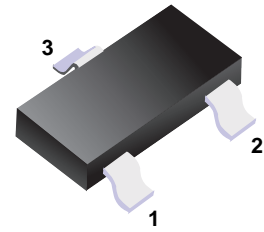


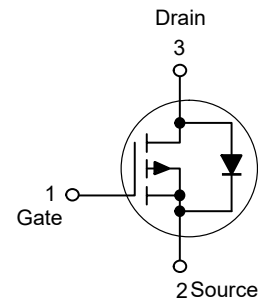
AO3401

■ P-Enhancement Field Effect Transistor



- 1. Gate
- 2. Source
- 3. Drain

■ Simplified outline(SOT-23)



■ Features

- High density cell design for ultra low $R_{DS(ON)}$
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

■ Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

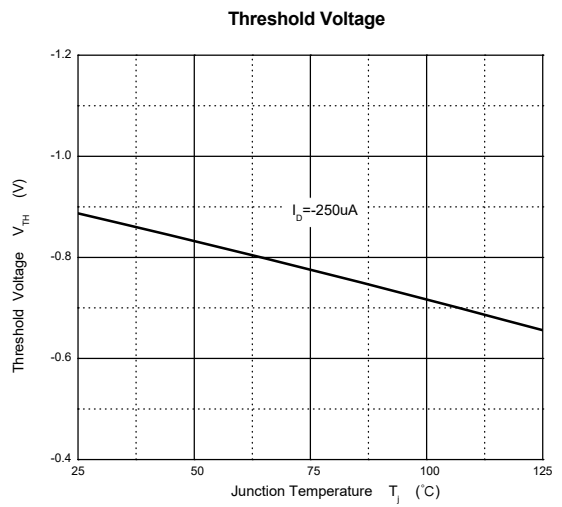
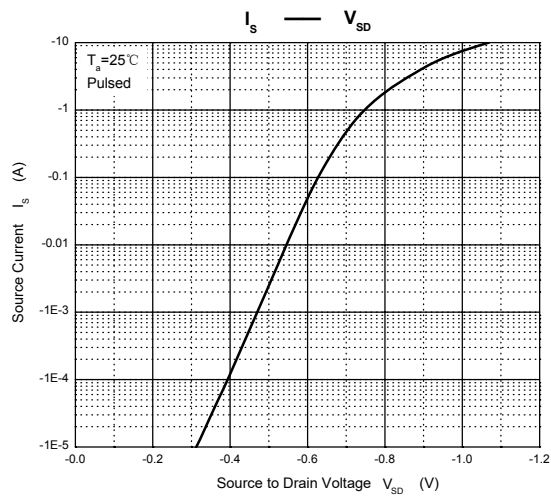
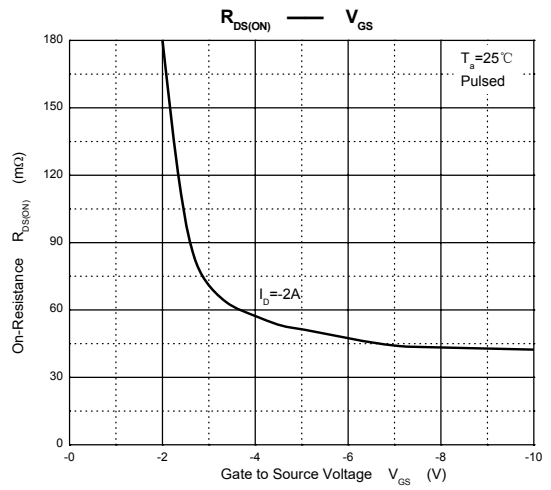
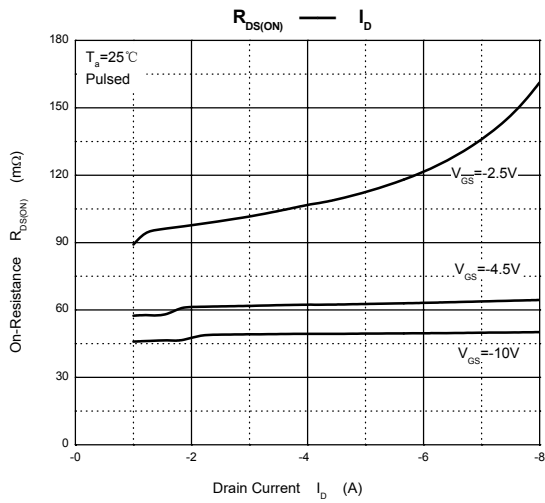
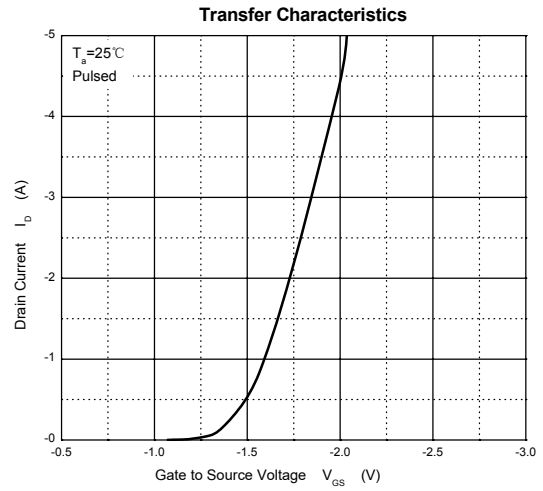
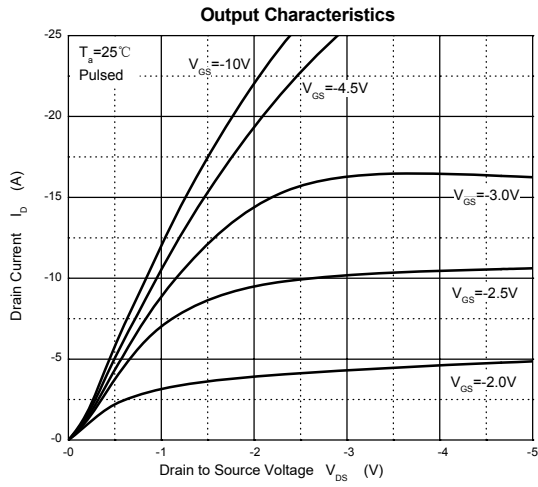
■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Value	Units
Drain-Source Voltage	$-V_{DS}$	30	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	$-I_D$	4.2	A
Power Dissipation	P_D	1.2	W
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55 to 150	$^\circ\text{C}$
Thermal Characteristics			
Parameter	Symbol	Typ.	Units
Maximum Junction-to-Ambient	$R_{\theta JA}$	104	$^\circ\text{C/W}$

