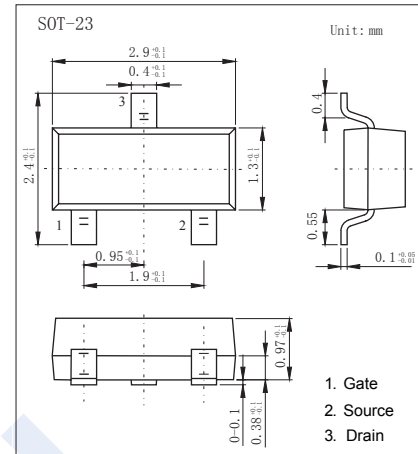
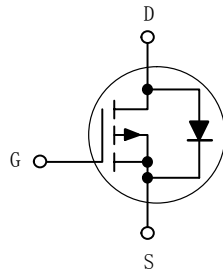


P-Channel MOSFET

NTR1P02LT1 (KTR1P02LT1)

■ Features

- $V_{DS} (V) = -20V$
- $I_D = -1.3 A$
- $R_{DS(ON)} < 220m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 350m\Omega$ ($V_{GS} = -2.5V$)



■ Absolute Maximum Ratings $T_a = 25^\circ C$

| Parameter | Symbol | Rating | Unit |
|---|------------|------------|--------------|
| Drain-Source Voltage | V_{DS} | -20 | V |
| Gate-Source Voltage | V_{GS} | ± 12 | |
| Continuous Drain Current | I_D | -1.3 | A |
| Pulsed Drain Current | I_{DM} | -4 | |
| Power Dissipation | P_D | 0.4 | W |
| Thermal Resistance.Junction- to-Ambient | R_{thJA} | 300 | $^\circ C/W$ |
| Junction Temperature | T_J | 150 | $^\circ C$ |
| Junction Storage Temperature Range | T_{stg} | -55 to 150 | |

P-Channel MOSFET

NTR1P02LT1 (KTR1P02LT1)

■ Electrical Characteristics Ta = 25°C

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---------------------------------------|---------------------|---|------|--------|-------|------|
| Drain-Source Breakdown Voltage | V _{DSS} | I _D =-250 μA, V _{GS} =0V | -20 | | | V |
| Zero Gate Voltage Drain Current | I _{DSS} | V _{DS} =-16V, V _{GS} =0V | | | -1 | μA |
| | | V _{DS} =-16V, V _{GS} =0V, T _J =125°C | | | -10 | |
| Gate-Body leakage current | I _{GSS} | V _{DS} =0V, V _{GS} =±12V | | | ±100 | nA |
| Gate Threshold Voltage | V _{GS(th)} | V _{DS} =V _{GS} , I _D =-250 μA | -0.7 | | -1.25 | V |
| Static Drain-Source On-Resistance | R _{DS(on)} | V _{GS} =-4.5V, I _D =-0.75A | | | 220 | mΩ |
| | | V _{GS} =-2.5V, I _D =-0.5A | | | 350 | |
| Input Capacitance | C _{iss} | V _{GS} =0V, V _{DS} =-5V, f=1MHz | | 225 | | pF |
| Output Capacitance | C _{oss} | | | 135 | | |
| Reverse Transfer Capacitance | C _{rss} | | | 55 | | |
| Total Gate Charge | Q _g | V _{GS} =-4V, V _{DS} =-16V, I _D =-1.5A | | 5500 | | pC |
| Turn-On DelayTime | t _{d(on)} | V _{DS} =-5V, I _D =-1A, R _L =5Ω, R _{GEN} =6Ω | | 7 | | ns |
| Turn-On Rise Time | t _r | | | 15 | | |
| Turn-Off DelayTime | t _{d(off)} | | | 18 | | |
| Turn-Off Fall Time | t _f | | | 20 | | |
| Reverse Recovery Time | t _{rr} | I _F =-1A, V _{GS} =0V, di/dt=100A/us | | 16 | | |
| | t _a | | | 11 | | |
| | t _b | | | 5.5 | | |
| Body Diode Reverse Recovery Charge | Q _{rr} | | | 0.0085 | | μC |
| Maximum Body-Diode Continuous Current | I _S | | | | -0.6 | A |
| Pulsed Current | I _{SM} | | | | -0.75 | |
| Diode Forward Voltage | V _{SD} | I _S =-0.6A, V _{GS} =0V | | | -1 | V |

■ Marking

| | |
|---------|------|
| Marking | PO2* |
|---------|------|

P-Channel MOSFET NTR1P02LT1 (KTR1P02LT1)

