



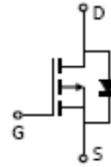
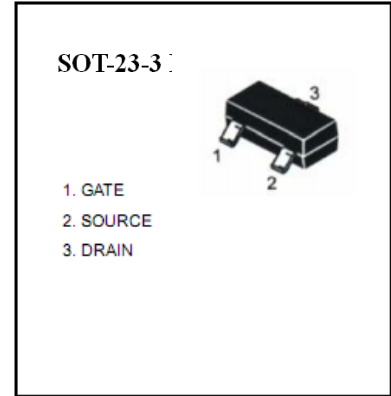
Plastic-Encapsulate MOSFETS

MOSFET(P-Channel)

FEATURES

- V_{DS}=-30 V, I_D=-5A
- R_{DS(ON)}<35m Ω @ V_{GS}=-4.5V
- R_{DS(ON)}<30m Ω @ V_{GS}=-10V
- High Power and current handing capability
- Lead free product is acquired
- Surface Mount Packing

MARKING: 30P7



MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

| Symbol | Parameter | Value | Units |
|------------------|----------------------|---------|-------|
| V _{DS} | Drain-Source voltage | -30 | V |
| V _{GS} | Gate-Source voltage | ±20 | V |
| I _D | Drain current | -5 | A |
| P _D | Power Dissipation | 1.3 | W |
| T _j | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55-150 | °C |

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|------------------------------------|----------------------|--|------|-----|------|------|
| Drain-Source Breakdown Voltage | V _{(BR)DSS} | V _{GS} =0V, I _D =-250uA | -30 | | | V |
| Gate-Threshold Voltage | V _{th(GS)} | V _{DS} =V _{GS} , I _D =-250 uA | -1.1 | | -2.2 | V |
| Gate-body Leakage | I _{GSS} | V _{DS} =0V, V _{GS} =±20V | | | ±100 | nA |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-30V, V _{GS} =0V | | | -1 | uA |
| Drain-Source On-Resistance | R _{DS(ON)} | V _{GS} =-10V, I _D =-4.1A | | 25 | 30 | mΩ |
| | | V _{GS} =-4.5V, I _D =-3A | | 30 | 35 | mΩ |
| Forward Trans conductance | g _{fs} | V _{DS} =-5V, I _D =-3.5A | 2 | | | s |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} =-4V, V _{GS} =0V, f=1MHz | 740 | | | pF |
| Output Capacitance | C _{oss} | | 290 | | | |
| Reverse Transfer Capacitance | C _{rss} | | 190 | | | |
| Switching Capacitance | | | | | | |
| Turn-on Delay Time | t _{d(on)} | V _{DD} =-4V, I _D =-3.3A, V _{GS} =-4.5V, R _{GEN} =1 Ω | 12 | | | nS |
| Turn-on Rise Time | t _r | | 35 | | | nS |
| Turn-off Delay Time | t _{d(off)} | | 30 | | | nS |
| Turn-off Fall Time | t _f | | 10 | | | nS |
| Total Gate Charge | Q _g | V _{DS} =-4V, I _D =-4.1A, V _{GS} =-4.5V, | 7.8 | | | nC |
| Gate-Source Charge | Q _{gs} | | 1.2 | | | nC |
| Gate-Drain Charge | Q _{gd} | | 1.6 | | | nC |
| Drain-Source Diode Characteristics | | | | | | |
| Diode Forward Voltage | V _{SD} | V _{GS} =0V, I _D =-1.3A | | | -1.2 | V |

