

## P-Channel Enhancement Mode MOSFET

### Feature

-20V/-3A,  $R_{DS(ON)} = 120\text{m}\Omega(\text{MAX})$  @  $V_{GS} = -4.5\text{V}$ .

$R_{DS(ON)} = 150\text{m}\Omega(\text{MAX})$  @  $V_{GS} = -2.5\text{V}$ .

Super High dense cell design for extremely low  $R_{DS(ON)}$

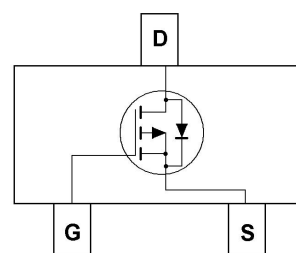
Reliable and Rugged

SOT-23 for Surface Mount Package

| $BV_{DSS}$ | $R_{DS(ON)}$ | $I_D$ |
|------------|--------------|-------|
| 1200V      | 80m $\Omega$ | 3.0A  |

### 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      | $V_{GS}$ | $\pm 10$ | V     |
| Drain Current-Continuous | $I_D$    | -3       | 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   | VGS=0V, ID=-250μA     | -20  | -    | -    | V     |
| Zero-Gate Voltage Drain Current                        | IDSS    | VDS=-20V, VGS=0V      | -    | -    | -1   | μA    |
| Gate Body Leakage Current, Forward                     | IGSSF   | VGS=10V, VDS=0V       | -    | -    | 100  | nA    |
| Gate Body Leakage Current, Reverse                     | IGSSR   | VGS=-10V, VDS=0V      | -    | -    | -100 | nA    |
| On Characteristics                                     |         |                       |      |      |      |       |
| Gate Threshold Voltage                                 | VGS(th) | VGS= VDS, ID=-250μA   | -0.4 | -    | -1.0 | V     |
| Static Drain-source                                    | RDS(ON) | VGS =-4.5V, ID =-3.0A | -    | --   | 120  | mΩ    |
| On-Resistance                                          |         | VGS =-2.5V, ID =-2.0A | -    | --   | 150  | mΩ    |
| Drain-Source Diode Characteristics and Maximum Ratings |         |                       |      |      |      |       |
| Drain-Source Diode Forward Voltage                     | VSD     | VGS =0V, IS=-1.25A    |      |      | -1.2 | V     |

