

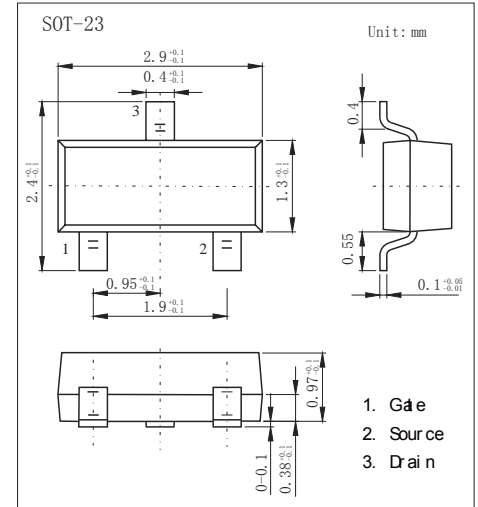
SOT-23 Plastic-Encapsulate MOSFETS

Features

- VDS (V) = 50V
- ID = 200 mA (VGS = 10V)
- RDS(ON) < 3.5Ω (VGS = 10V)
- Fast Switching Speed
- Low On-Resistance
- N-Channel MOSFET

MECHANICAL DATA

- Case style:SOT-23molded plastic
- Mounting position:any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Parameter | Symbol | Rating | Unit |
|---|-------------------|------------|------|
| Drain-Source Voltage | V _{DS} | 50 | V |
| Drain-Gate Voltage R _{GS} ≤ 20KΩ | V _{DG} | 50 | |
| Gate-Source Voltage | V _{GS} | ±20 | |
| Continuous Drain Current | I _D | 200 | mA |
| Power Dissipation | P _D | 300 | mW |
| Thermal Resistance.Junction- to-Ambient | R _{thJA} | 417 | °C/W |
| Junction Temperature | T _J | 150 | °C |
| Storage Temperature Range | T _{stg} | -55 to 150 | |

MOSFET ELECTRICAL CHARACTERISTICS Ta=25 °C unless otherwise specified

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------------------------------|---------------------|--|-----|-----|------|------|
| Drain-Source Breakdown Voltage | V _{DSS} | I _D =250 μA, V _{GS} =0V | 50 | | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =50V, V _{GS} =0V | | | 0.5 | μA |
| Gate-Body Leakage Current | I _{GSS} | V _{DS} =0V, V _{GS} =±20V | | | ±100 | nA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} , I _D =250 μA | 0.5 | | 1.5 | V |
| Static Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =10V, I _D =220mA | | | 3.5 | Ω |
| Forward Transconductance | g _{FS} | V _{DS} =25V, I _D =0.2A, f=1KHz | 100 | | | mS |
| Input Capacitance | C _{iss} | V _{GS} =0V, V _{DS} =10V, f=1MHz | | | 50 | pF |
| Output Capacitance | C _{oss} | | | | 25 | |
| Reverse Transfer Capacitance | C _{rss} | | | | 8 | |
| Turn-On DelayTime | t _{d(on)} | V _{DS} =30V, I _D =0.2A, R _G =50 Ω | | | 20 | ns |
| Turn-Off DelayTime | t _{d(off)} | | | | 20 | |

