



AO3415A

SOT-23 Plastic-Encapsulate MOSFETS

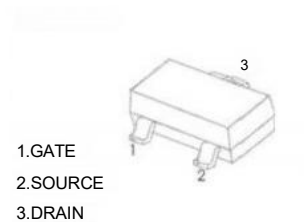
SOT-23

FEATURE

- Excellent Rps(ON),low gate charge,low gate voltages

APPLICATION

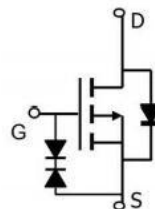
- Load switch and in PWM applicatopns



AO3415A P-Channel 20-V(D-S)MOSFET

V (BR) DSS	RDs (on) MAX	Ip
-20V	36mΩ @-4. 5V	-4A
	60mΩ @-2. 5V	

Equivalent Circuit



Maximum ratings(Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	Vos	-20	V
Gate-Source Voltage	VGs	±8	
Continuous Drain Current (t≤10s)	Io	-4. 0	A
Maximum Power Dissipation (t≤10s)	Po	0. 35	W
Thermal Resistance from Junction to Ambient	ReJA	357	°CW
Operating Junction Temperature	Tj	150	°C
Storage Temperature	TsTG	-55~+150	°C

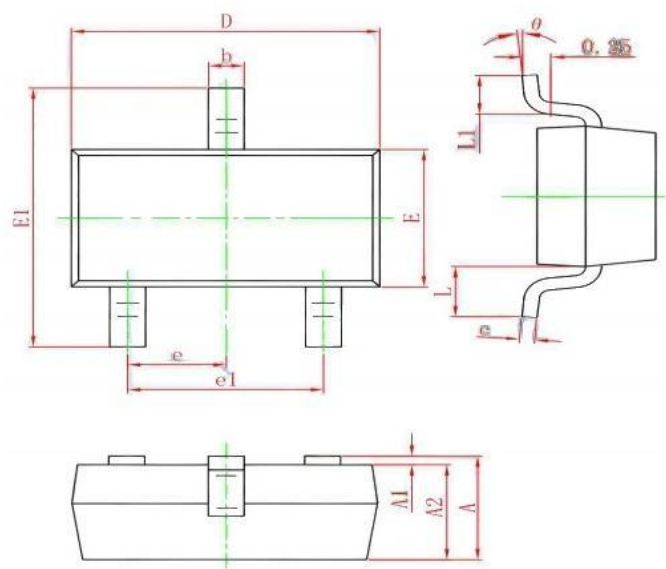
Ta=25°C unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Static Parameters						
Drain-source breakdown voltage	V(BR)DSS	VGS =0V, Ib =-250 μA	-20			V
Gate threshold voltage	VGS(th)	Vos =Vgs, Ib =-250 μA	-0.3	-0.56	-1	
Gate-body leakage current	Igss	VDs =0V, VGS =±8V			±10	μA
		VDs =0V, VGS =±4.5V			±1	
Zero gate voltage drain current	Ibss	VDs =-16V, VGS =0V			-1	
Drain-source on-state resistance(note1)	RDS(on)	VGS =-4.5V, Ib=-4A		34	36	mΩ
		VGS =-2.5V, Ib =-4A		43	60	
Forward transconductance(note2)	gFS	VDs =-5V, Ib =-4A	8			S
Body diode voltage(note2)	VSd	Is=-1A, VGS =0V			-1	V
Dynamic Parameters (note3)						
Input capacitance	Ciss	Vos =-10V, VGS=0V, f=1MHz		1450		pF
Output capacitance	Coss			205		
Reverse transfer capacitance	Crss			160		
Gate resistance	Rg	VDs=0V, VGS=0V, f=1MHz		6.5		Ω
Switching Parameters						
Total gate charge	Qg	VDs =-10V, VGS =-4.5V, Ib =-4A		17.2		nC
Gate-Source charge	Qgs			1.3		
Gate-drain charge	Qgd			4.5		
Turn-on delay time (note3)	td(on)	VDs=-10V, VGS=-4.5V RGEN =3 Ω, RL=2.5 Ω,		9.5		ns
Turn-on rise time(note3)	tr			17		
Turn-off delay time(note3)	td(off)			94		
Turn-off fall time(note3)	tf			35		

Notes:

- 1.Repetitive rating,pulse width limited by junction temperature.
- 2.Pulse Test:Pulse width≤300μs,duty cycle≤2%.
- 3.These parameters have no way to verify.

SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
C	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°