AO3404

N-Channel MOSFET

»Features

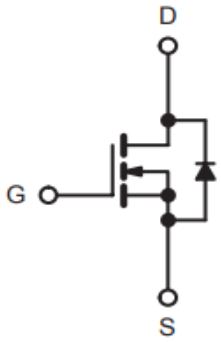
V_{DS} = 30V

I_D = 5.5A

$R_{DS(ON)}$ @V_{GS} = 10V, TYP =24mΩ

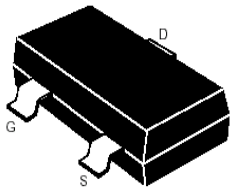
$R_{DS(ON)}$ @V_{GS} = 4.5V, TYP =32mΩ

»Pin Configurations



»General Description

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



»Absolute Maximum Ratings @T_A=25℃ unless otherwise noted

Parameter	Symbo	Value	Unit
Drain-source voltage	V_{DS}	30	V
Gate-source voltage	V_{GS}	±20	V
Continuous drain current (t ≤10s)	I_D	5.5	A
Pulsed drain current *	I_{DM}	25	A
Thermal resistance from junction to ambient	$R_{\theta JA}$	357	℃/W
Junction temperature	T_J	150	℃
Storage temperature	T_{stg}	-55~ 150	℃

* Repetitive rating : Pulse width limited by maximum junction temperature.

»Electrical Characteristics @T_A=25℃ unless otherwise noted

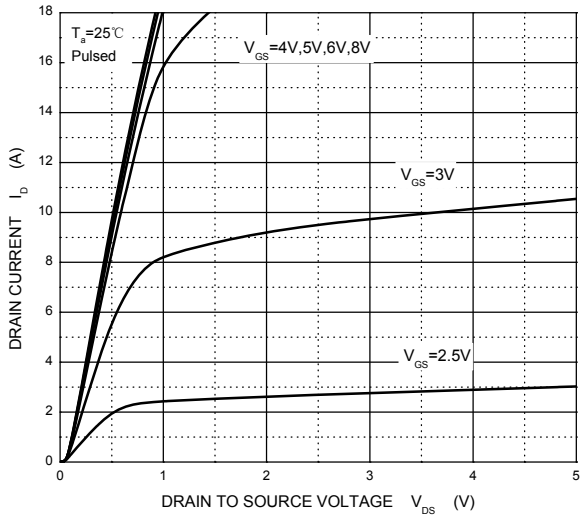
Parameter	Symbol	Test Condition	Min	Typ	Max	Units
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero gate voltage drain current	I_{DSS}	V_{DS} =30V,V_{GS} = 0V			1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±100	nA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1	1.5	2.5	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =10V, I_D =4A		24	30	mΩ
		V_{GS} =4.5V, I_D =3A		32	42	Ω
Forward tranconductance (note 1)	g_{FS}	V_{DS} =5V, I_D =5A	5			S
Diode forward voltage	V_{SD}	I_S=1A			1	V
DYNAMIC PARAMETERS (note 2)						
Input capacitance	C_{iss}	V_{DS} =15V,V_{GS} =0V,f =1MHz			820	pF
Output capacitance	C_{oss}			115		pF
Reverse transfer capacitance	C_{rss}			82		pF
Gate resistance	R_g	V_{DS} =0V,V_{GS} =0V,f =1MHz			1.5	Ω
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	$t_{d(on)}$	V_{GS}=10V,V_{DS}=15V, R_L=2.6Ω,R_{GEN}=3Ω			6.5	ns
Turn-on rise time	t_r			3.1		ns
Turn-off delay time	$t_{d(off)}$			15.1		ns
Turn-off fall time	t_f			2.7		ns

Note :

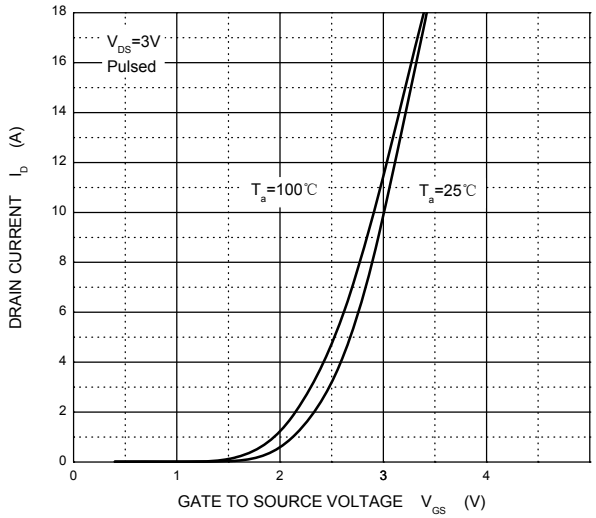
1. Pulse Test : Pulse width≤300μs, duty cycle≤0.5%.
2. These parameters have no way to verify.

