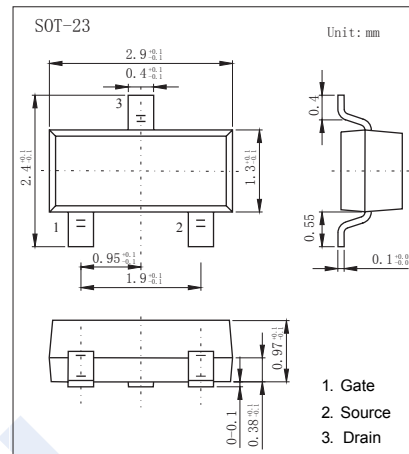
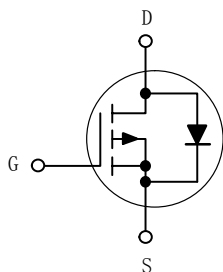


P-Channel MOSFET
NTR1P02LT1 (KTR1P02LT1)

■ 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 =5 Ω, R _{GEN} =6 Ω		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/μs		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*
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P-Channel MOSFET

NTR1P02LT1 (KTR1P02LT1)

■ Typical Characteristics

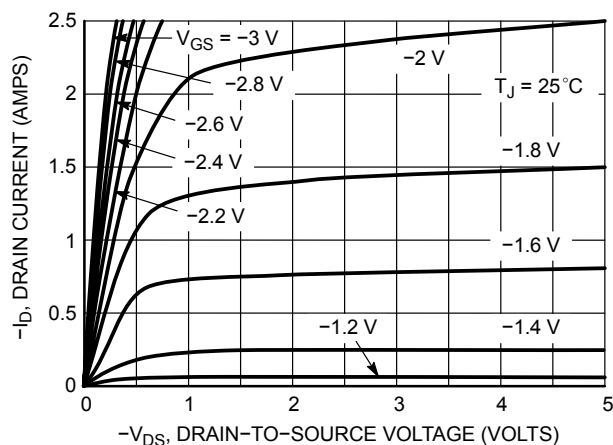


Figure 1. On-Region Characteristics