| | |
|---------|-----|
| Marking | K38 |
|---------|-----|

RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics

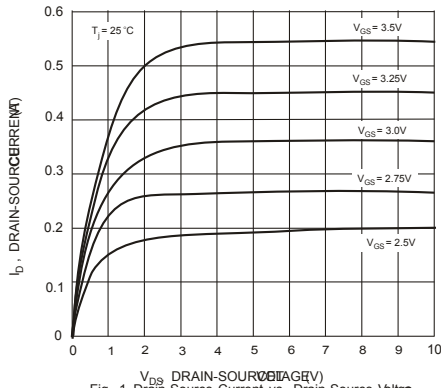


Fig. 1 Drain-Source Current vs. Drain-Source Voltage

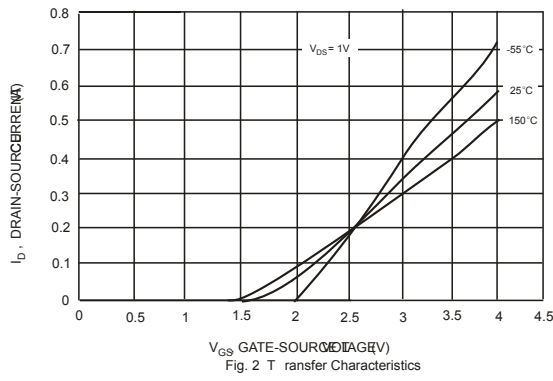


Fig. 2 Transfer Characteristics

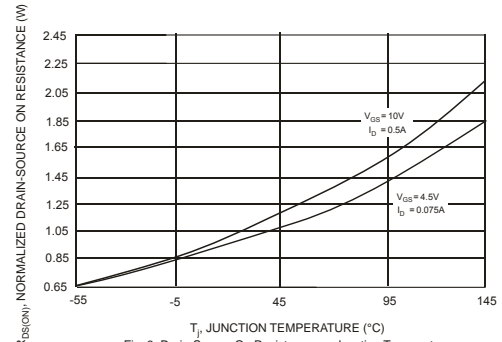


Fig. 3 Drain-Source On Resistance vs. Junction Temperature

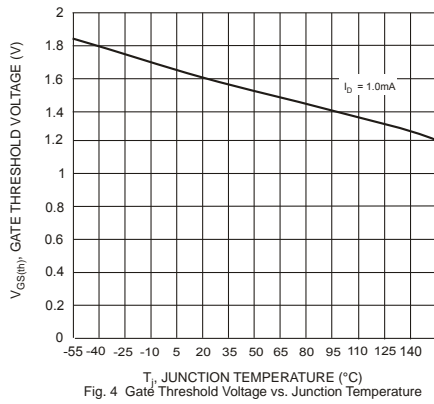


Fig. 4 Gate Threshold Voltage vs. Junction Temperature

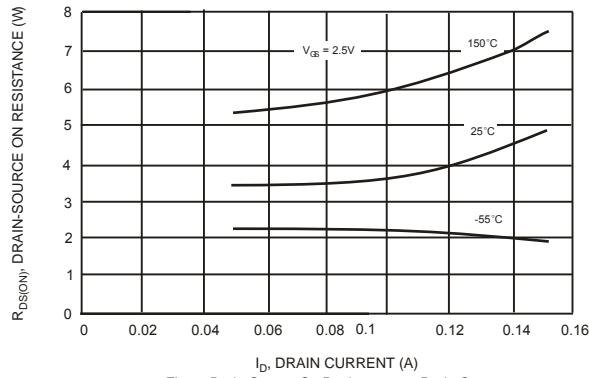


Fig. 5 Drain-Source On Resistance vs. Drain Current

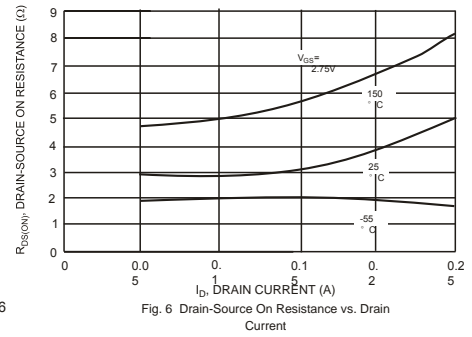


Fig. 6 Drain-Source On Resistance vs. Drain Current

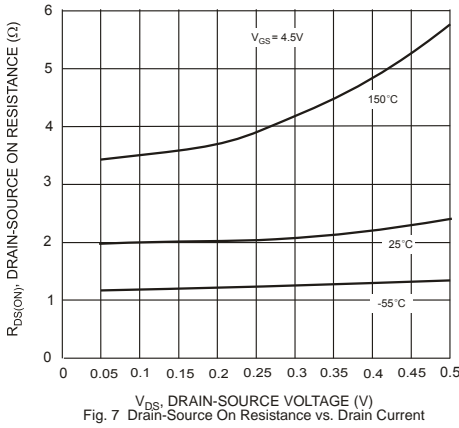


Fig. 7 Drain-Source On Resistance vs. Drain Current

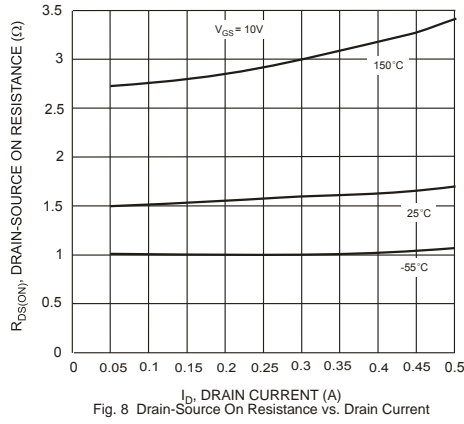


Fig. 8 Drain-Source On Resistance vs. Drain Current

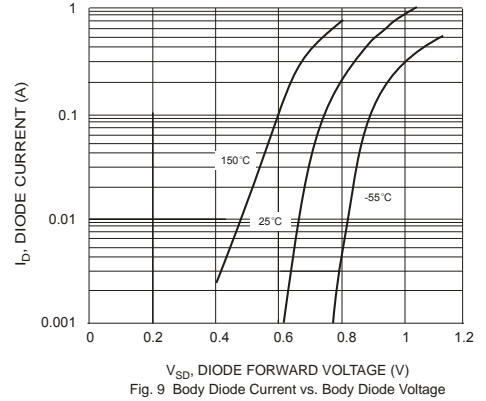


Fig. 9 Body Diode Current vs. Body Diode Voltage

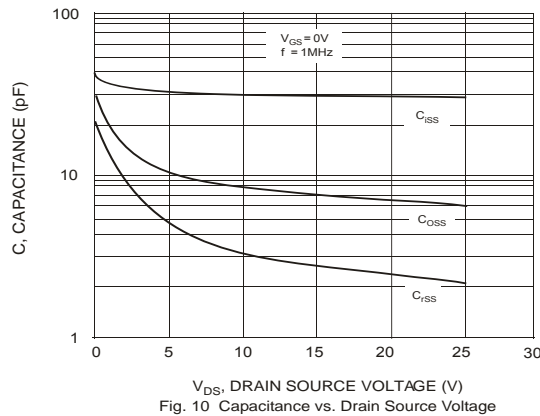


Fig. 10 Capacitance vs. Drain Source Voltage