■ Typical Characteristics

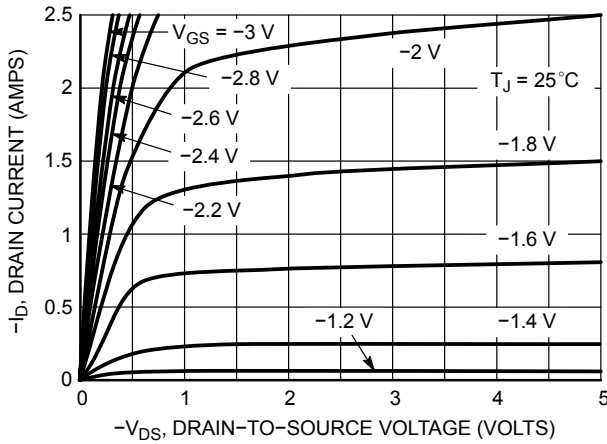


Figure 1. On-Region Characteristics

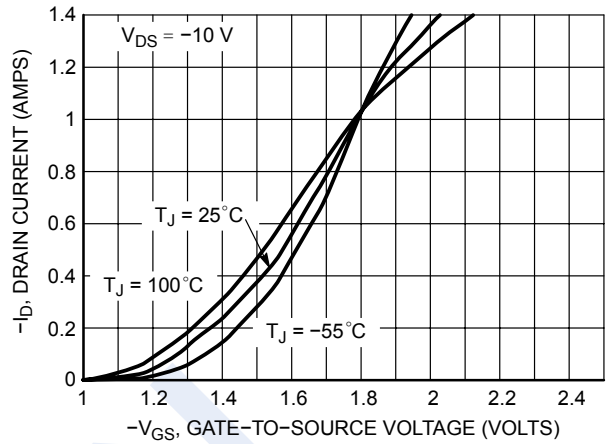


Figure 2. Transfer Characteristics

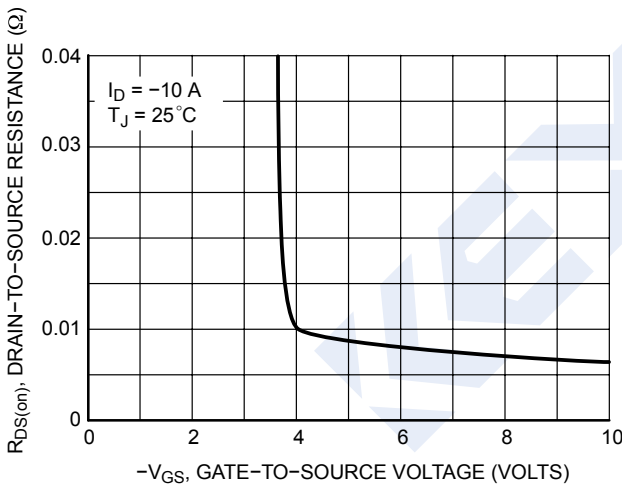


Figure 3. On-Resistance versus Gate-to-Source Voltage

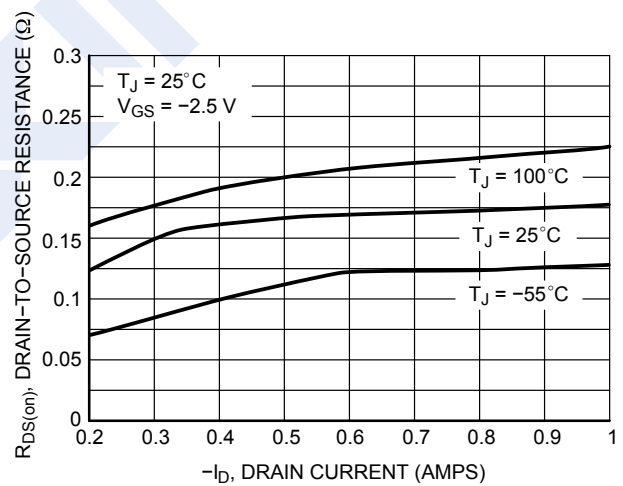


Figure 4. On-Resistance versus Drain Current and Gate Voltage

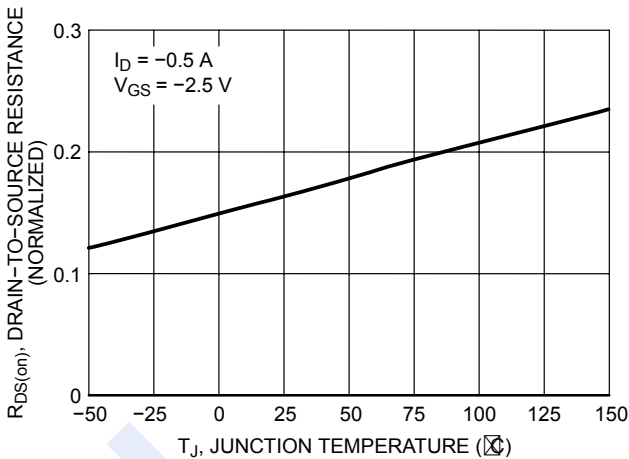


Figure 5. On-Resistance Variation with Temperature

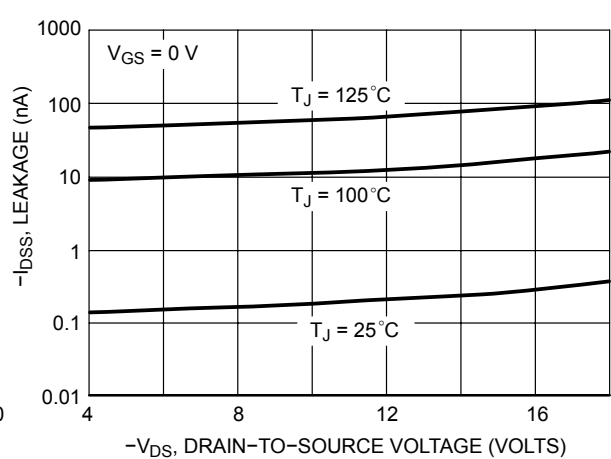


