

AO3401A

P-Channel MOSFET

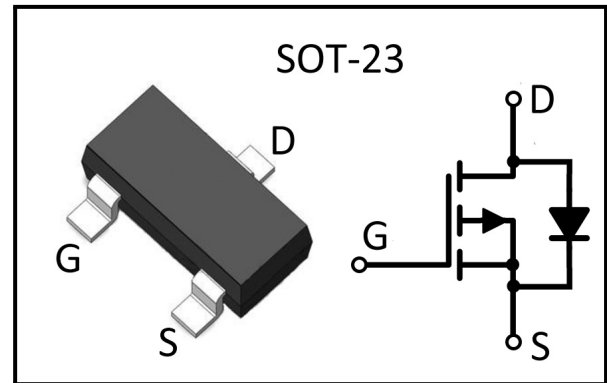
Features

- $V_{DS} = -30V$
- $I_D = -4.2A$
- $R_{DS(ON)} @ V_{GS} = -10V, TYP = 42m\Omega$
- $R_{DS(ON)} @ V_{GS} = -4.5V, TYP = 52m\Omega$

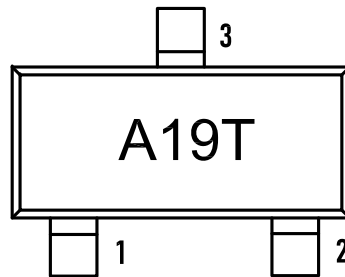
Description

- Advanced trench process technology
- High Density Cell Design For Ultra Low On-Resistance
- SOT-23 for Surface Mount Package.

Package



Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
AO3401A	SOT-23	A19T	3K	Tape and reel

Absolute Maximum Ratings (@ $T_A = 25^\circ C$ unless otherwise noted)

Symbol	Parameter		Value	Unit
BV_{DS}	Drain-Source Voltage		-30	V
V_{GS}	Gate-Source Voltage		± 12	V
I_D	Continuous Drain Current		-4.2	A
I_{DM}	Pulsed Drain Current		-18	A
P_D	Maximum Power Dissipation	$T_A = 25^\circ C$	1.4	W
T_J	Junction		150	$^\circ C$
T_{stg}	Storage Temperature		-55 to + 150	$^\circ C$



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Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static						
BV _{DS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D =-250uA	-30	—	—	V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = -250uA	-0.6	-1	-1.5	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = -24V, V _{GS} = 0V	—	—	-1	uA
		V _{DS} = -24V, V _{GS} = 0V, T _A =55°C	—	—	-5	
I _{GSS}	Gate Body Leakage	V _{GS} = ±12V, V _{DS} = 0V	—	—	±100	nA
R _{DS(on)}	Drain-Source On-State Resistance	V _{GS} = -10V, I _D = -4.0A	—	42.0	55.0	mΩ
		V _{GS} = -4.5V, I _D = -3.0A	—	52.0	75.0	
		V _{GS} = -2.5V, I _D = -2.0A	—	65.0	85.0	
Dynamic						
C _{iss}	Input Capacitance	V _{DS} = -15V,f=1MHZ V _{GS} = 0V	—	954	—	pF
C _{oss}	Output Capacitance		—	115	—	
t _{d(on)}	Turn-On Delay Time	V _{DS} = -15V, R _{GEN} = 6Ω, V _{GS} = -10V	—	6	—	ns
t _{d(off)}	Turn-Off Delay Time		—	38	—	
Source-Drain Diode						
V _{SD}	Diode Forward Voltage	I _S = -1A,V _{GS} = 0V,	—	—	-1	V

