

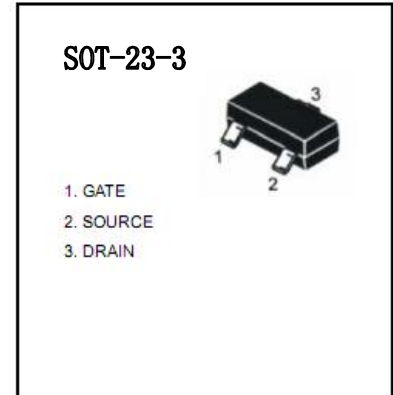
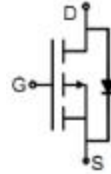


SOT-23-3 Plastic-Encapsulate Transistors

3401 MOSFET(P-Channel)

FEATURES

- High Power and current handing capability
- Lead free product is acquired
- Surface Mount Package



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

| Symbol | Parameter | Value | Units |
|------------------|----------------------|---------|-------|
| V _{DS} | Drain-Source voltage | -30 | V |
| V _{GS} | Gate-Source voltage | ±12 | V |
| I _D | Drain current | -4.2 | A |
| P _D | Power Dissipation | 1.2 | W |
| T _j | Junction Temperature | -55-150 | °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 | -0.7 | -1 | -1.4 | V |
| Gate-body Leakage | I _{GSS} | V _{DS} =0V, V _{GS} =±12V | | | ±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} =-2.5V, I _D =-1A | | | 130 | mΩ |
| | | V _{GS} =-4.5V, I _D =-4A | | | 75 | mΩ |
| | | V _{GS} =-10V, I _D =-4.2A | | | 55 | mΩ |
| Forward Trans conductance | g _{fs} | V _{DS} =-5V, I _D =-4.2A | | 10 | | S |
| Dynamic Characteristics | | | | | | |
| Input Capacitance | C _{iss} | V _{DS} =-15V, V _{GS} =0V, f=1MHz | | 950 | | pF |
| Output Capacitance | C _{oss} | | | 115 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 75 | | |
| Switching Capacitance | | | | | | |
| Turn-on Delay Time | t _{d(on)} | V _{DD} =-15V, I _D =-3.2A, V _{GS} =-10V R _{GEN} =6Ω | | 7 | | nS |
| Turn-on Rise Time | t _r | | | 3 | | nS |
| Turn-off Delay Time | t _{d(off)} | | | 30 | | nS |
| Turn-off Fall Time | t _f | | | 12 | | nS |
| Total Gate Charge | Q _g | | | | 9.5 | |
| Gate-Source Charge | Q _{gs} | V _{GS} =-4.5V, | | 2 | | nC |
| Gate-Drain Charge | Q _{gd} | | | 3 | | nC |
| Drain-Source Diode Characteristics | | | | | | |
| Diode Forward Voltage | V _{SD} | V _{GS} =0V, I _D =-1A | | | -1.2 | V |