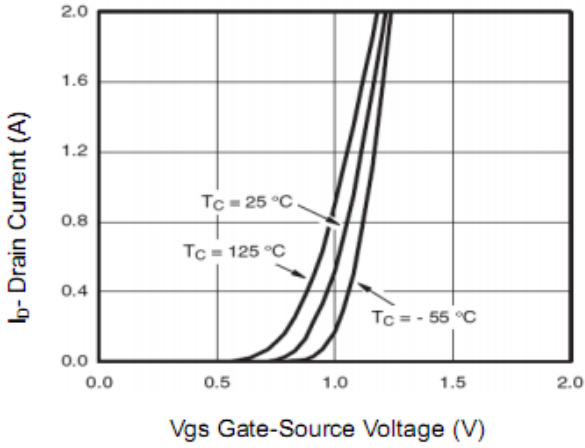


Figure 7 Transfer Characteristics

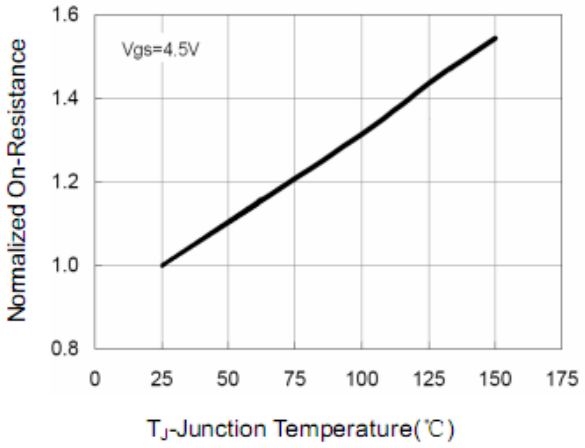


Figure 8 Drain-Source On-Resistance

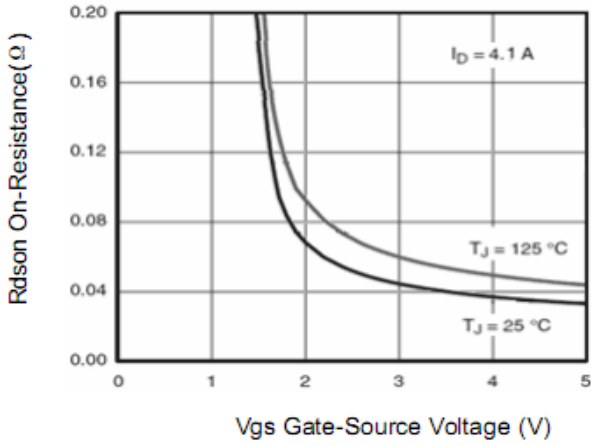


Figure 9 Rdson vs Vgs

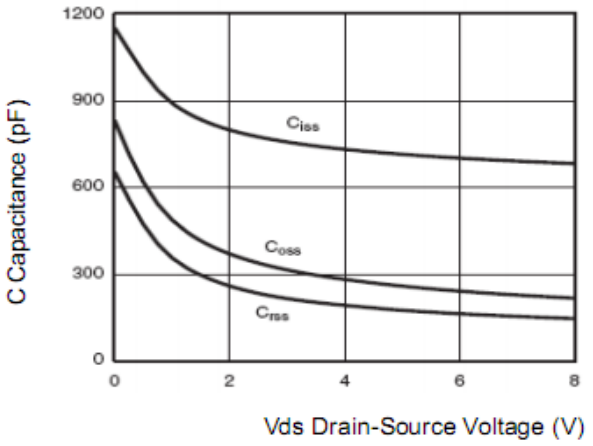


Figure 10 Capacitance vs Vds

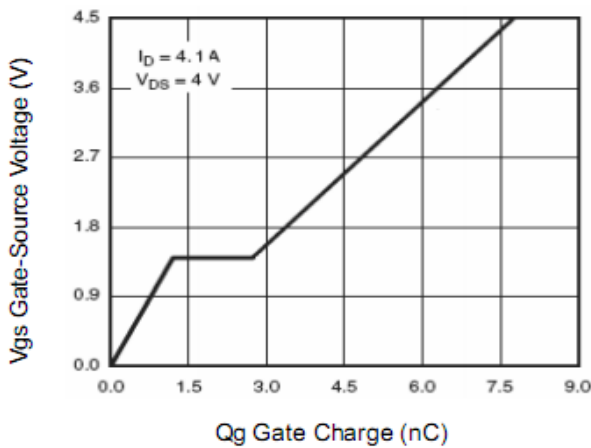


Figure 11 Gate Charge

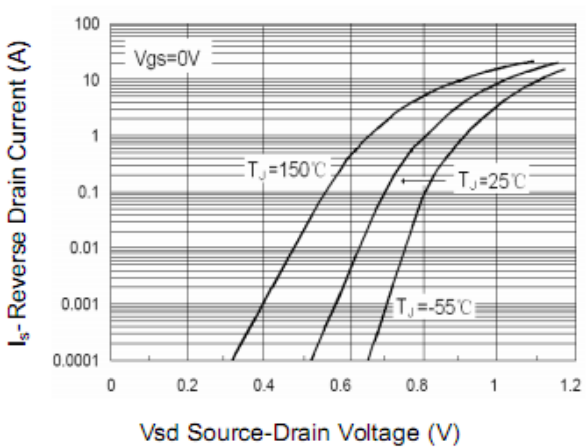
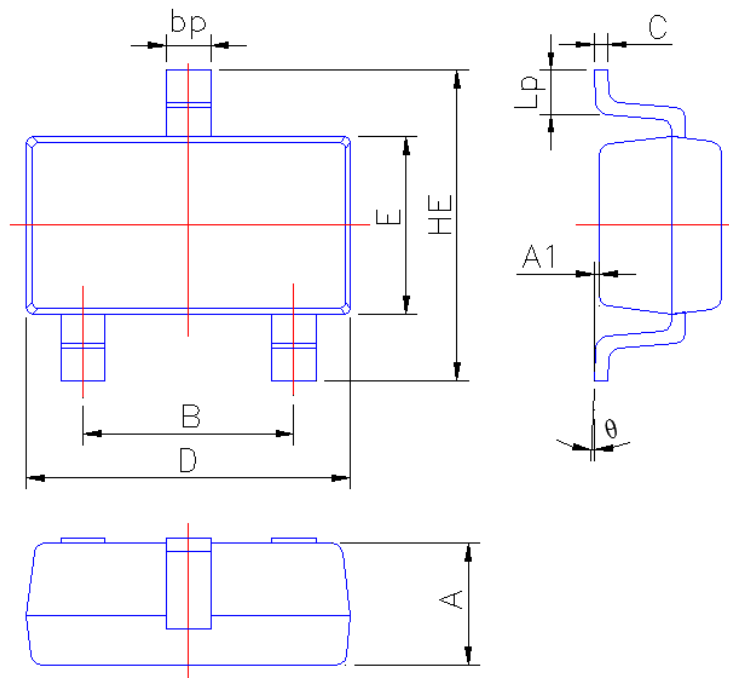


Figure 12 Source- Drain Diode Forward



SOT-23-3L Package Outline Dimensions



| Symbol | Dimension in Millimeters | |
|--------|--------------------------|-------|
| | Min | Max |
| A | 1.05 | 1.20 |
| A1 | 0.010 | 0.100 |
| B | 1.80 | 2.00 |
| bp | 0.35 | 0.50 |
| C | 0.09 | 0.15 |
| D | 2.80 | 3.00 |
| E | 1.50 | 1.70 |
| HE | 2.60 | 3.00 |
| Lp | 0.25 | 0.55 |
| θ | 2° | 6° |