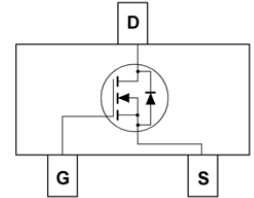


N-Channel Enhancement Mode MOSFET

Feature

- 20V/3.0A, $R_{DS(ON)} = 80\text{m}\Omega(\text{MAX})$ @ $V_{GS} = 4.5\text{V}$.
 $R_{DS(ON)} = 90\text{m}\Omega(\text{MAX})$ @ $V_{GS} = 2.5\text{V}$.
- Super High dense cell design for extremely low $R_{DS(ON)}$.
- Reliable and Rugged.
- SOT-23 for Surface Mount Package.



Applications

- Power Management
- Portable Equipment and Battery Powered Systems.

SOT-23

Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$ Unless Otherwise noted

| Parameter | Symbol | Limit | Units |
|--------------------------|----------|---------|-------|
| Drain-Source Voltage | V_{DS} | 20 | V |
| Gate-Source Voltage | V_{GS} | ± 8 | V |
| Drain Current-Continuous | I_D | 3.0 | A |

Electrical Characteristics

$T_A = 25^\circ\text{C}$ Unless Otherwise noted

| Parameter | Symbol | Test Conditions | Min | Typ. | Max | Units |
|---|--------------|--|-----|------|------|------------------|
| Off Characteristics | | | | | | |
| Drain to Source Breakdown Voltage | BVDSS | $V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$ | 20 | - | - | V |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS} = 12\text{V}, V_{GS} = 0\text{V}$ | - | - | 1 | μA |
| Gate Body Leakage Current, Forward | I_{GSSF} | $V_{GS} = 8\text{V}, V_{DS} = 0\text{V}$ | - | - | 100 | nA |
| Gate Body Leakage Current, Reverse | I_{GSSR} | $V_{GS} = -8\text{V}, V_{DS} = 0\text{V}$ | - | - | -100 | nA |
| On Characteristics | | | | | | |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{GS} = V_{DS}, I_D = 250\mu\text{A}$ | 0.4 | - | 1.3 | V |
| Static Drain-source | $R_{DS(ON)}$ | $V_{GS} = 4.5\text{V}, I_D = 3.0\text{A}$ | - | 70 | 80 | $\text{m}\Omega$ |
| On-Resistance | | $V_{GS} = 2.5\text{V}, I_D = 2.8\text{A}$ | - | 75 | 90 | $\text{m}\Omega$ |
| Drain-Source Diode Characteristics and Maximum Ratings | | | | | | |
| Drain-Source Diode Forward Voltage | VSD | $V_{GS} = 0\text{V}, I_S = 0.94\text{A}$ | | | 1.2 | V |