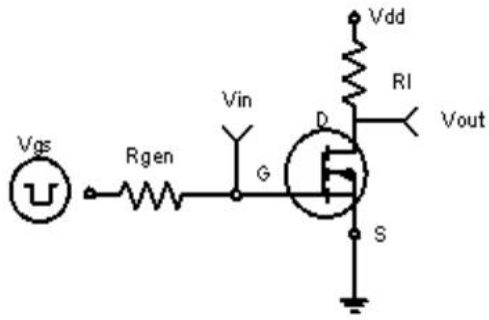


Figure 1: Switching Test Circuit

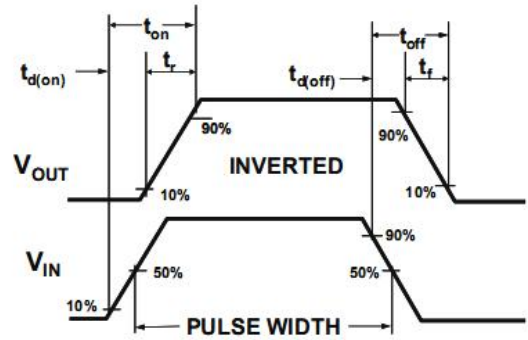


Figure 2: Switching Waveforms

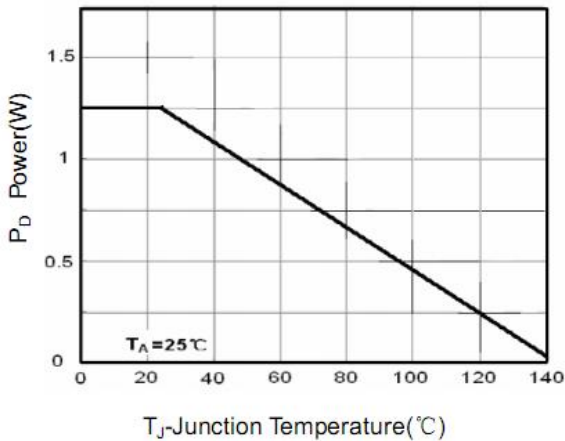


Figure 3 Power Dissipation

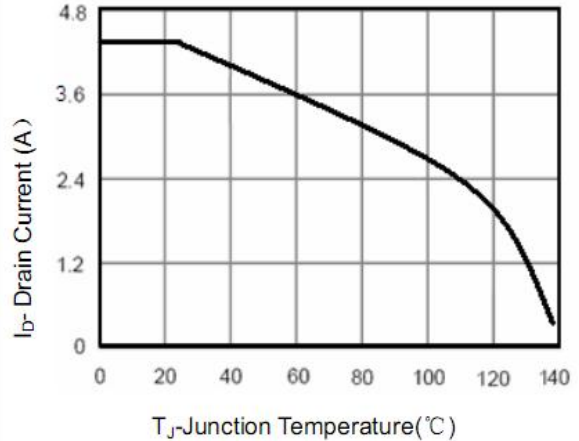


Figure 4 Drain Current

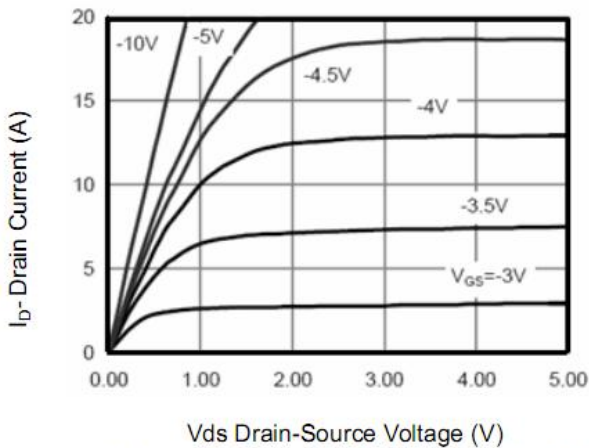


Figure 5 Output CHARACTERISTICS

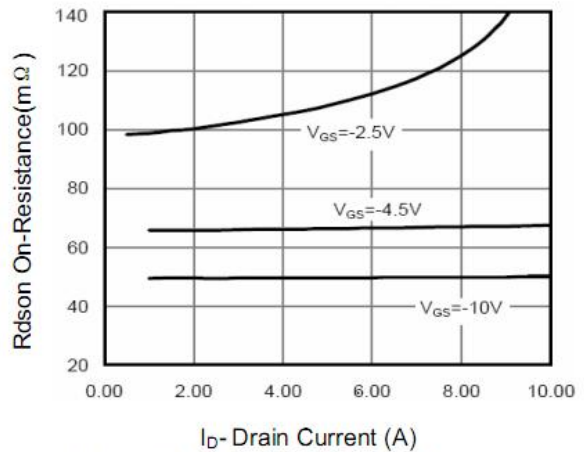


Figure 6 Drain-Source On-Resistance