

AO3404

N-Channel MOSFET

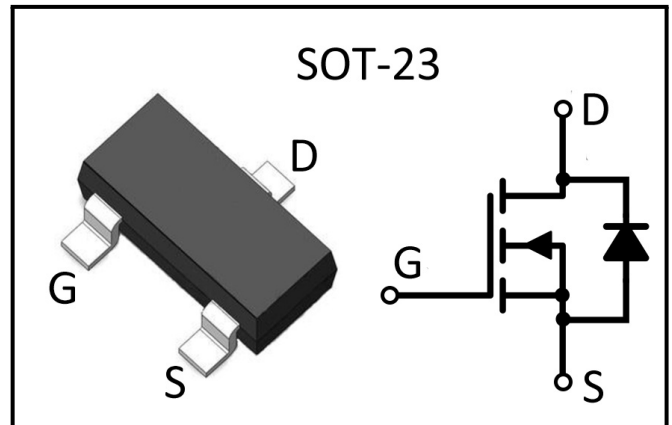
Features

- $V_{DS}=30V$
- $I_D=5.5A$
- $R_{DS(ON)}@V_{GS}=10V, TYP=20m\Omega$
- $R_{DS(ON)}@1V_{GS}=4.5V, TYP=25m\Omega$

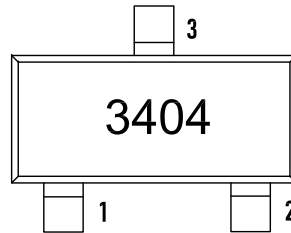
General Description

- 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
AO3404	SOT-23	3404	3K	Tape and reel

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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Continuous Drain Current	5.5	A
I_{DM}	Pulsed Drain Current ⁽¹⁾	25	A
$R_{\theta JA}$	Thermal resistance from junction to ambient	357	$^{\circ}C/W$
T_J	Operating Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature Range	-55 to +150	$^{\circ}C$

Note1: Pulse width limited by maximum junction temperature.



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Electrical Characteristics @T_A=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Parameters						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	30	—	—	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =30V, V _{GS} =0V	—	—	1	uA
I _{GSS}	Gate Body Leakage Current	V _{GS} =±20V, V _{DS} =0V	—	—	±0.1	uA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	1	1.5	2.0	V
R _{DS(on)}	Drain-Source On-State Resistance ⁽¹⁾	V _{GS} =10V, I _D =4A	—	20	30	mΩ
		V _{GS} =4.5V, I _D =3A	—	25	40	
g _{fs}	Forward Transconductance ⁽¹⁾	V _{DS} =5V, I _D =5A	5	—	—	S
V _{SD}	Diode Forward Voltage	I _S =1A	—	—	1	V
Dynamic Parameters⁽²⁾						
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =15V, f=1MHz	—	—	820	pF
C _{oss}	Output Capacitance		—	115	—	
C _{rss}	Reverse Transfer Capacitance		—	82	—	
R _g	Gate resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	—	—	1.5	Ω
Switching Parameters⁽²⁾						
t _{d(on)}	Turn-On Delay Time	V _{GS} =10V, V _{DS} =15V, R _L =2.6Ω, R _{GEN} =3Ω	—	—	6.5	ns
t _r	Turn-On Rise Time		—	3.1	—	
t _{d(off)}	Turn-Off Delay Time		—	15.1	—	
t _f	Turn-Off Fall Time		—	2.7	—	

Notes:

(1)Pulse Test:Pulse width≤300μs, duty cycle≤0.5%.

(2)These parameters have no way to verify.