Figure 6. Drain-to-Source Leakage Current versus Voltage

P-Channel MOSFET NTR1P02LT1 (KTR1P02LT1)

■ Typical Characteristics

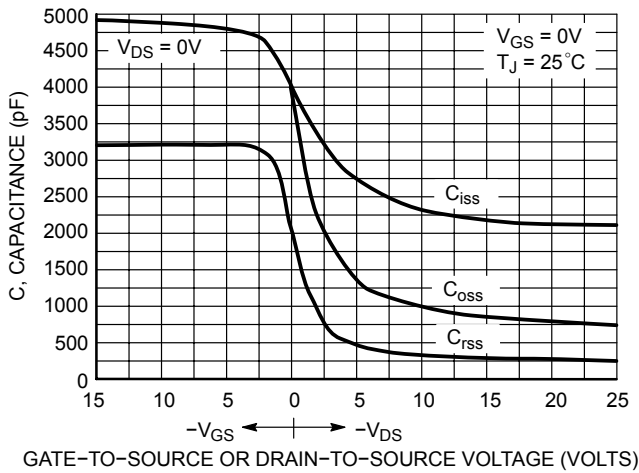


Figure 7. Capacitance Variation

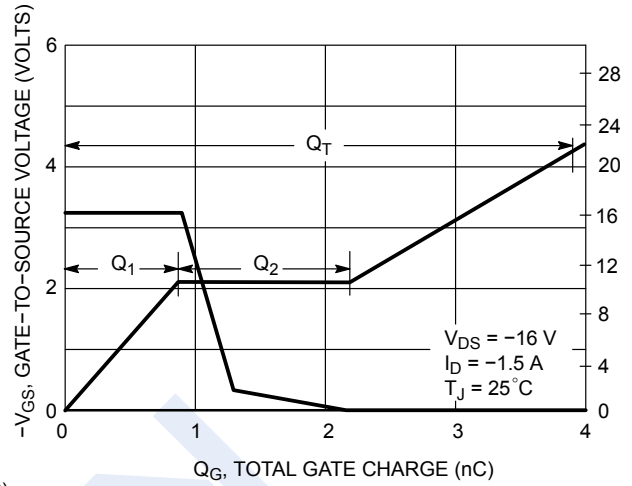


Figure 8. Gate-to-Source and Drain-to-Source Voltage versus Total Charge

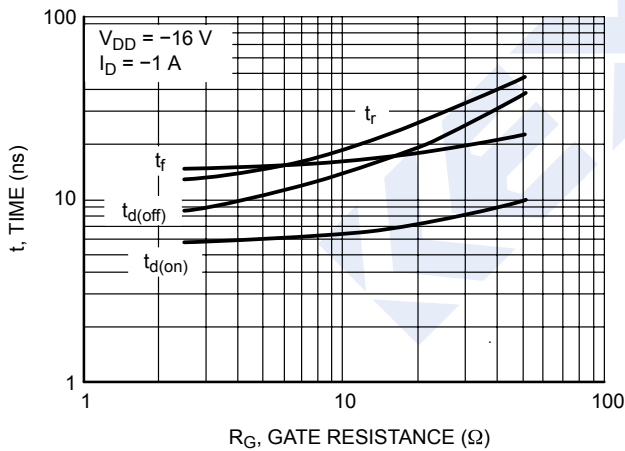


Figure 9. Resistive Switching Time Variation versus Gate Resistance

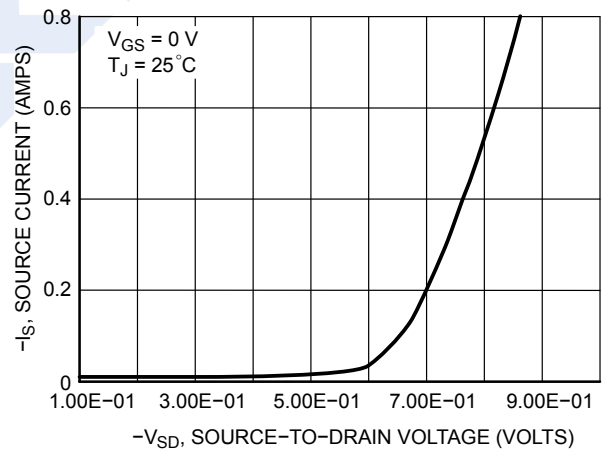


Figure 10. Diode Forward Voltage versus Current