## Typical Characteristics

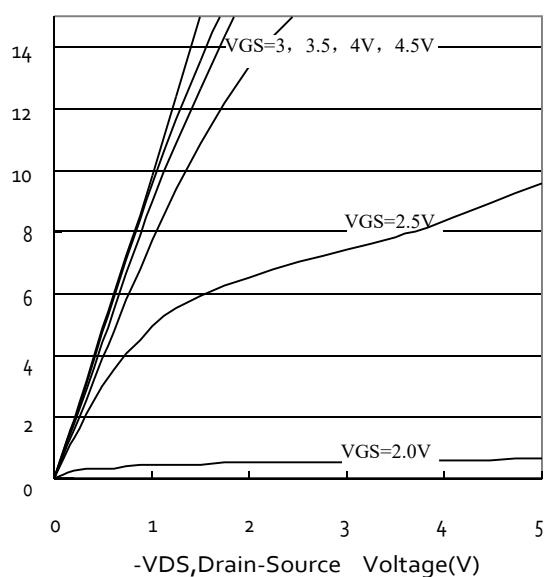


Figure 1. Output Characteristics

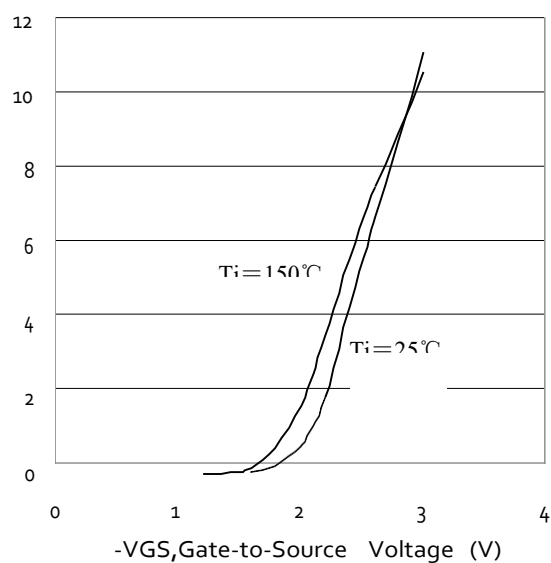


Figure 2. Transfer Characteristics

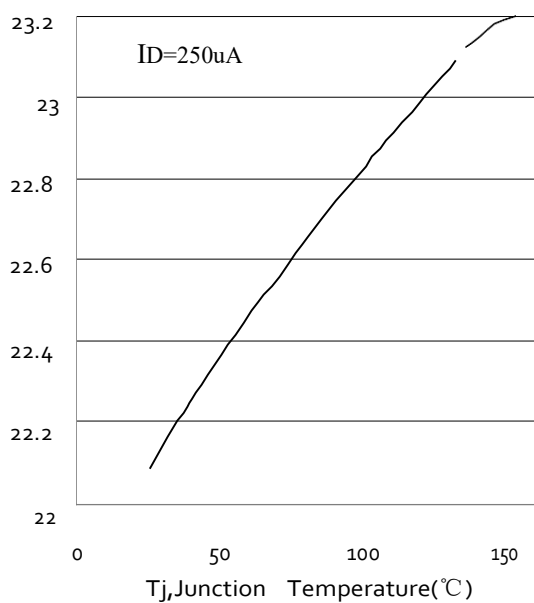


Figure 3. Breakdown Voltage Variation with Temperature

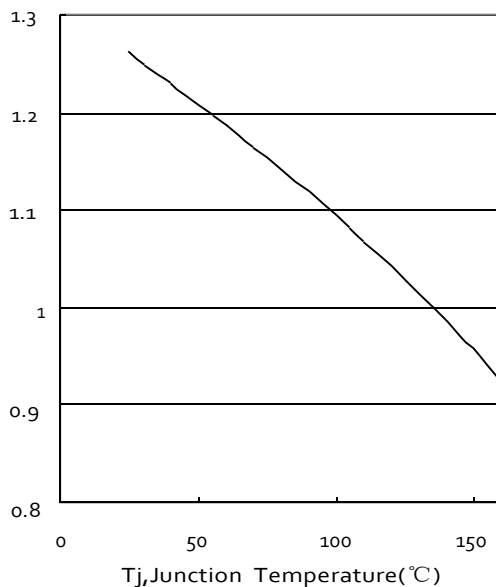
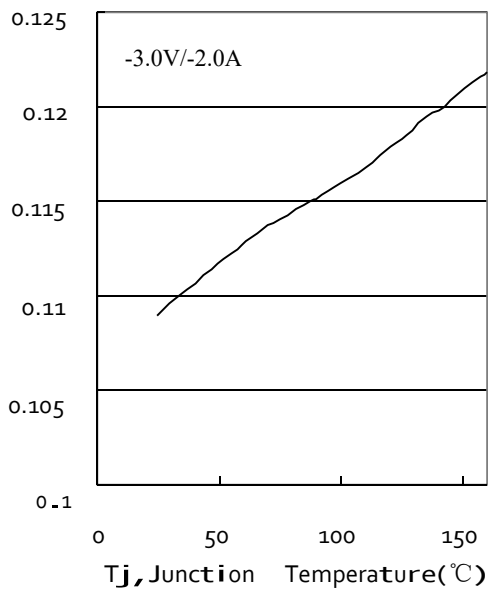
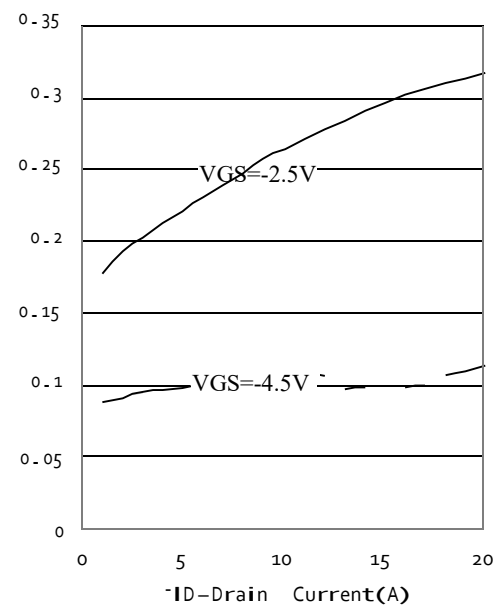


Figure 4. Gate Threshold Variation with Temperature

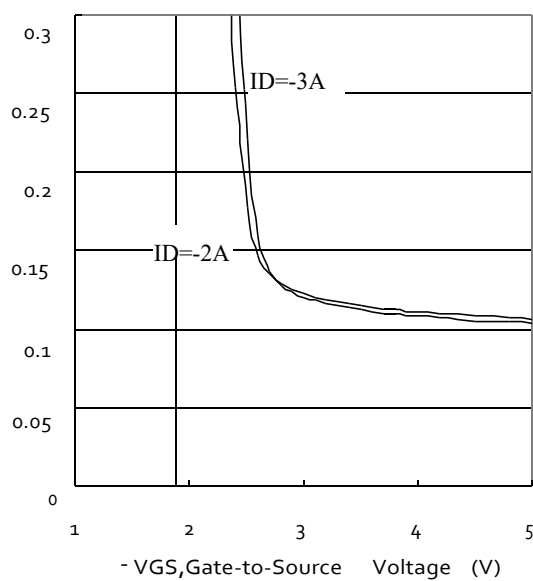
## Typical Characteristics



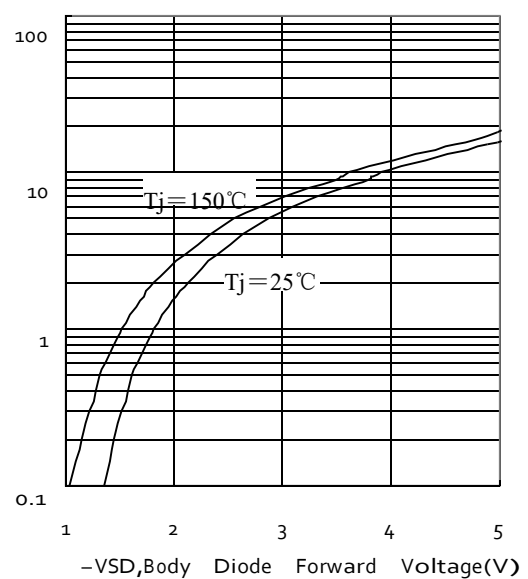
**Figure 5. On-Resistance Variation with Temperature**



**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**

