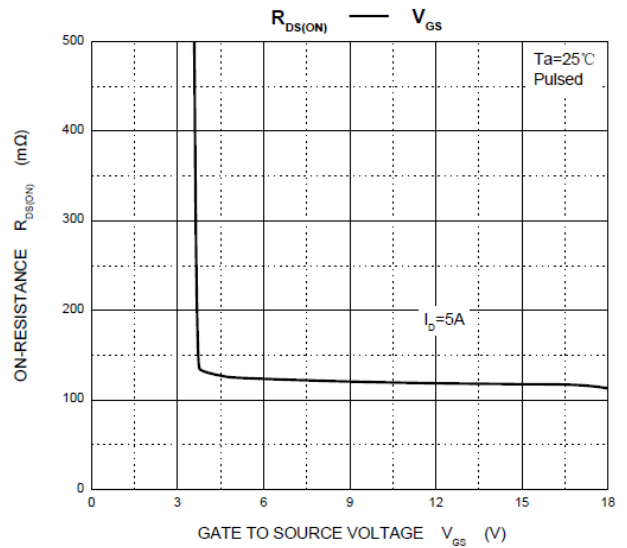
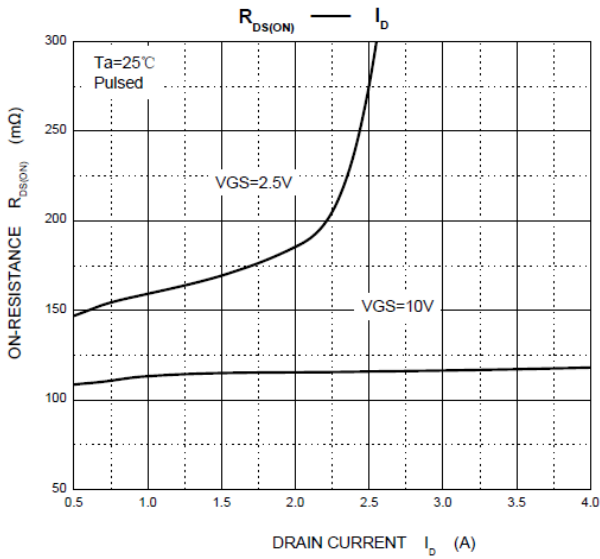
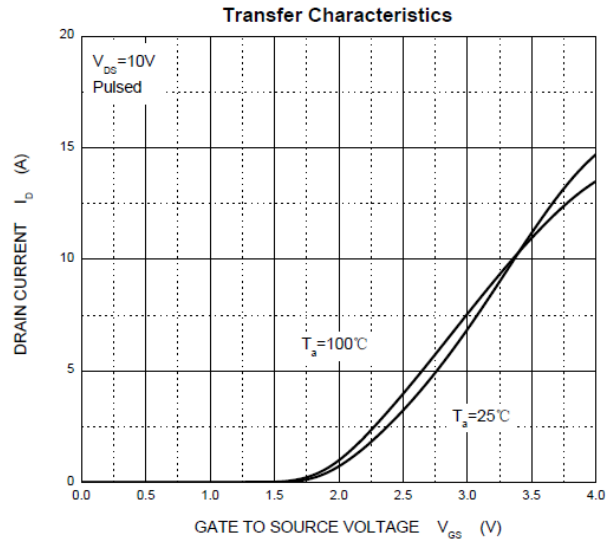
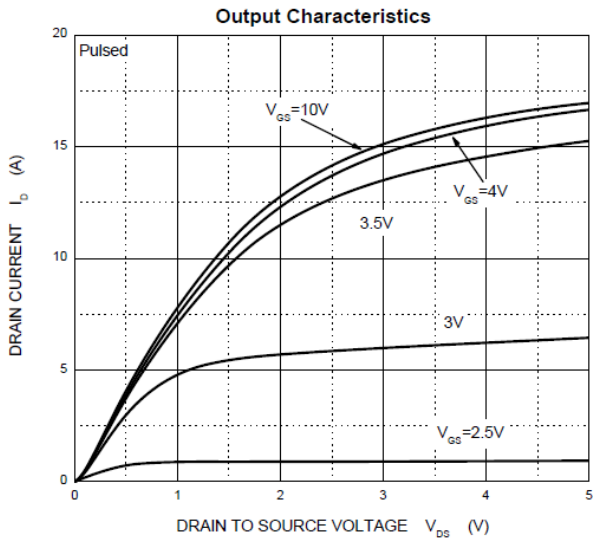
Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter | Symbols | Test Condition | Limits | | | Unit |
|-----------------------------------|---------------|---|--------|------|-----------|------------|
| | | | Min | Typ | Max | |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $V_{GS}=0V, I_D=250\mu A$ | 100 | - | - | V |
| Gate-Threshold voltage | $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu A$ | 1.0 | 1.6 | 3.0 | V |
| Gate-body Leakage | I_{GSS} | $V_{DS}=0V, V_{GS}=\pm 20V$ | - | - | ± 100 | nA |
| Zero Gate Voltage Drain current | I_{DSS} | $V_{DS}=80V, V_{GS}=0V$ | - | - | 1 | μA |
| Drain-Source On-Resistance(note3) | $R_{DS(ON)}$ | $V_{GS}=10V, I_D=5A$ | - | - | 115 | m Ω |
| Forward trans conductance(note3) | g_{fs} | $V_{DS}=5V, I_D=2.9A$ | 3 | - | - | S |
| Body diode voltage(note3) | V_{SD} | $I_S=3A, V_{GS}=0V$ | - | - | 1.2 | V |
| Input capacitance | C_{iss} | $V_{DS}=25V, V_{GS}=0V, f=1MHz$ | - | 690 | - | pF |
| Output capacitance | C_{oss} | | - | 120 | - | |
| Reverse Transfer capacitance | C_{rss} | | - | 90 | - | |
| Total gate charge | Q_g | $V_{DS}=30V, V_{GS}=10V, I_D=3A$ | - | 15.5 | - | nC |
| Gate-source charge | Q_{gs} | | - | 3.2 | - | |
| Gate-drain charge | Q_{gd} | | - | 4.7 | - | |
| Turn-on Time | $t_{d(on)}$ | $V_{DS}=30V, V_{GS}=10V, I_D=2A, R_G=2.5\Omega, R_L=15\Omega$ | - | 11 | - | ns |
| Rise time | t_r | | - | 7.4 | - | |
| Turn-off Time | $t_{d(off)}$ | | - | 35 | - | |
| Fall time | t_f | | - | 9.1 | - | |