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

Figure 1 :output characteristics

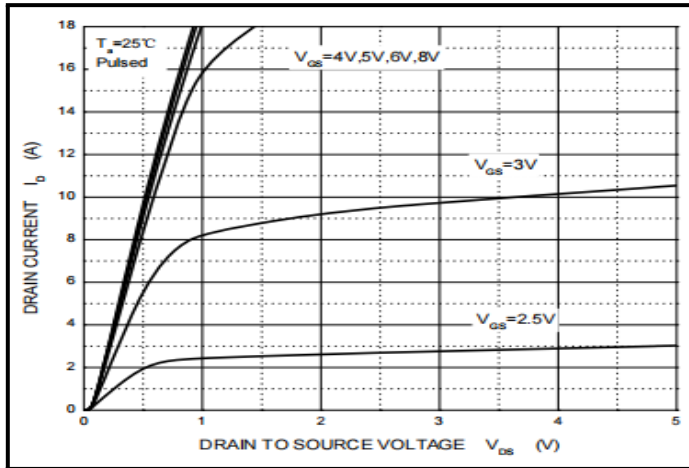


Figure 2 :transfer characteristics

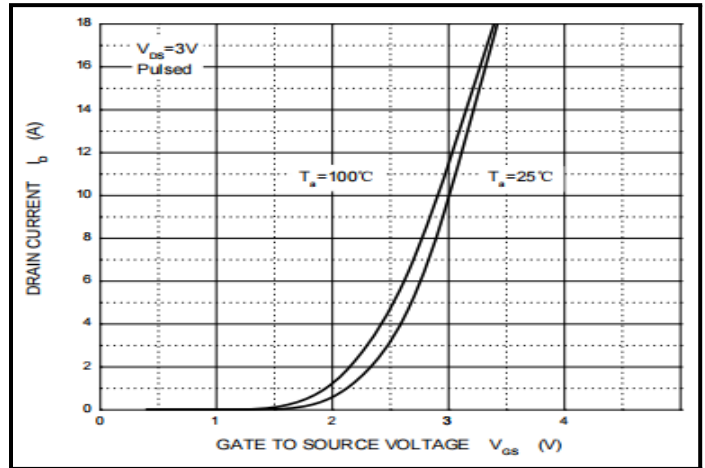


Figure 3 : $R_{DS(on)}$ — I_D

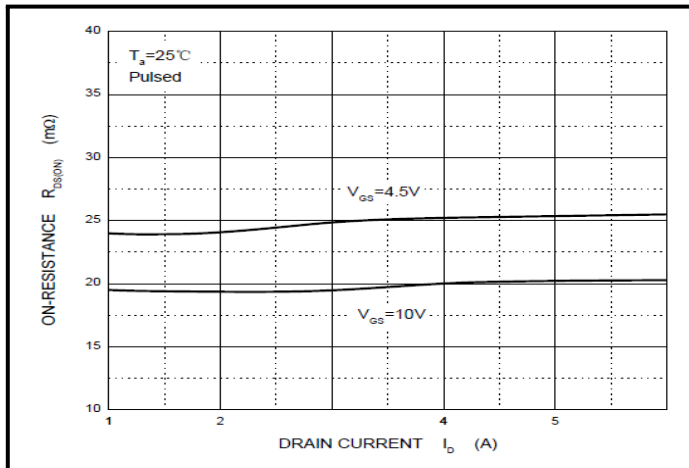


Figure 4 : $R_{DS(on)}$ — V_{GS}

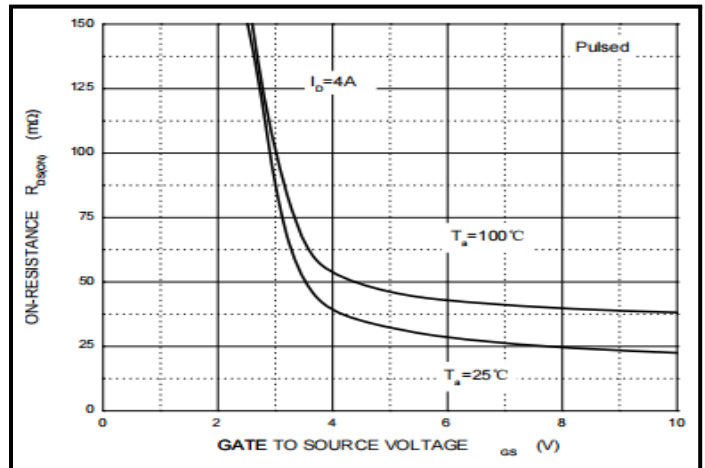


Figure 5 : I_S — V_{SD}

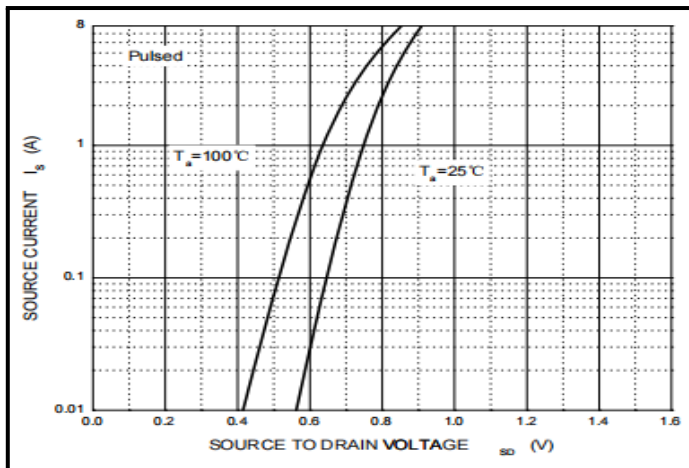
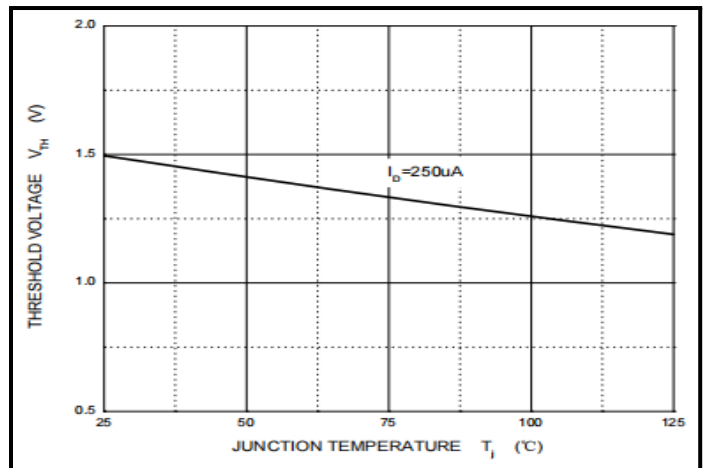