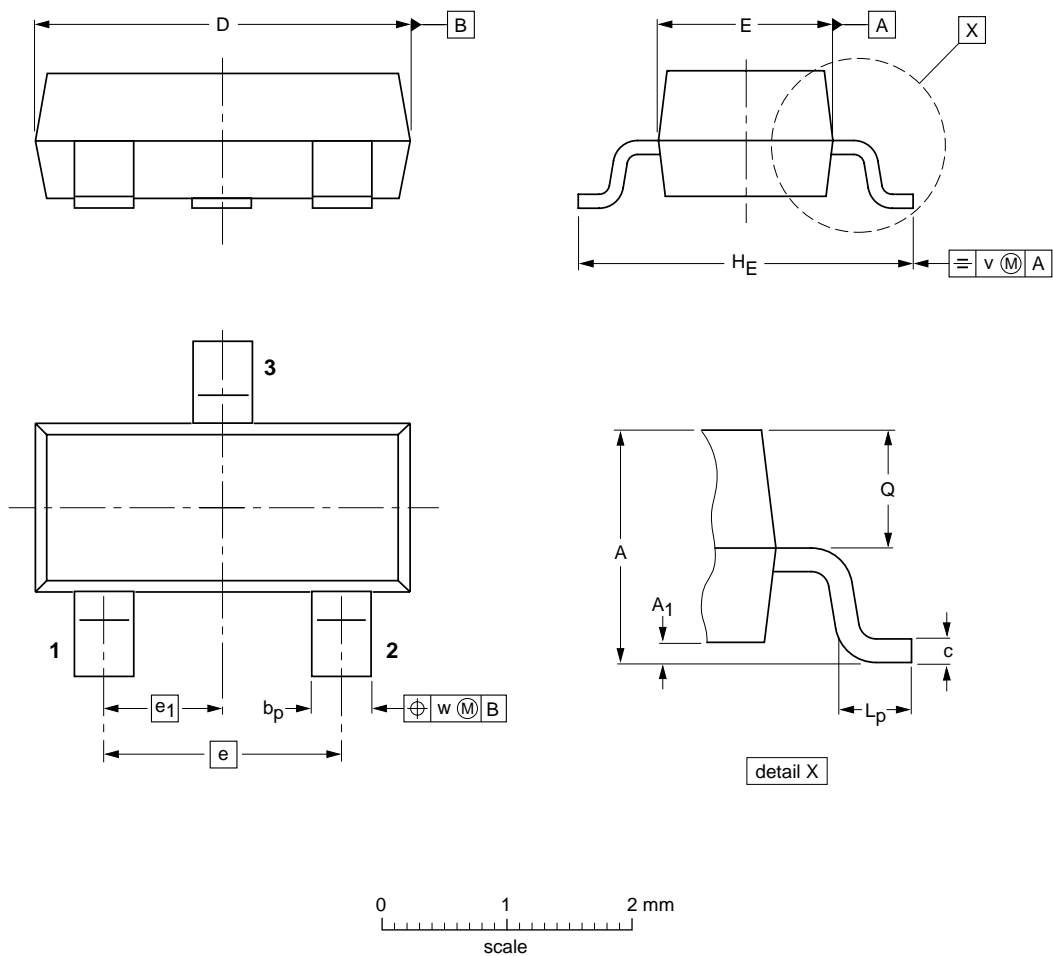
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Units
Static Characteristics						
Drain-source breakdown voltage	$-V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	30	--	--	V
Drain to Source Leakage Current	$-I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$	--	--	1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	--	--	± 100	nA
Gate threshold voltage ^{Note1}	$-V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	0.7	--	1.3	V
Drain-source on-resistance ^{Note1}	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.1A$	--	--	65	m Ω
		$V_{GS} = -4.5V, I_D = -2A$	--	--	85	m Ω
Forward transconductance ^{Note1}	g_{FS}	$V_{DS} = -5V, I_D = -5A$	7	--	--	S
Dynamic characteristics						
Input Capacitance	C_{iss}	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$	--	954	--	pF
Output Capacitance	C_{oss}		--	115	--	
Reverse Transfer Capacitance	C_{rss}		--	77	--	
Switching Characteristics						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -15V,$ $V_{GS} = -10V, R_{GEN} = 6\Omega,$ $R_L = 3.6\Omega,$	--	--	6.3	ns
Turn-on rise time	t_r		--	--	3.2	
Turn-off delay time	$t_{d(off)}$		--	--	38.2	
Turn-off fall time	t_f		--	--	12	
Source-Drain Diode characteristics						
Diode Forward voltage	$-V_{DS}$	$V_{GS} = 0V, I_S = -1A$	--	--	1	V

Notes: 1. Pulse test ; pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.



■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1