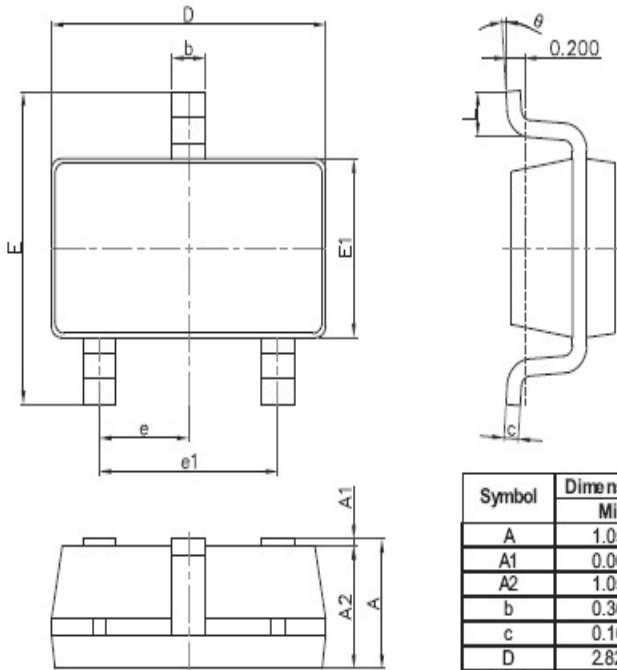
Notes:

1. Repetitive rating : Pulse width limited by junction temperature.
2. Surface mounted on FR4 board, $t \leq 10s$
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to producing.

Typical characteristics

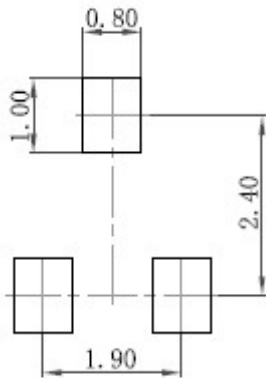


Package Outline SOT23-3L



| Symbol | Dimensions in Millimeters | | Dimensions in Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.050 | 1.250 | 0.041 | 0.049 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 1.050 | 1.150 | 0.041 | 0.045 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.100 | 0.200 | 0.004 | 0.008 |
| D | 2.820 | 3.020 | 0.111 | 0.119 |
| E1 | 1.500 | 1.700 | 0.059 | 0.067 |
| E | 2.650 | 2.950 | 0.104 | 0.116 |
| e | 0.950(BSC) | | 0.037(BSC) | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.300 | 0.600 | 0.012 | 0.024 |

Precautions: PCB Design
Recommended land dimensions for SOT-23-3L diode. Electrode patterns for PCBs



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05mm.
3. The pad layout is for reference purposes only.

Summary of Packing Options

| Package | Package Description | Packing Quantity | Industry Standard |
|----------|---------------------|------------------|-------------------|
| SOT23-3L | Tape/Reel, 7" reel | 3000 | EIA-481-1 |

单击下面可查看定价，库存，交付和生命周期等信息

[>>YFW\(佑风微\)](#)