Note(1) :Pulse test: pulse width ≤ 300us, duty cycle ≤ 2%



Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1 :Output Characteristics

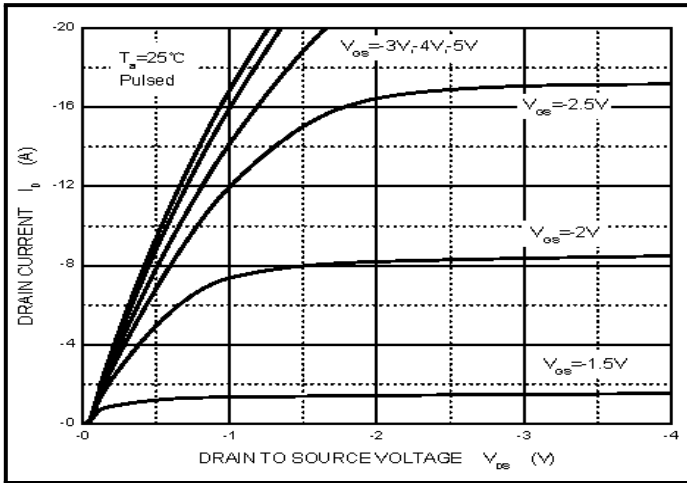


Figure 2 :Transfer Characteristics

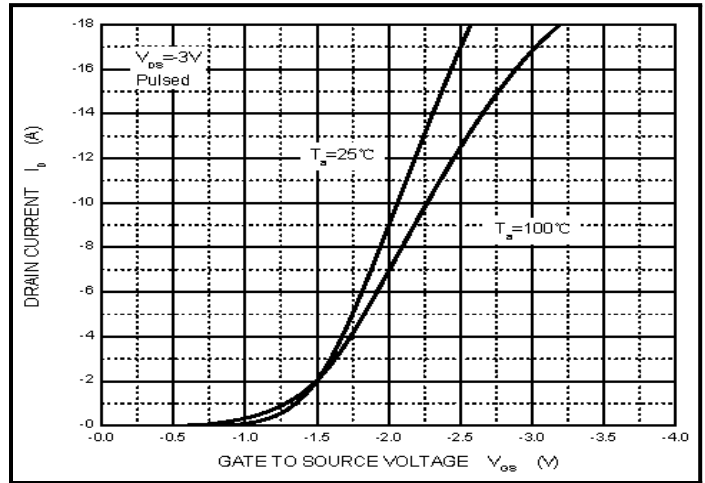


Figure 3 : $R_{DS(on)}$ — I_D

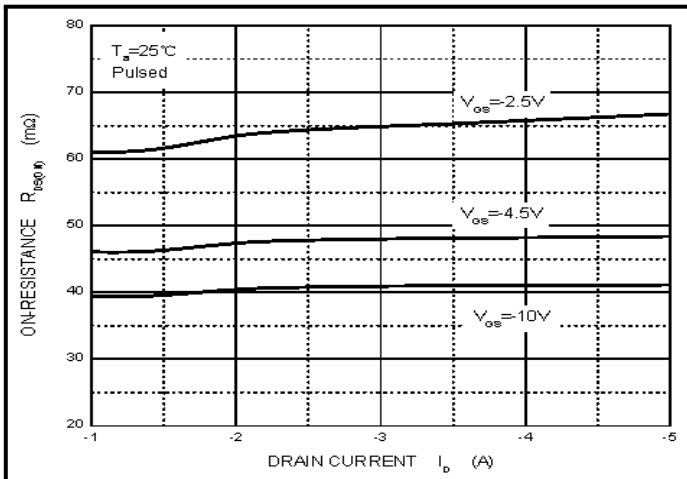


Figure 4 : $R_{DS(on)}$ — V_{GS}

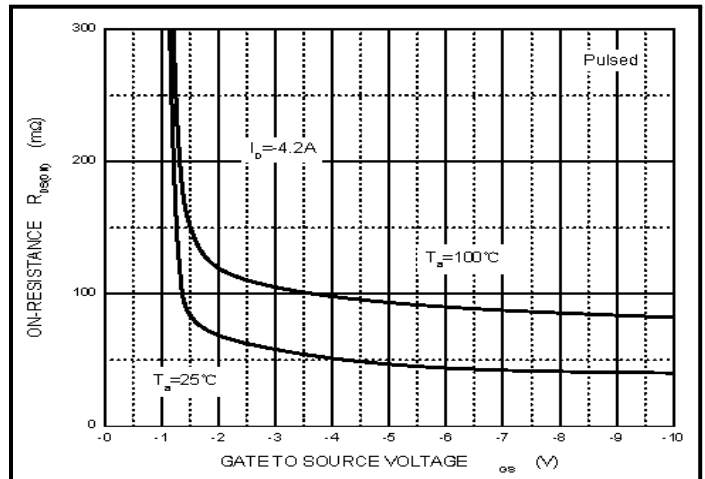


Figure 5 : I_S — V_{SD}

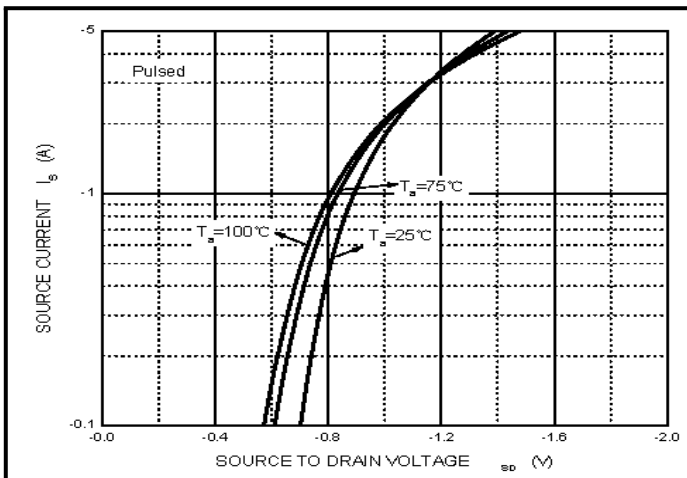
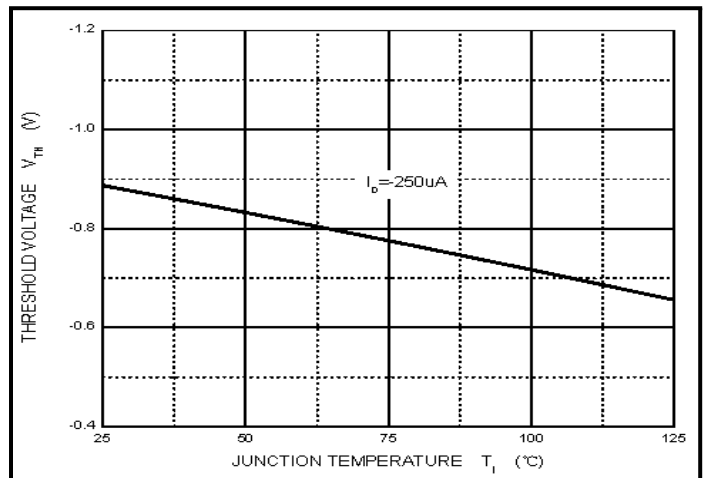


