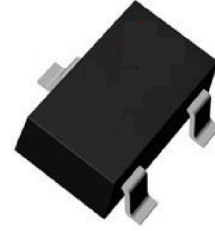


Package

Feature

- Advanced trench process technology
- High density cell design for ultra low on-resistance



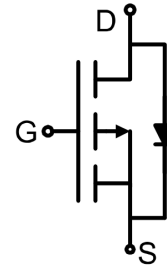
SOT-23

Application

- Load Switch for Portable Devices
- DC/DC Converter

Marking: A1SHB

Circuit diagram



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 10	V
Continuous Drain Current	I_D	-3.4	A
Pulsed Drain Current	I_{DM}	-14	A
Power Dissipation	P_D	1	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

电话: 0755-82568882 82568883

邮箱: idchip@indreamchip.com

传真: 0755-82568886

网址: www.idchip.cn

公司地址: 深圳市福田区滨河大道联合广场 A 座 1308

Electrical characteristics (T_A=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = -250μA	-20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} = -20V, V _{GS} = 0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{GS} = ±10V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.4		-1.0	V
Drain-source on-resistance ¹⁾	R _{DS(on)}	V _{GS} = -4.5V, I _D = -3.4A			64	mΩ
		V _{GS} = -2.5V, I _D = -3.0A			80	
		V _{GS} = -1.8V, I _D = -2.5A			95	
Dynamic characteristics²⁾						
Input Capacitance	C _{iss}	V _{DS} = -10V, V _{GS} = 0V, f = 1MHz		550		pF
Output Capacitance	C _{oss}			89		
Reverse Transfer Capacitance	C _{rss}			65		
Total Gate Charge	Q _g	V _{DS} = -10V, V _{GS} = -4.5V, I _D = -3.4A		4.3		nC
Gate-Source Charge	Q _{gs}			0.8		
Gate-Drain Charge	Q _{gd}			1.1		
Turn-on delay time	t _{d(on)}	V _{DD} = -10V, V _{GS} = -4.5V, I _D = -1A, R _{GEN} = 2.5Ω		12		nS
Turn-on rise time	t _r			54		
Turn-off delay time	t _{d(off)}			15		
Turn-off fall time	t _f			9		
Source-Drain Diode characteristics						
Diode Forward Current ¹⁾	I _S				-3.4	A
Diode Forward voltage	V _{DS}	V _{GS} = 0V, I _S = -3.4A			-1.2	V

Notes:

1) Pulse Test: Pulse Width < 300μs, Duty Cycle ≤2%.

2) Guaranteed by design, not subject to production testing.

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