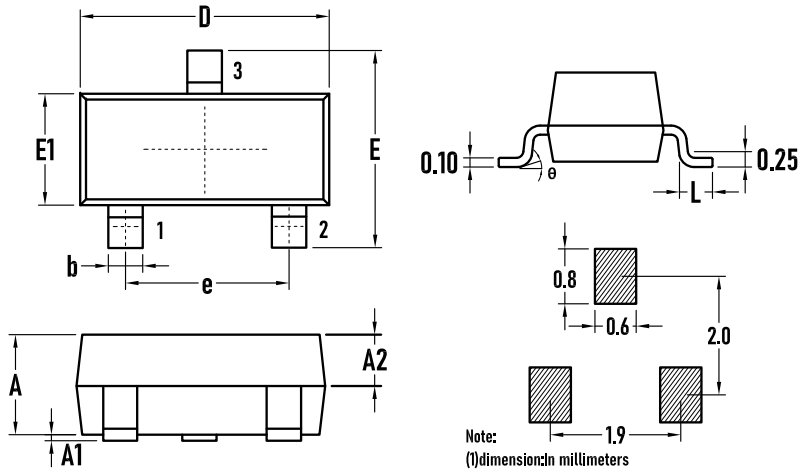
Figure 6 :Threshold Voltage



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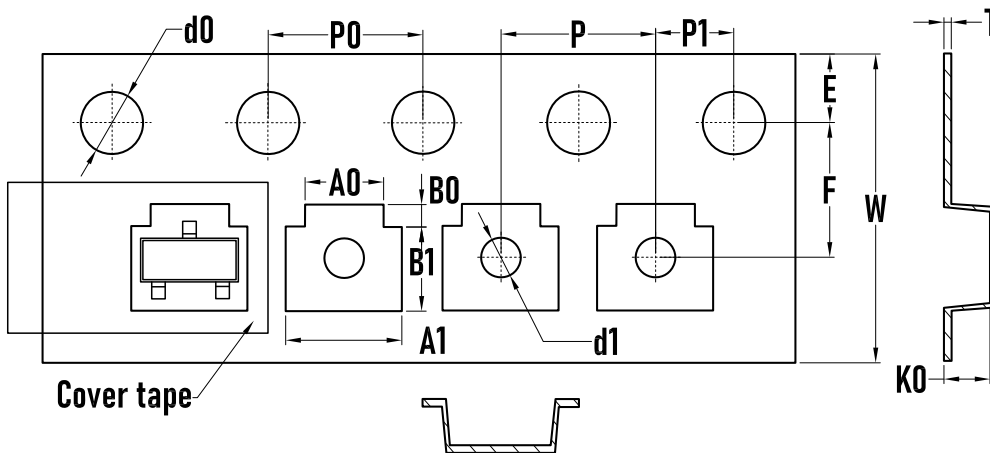
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Outline Drawing - SOT-23



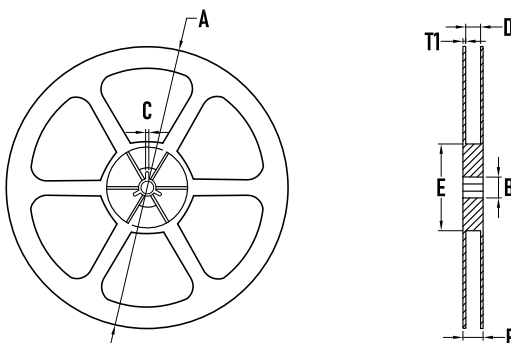
SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	0.90	1.00	1.10
A1	0.01	—	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	—	8°

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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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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