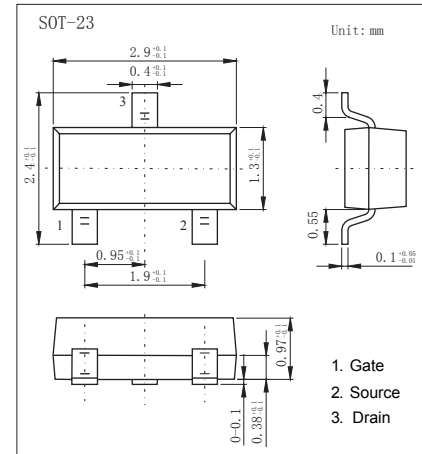
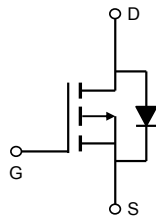


P-Channel MOSFET

AO3401A

■ Features

- $V_{DS} (V) \approx -30V$
- $I_D = -4 A$ ($V_{GS} \approx -10V$)
- $R_{DS(ON)} < 50m\Omega$ ($V_{GS} \approx -10V$)
- $R_{DS(ON)} < 60m\Omega$ ($V_{GS} \approx -4.5V$)
- $R_{DS(ON)} < 85m\Omega$ ($V_{GS} \approx -2.5V$)



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

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 12	
Continuous Drain Current	$T_A = 25^\circ C$	I_D	-4	A
	$T_A = 70^\circ C$		-3.2	
Pulsed Drain Current		I_{DM}	-27	
Power Dissipation	$T_A = 25^\circ C$	P_D	1.4	W
	$T_A = 70^\circ C$		0.9	
Thermal Resistance.Junction- to-Ambient	$t \leq 10s$	R_{thJA}	90	$^\circ C/W$
	Steady-State		125	
Thermal Resistance.Junction- to-Lead		R_{thJL}	80	
Junction Temperature		T_J	150	$^\circ C$
Junction Storage Temperature Range		T_{stg}	-55 to 150	

P-Channel MOSFET

AO3401A

■ 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	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
		V _{DS} =-30V, V _{GS} =0V, T _J =55°C			-5	
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	-0.5		-1.3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-4A			50	mΩ
		V _{GS} =-10V, I _D =-4A T _J =125°C			75	
		V _{GS} =-4.5V, I _D =-3.5A			60	
		V _{GS} =-2.5V, I _D =-2.5A			85	
On state drain current	I _{D(on)}	V _{GS} =-10V, V _{DS} =-5V	-27			A
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-4A		17		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-15V, f=1MHz		645		pF
Output Capacitance	C _{oss}			80		
Reverse Transfer Capacitance	C _{rss}			55		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz	4		12	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =-10V, V _{DS} =-15V, I _D =-4A		14		nC
Total Gate Charge (4.5V)				7		
Gate Source Charge	Q _{gs}			1.5		
Gate Drain Charge	Q _{gd}			2.5		
Turn-On DelayTime	t _{d(on)}			6.5		ns
Turn-On Rise Time	t _r	V _{GS} =-10V, V _{DS} =-15V, R _L =3.75Ω, R _{GEN} =3Ω		3.5		
Turn-Off DelayTime	t _{d(off)}			41		
Turn-Off Fall Time	t _f			9		
Body Diode Reverse Recovery Time	t _{rr}	I _F =-4A, dI/dt=100A/μs		11		nC
Body Diode Reverse Recovery Charge	Q _{rr}			3.5		
Maximum Body-Diode Continuous Current	I _S				-2	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1	V

* The static characteristics in Figures 1 to 6 are obtained using <300μs pulses, duty cycle 0.5% max.