»Typical Performance Characteristics ((TJ = 25 °C, unless otherwise noted))

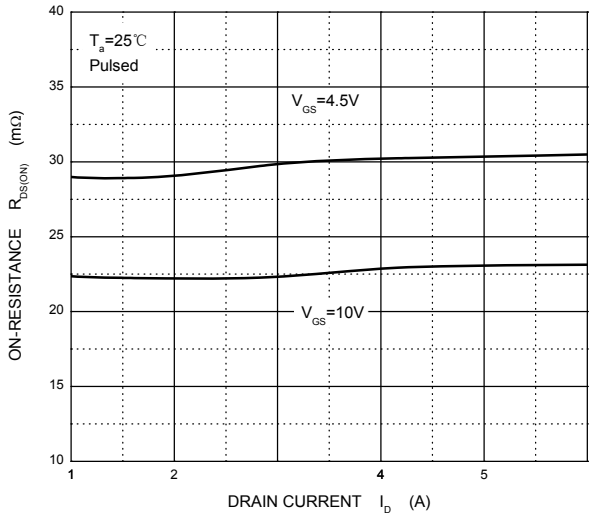
Output Characteristics



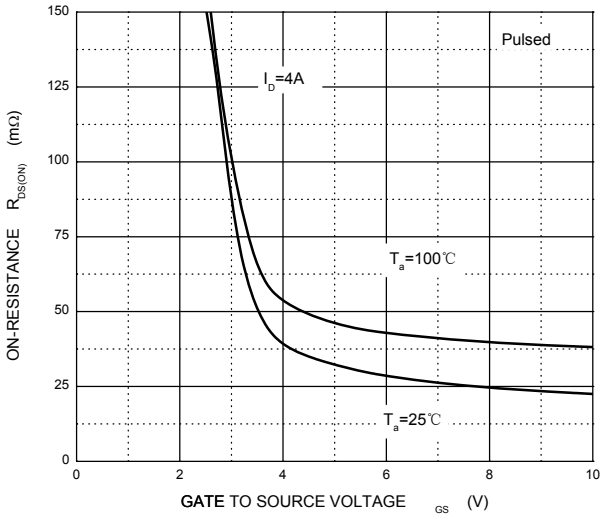
Transfer Characteristics



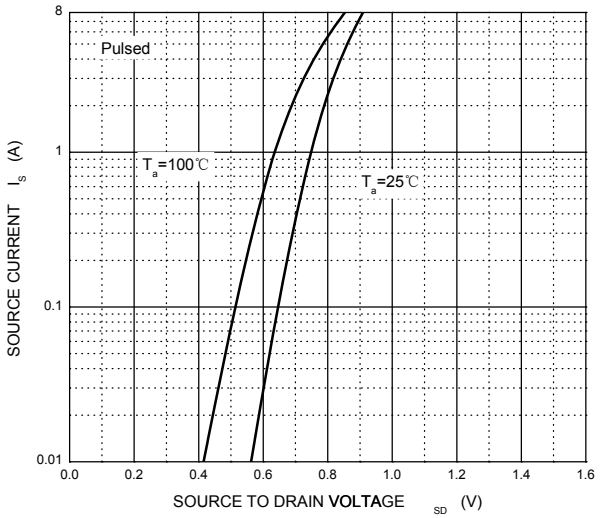
$R_{DS(ON)}$ — I_D



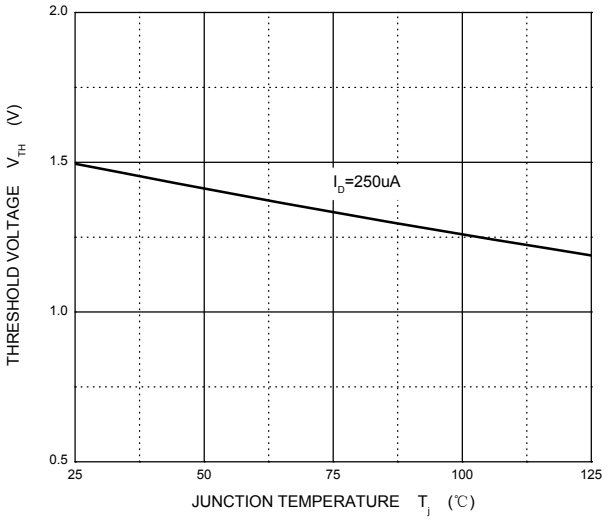
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

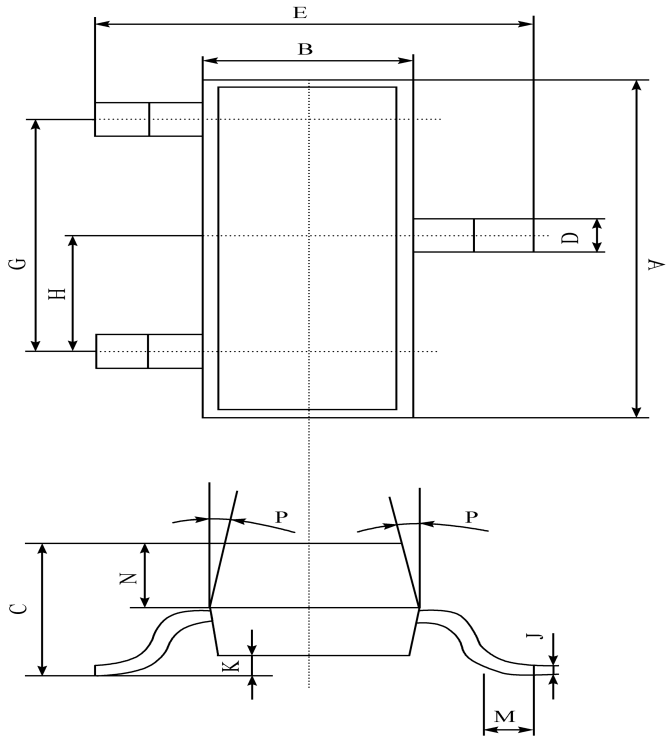


Threshold Voltage



»Package Information

SOT-23



A	2.90±0.10
B	1.30±0.10
C	1.00±0.10
D	0.40±0.10
E	2.40±0.20
G	1.90±0.10
H	0.95±0.05
J	0.13±0.05
K	0.00-0.10
M	≥0.2
N	0.60±0.10
P	7±2°

»Ordering information

Order code	Package	Marking	Base qty	Delivery mode
AO3404	SOT-23	3404	3K	Tape and reel