Figure 6 : Threshold Voltage



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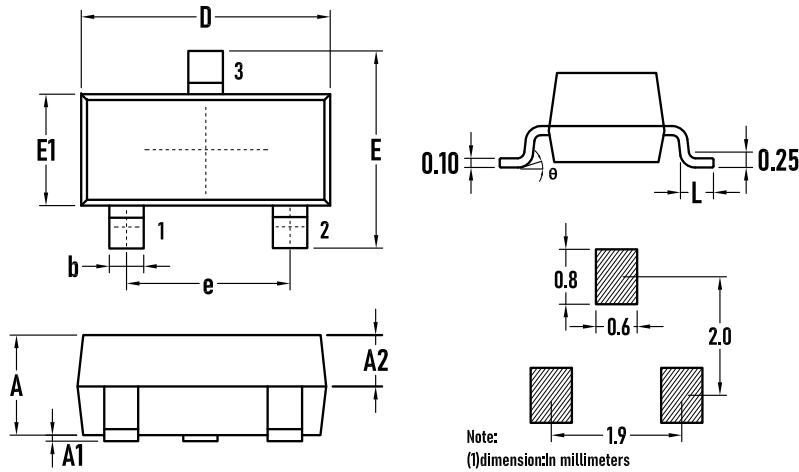
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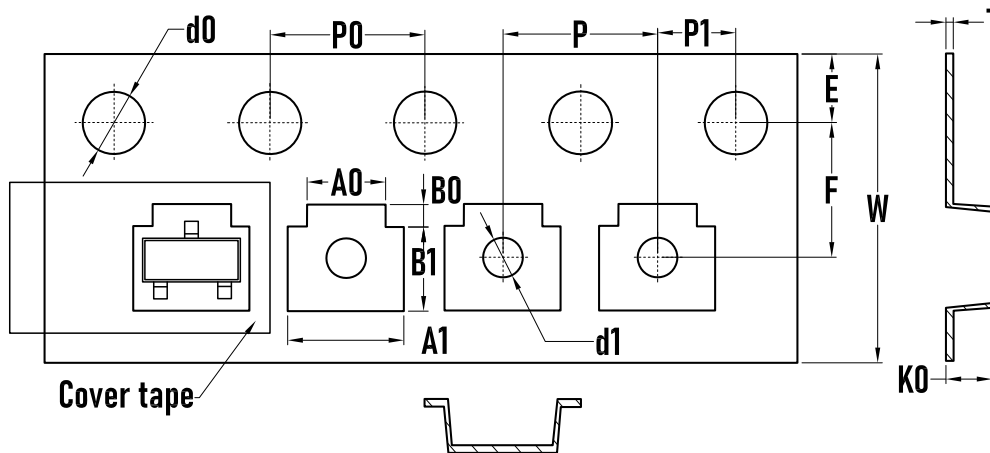
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Outline Drawing - SOT-23



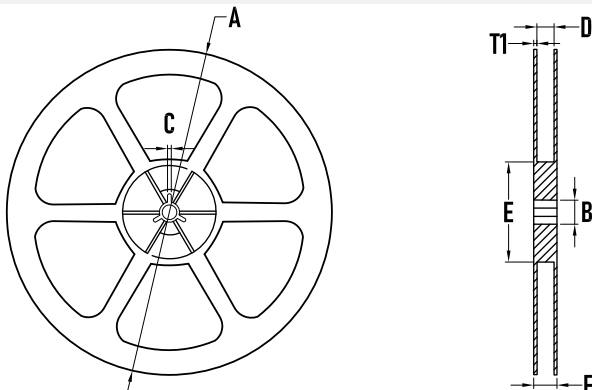
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.01	—	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	—	8°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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