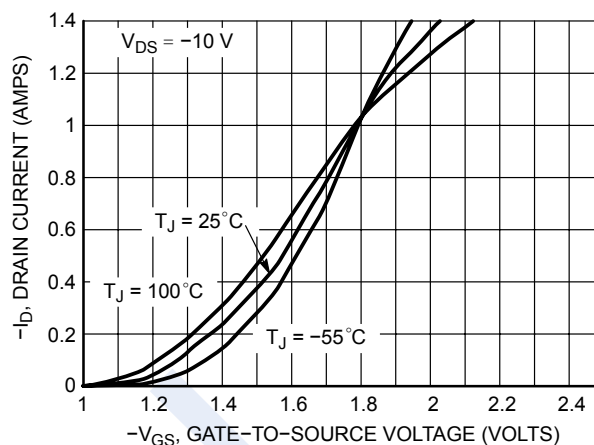


Figure 2. Transfer Characteristics

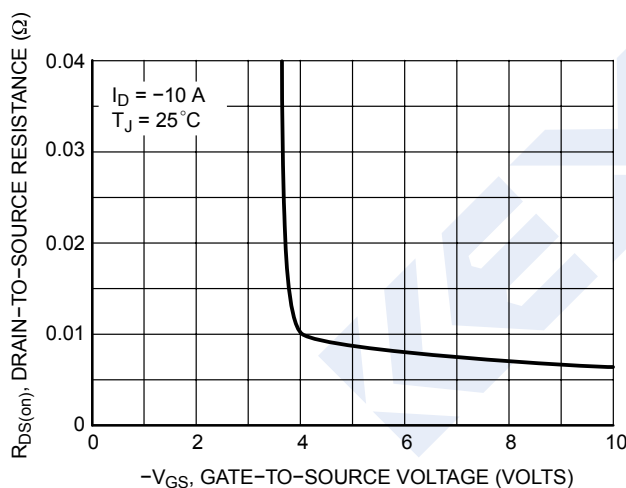


Figure 3. On-Resistance versus Gate-to-Source Voltage

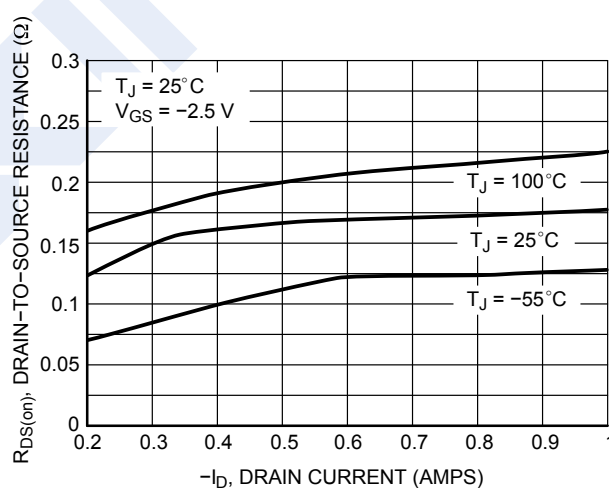


Figure 4. On-Resistance versus Drain Current and Gate Voltage

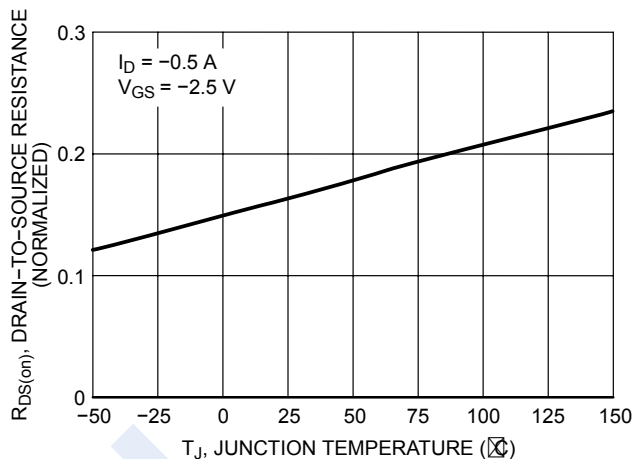


Figure 5. On-Resistance Variation with Temperature

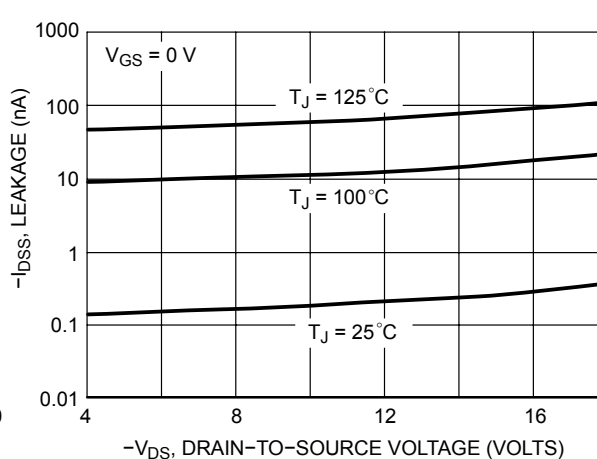


Figure 6. Drain-to-Source Leakage Current versus Voltage

P-Channel MOSFET

NTR1P02LT1 (KTR1P02LT1)