Typical Characteristics

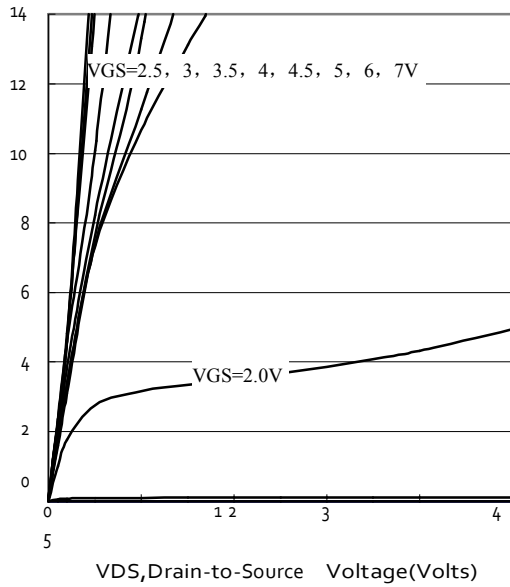


Figure 1. Output Characteristics

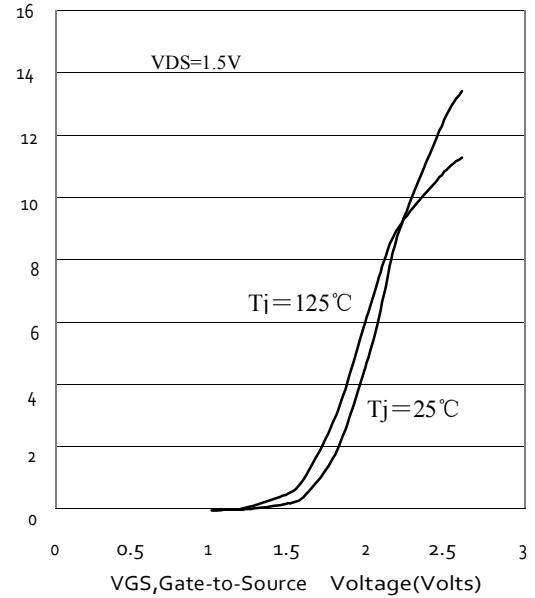


Figure 2. Transfer Characteristics

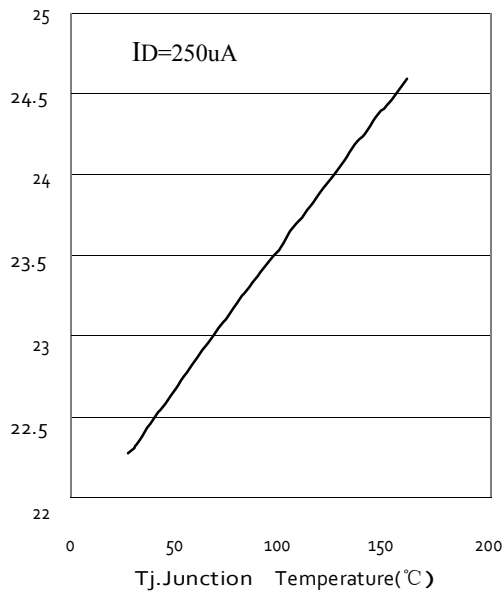


Figure 3. Breakdown Voltage Variation with Temperature

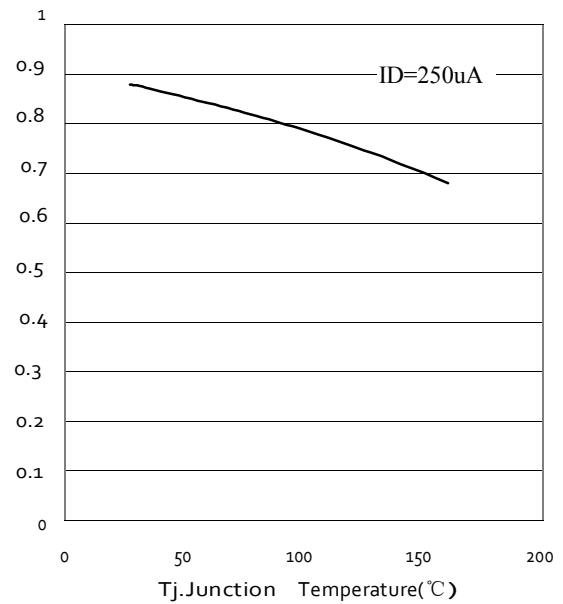


Figure 4. Gate Threshold Variation with Temperature

Typical Characteristics