■ Marking

Marking	X1**
---------	------

P-Channel MOSFET

AO3401A

■ Typical Characteristics

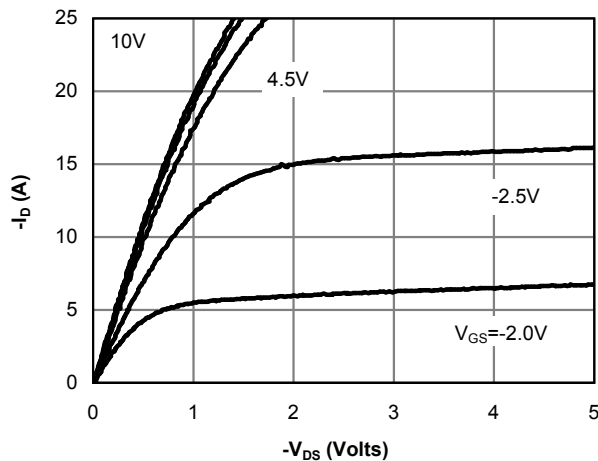


Fig 1: On-Region Characteristics

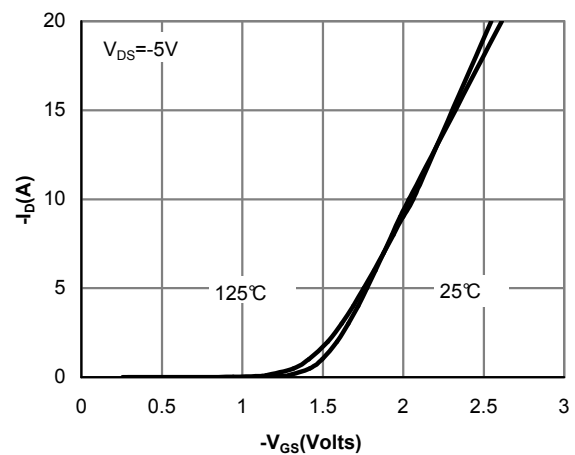


Figure 2: Transfer Characteristics

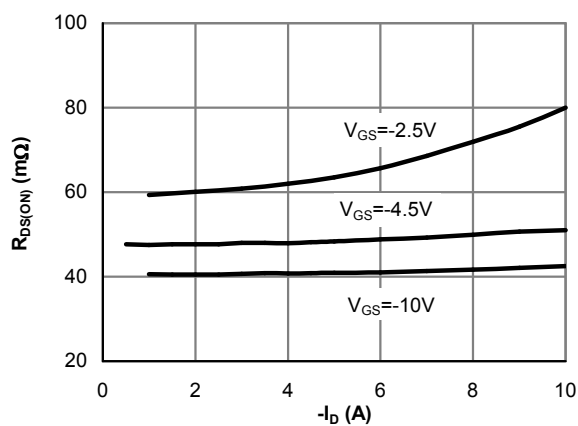


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

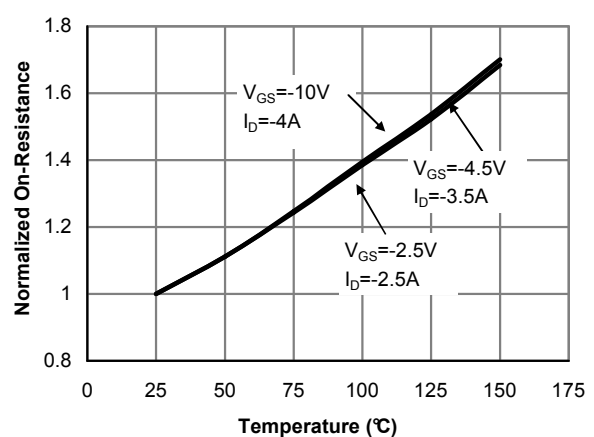


Figure 4: On-Resistance vs. Junction Temperature

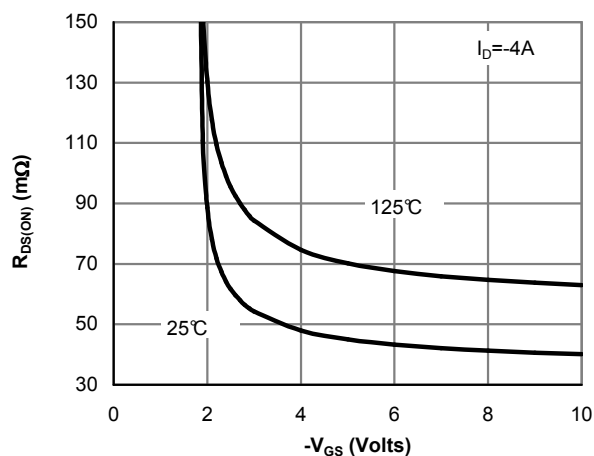


Figure 5: On-Resistance vs. Gate-Source Voltage

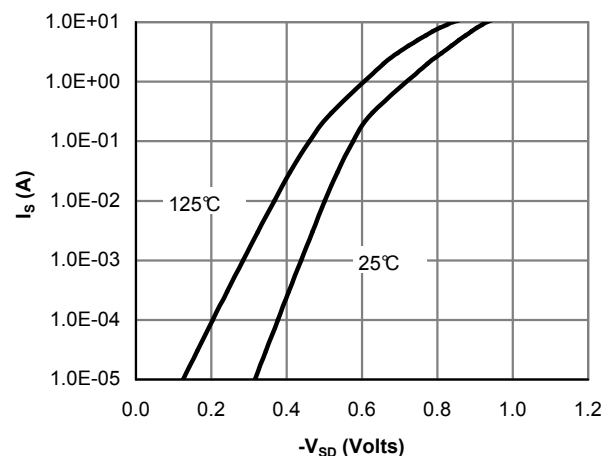


Figure 6: Body-Diode Characteristics

P-Channel MOSFET

AO3401A

■ Typical Characteristics