■ Typical Characteristics

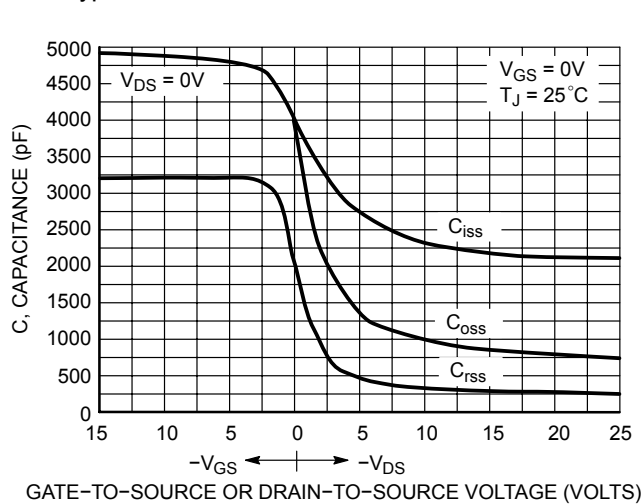


Figure 7. Capacitance Variation

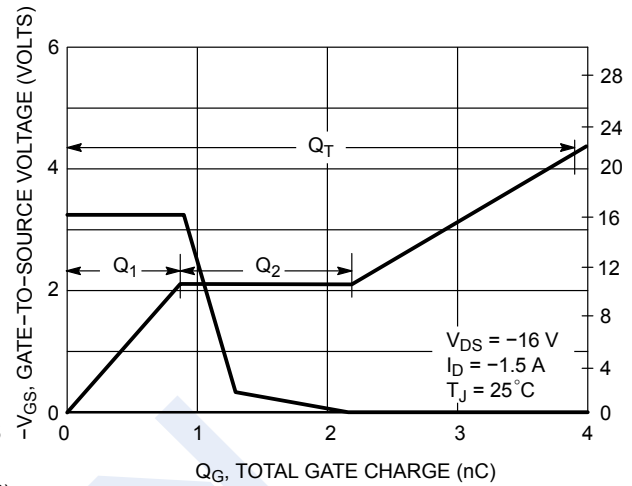


Figure 8. Gate-to-Source and Drain-to-Source Voltage versus Total Charge

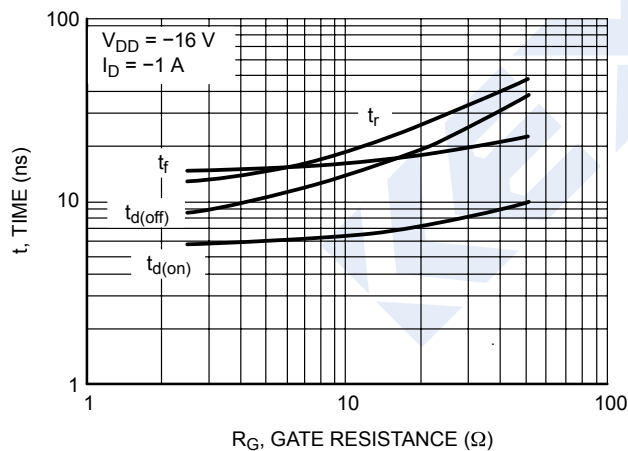


Figure 9. Resistive Switching Time Variation versus Gate Resistance

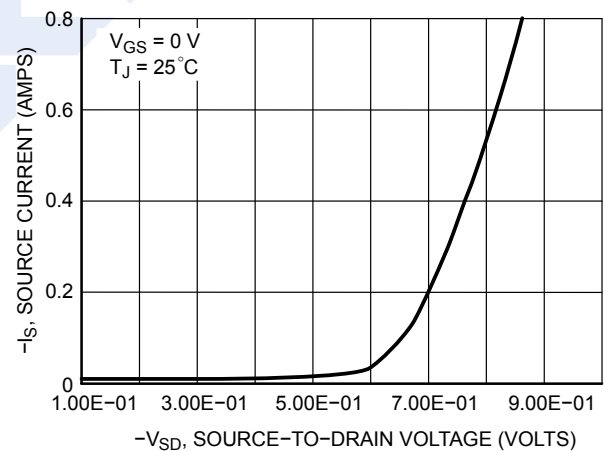


Figure 10. Diode Forward Voltage versus Current