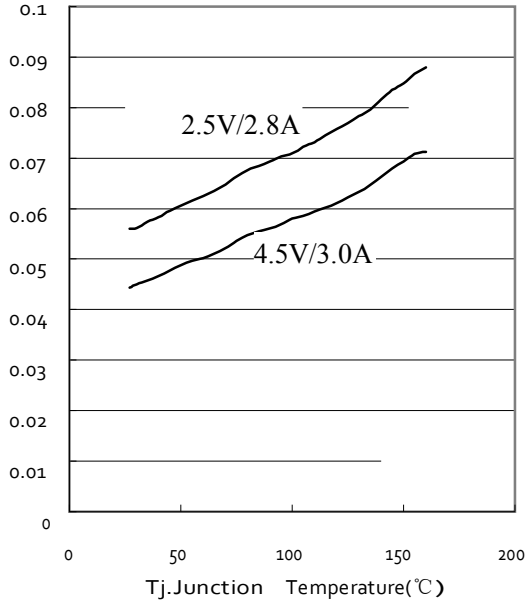


Figure 5. On-Resistance Variation with Temperature

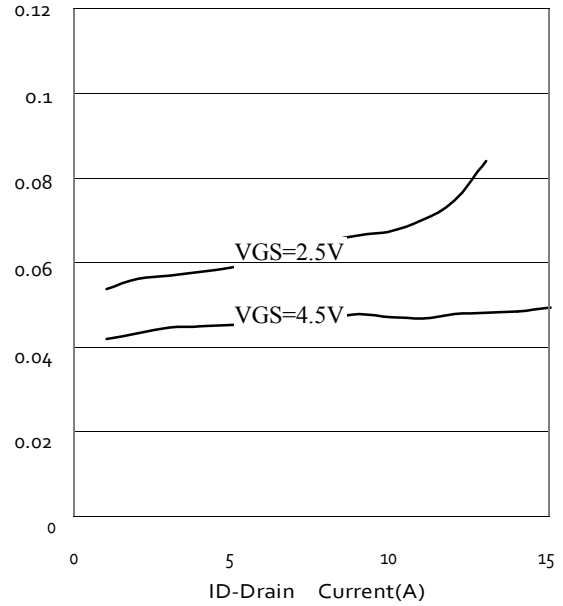


Figure 6. On-Resistance vs. Drain Current

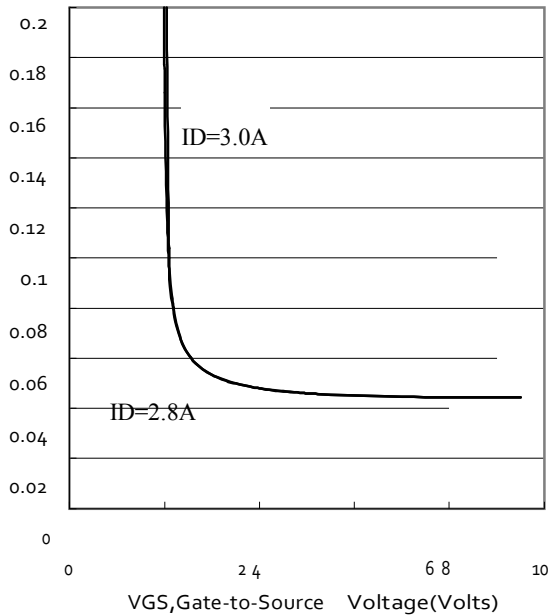


Figure 7. On-Resistance vs. Gate-to-Source Voltage

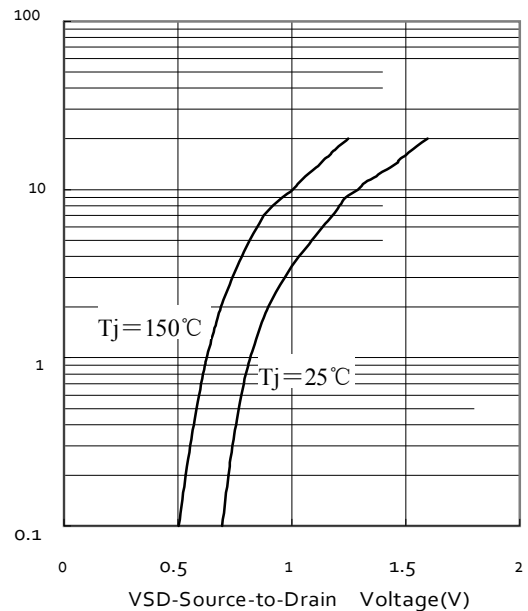


Figure 8. Source-Drain Diode Forward Voltage

Package Outline Dimensions (UNIT: mm)

SOT-23

