AM21-20W05V

20W Low-power AC-DC Buck Power Supply Module



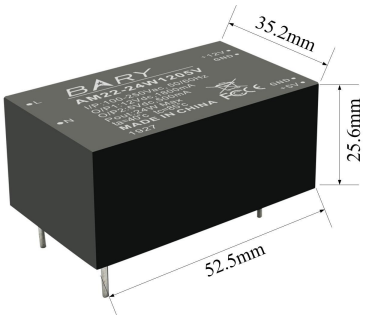
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1.Product introduction

1.1. Brief introduction

AM21-20W05A is a ultra-small volume switching power supply, AC/DC dual use, Input voltage 85~264Vac/100~370Vdc, super low ripple, ultra-low consuming, safe isolation, high reliability; meets IEC60950, EN60950, UL60950 certification standard, user needn't add EMI related components at peripherals, which greatly reduces the user design threshold; users do not need to worry about stability, when in complex voltage environment,
it also output steadily.



1.2. Product features

- Super-low ripple: Full load ripple< 120mV;
- Ultra small volume: 52.5 * 35.2 * 25.6mm;
- Input voltage: Global universal voltage: 85 ~ 264Vac/100~370Vdc;
- Certification standard: Meets IEC60950, EN60950, UL60950 certification standard，needn't add EMI related components at peripherals;
- Protective measures: Over-voltage protection, over-current protection, short circuit protection, over-temperature protection;
- High-quality plan: greatly improved it's work efficiency, average efficiency is 83%;

1.3. Application scenarios

- Intelligent home；
- Car charging station;
- Industrial sensors；
- Internal power supply system of security alarm；
- Industrial control；
- MCU motherboard, toys；
- Smart street lamp；
- Intelligent switch, socket；
- RF communication equipment;

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2.Specification parameters

2.1. Limit parameters

Order number	Main parameter	Minimum	Maximum	Remarks
1	Input voltage（Vac）	85	264	Vac
2	Input voltage（Vdc）	100	370	Vdc
3	output power (W）	0	20	W
4	working temperature（℃）	-40	+85	**ta=40℃,tc=85℃**

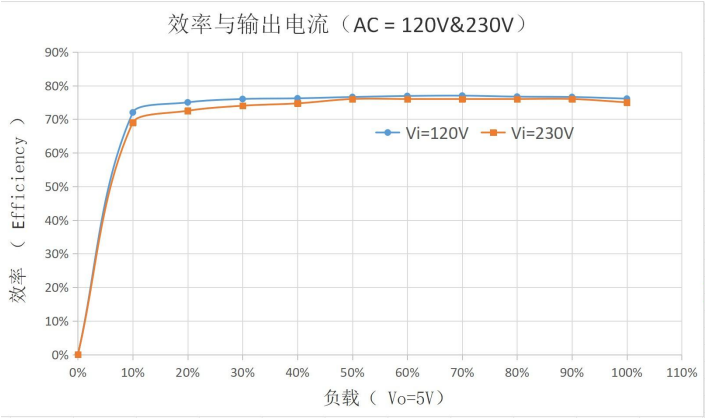
2.2. Working parameters

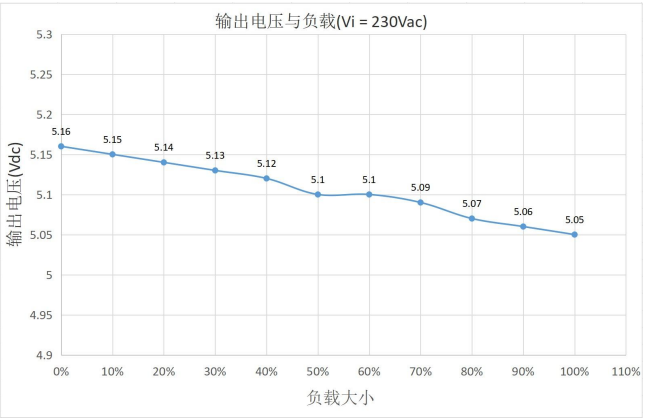
Order number	Main parameter	Minimum	Typical value	Maximum	Remarks
1	Input voltage（Vac）	100	220	250	Vac
2	Input voltage（Vdc）	120	-	350V	Vdc
3	working frequency(Hz)	-	50/60	-	Hz
4	output power(W)	0	-	20	W
5	working temperature (℃)	-40	+25	85	**ta=40℃,tc=85℃**
6	Power factors	0.4	-	0.55	>0.55 at 120Vac / >0.4 at 230Vac with full load.
7	Static power consumption (mA)	-	-	1.0	< =1 mA / 240Vac
8	output voltage(Vdc)	5.0	5.1	5.2	V
9	Persistent current(A)	0	-	4	Maximum continuous current

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10	ripple noise (mV)	100	-	120	Full load<=120mV
11	Average efficiency (n%)	-	-	76	Vo=5V
12	Over current protection (%)	110	-	150	Constant current limit, automatic recovery.
13	Short-circuit protection	-	-	-	Hiccup mode,can be automatic Recover after eliminating the fault state.
14	Work humidity (RH%)	20	-	90	No-condensing.
15	Storage temperature (℃)	-40	+25	+85	Dry storage in normal temperature.
16	Storage humidity (RH%)	10	-	90	Dry storage in normal temperature.
17	withstand voltage test	-	-	3000	I/P - O/P: 3000 VAC
18	Insulation impedance	-	-	100	I/P - O/P: 100M ohms / 500VDC at 25 ℃

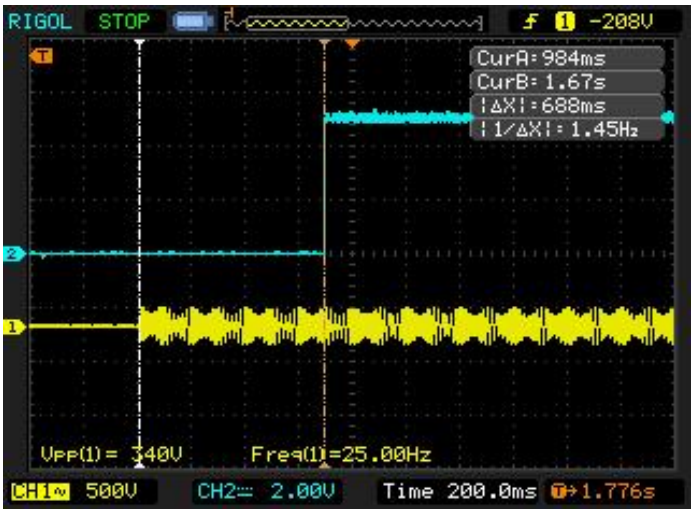
2.3. Work efficiency VS load



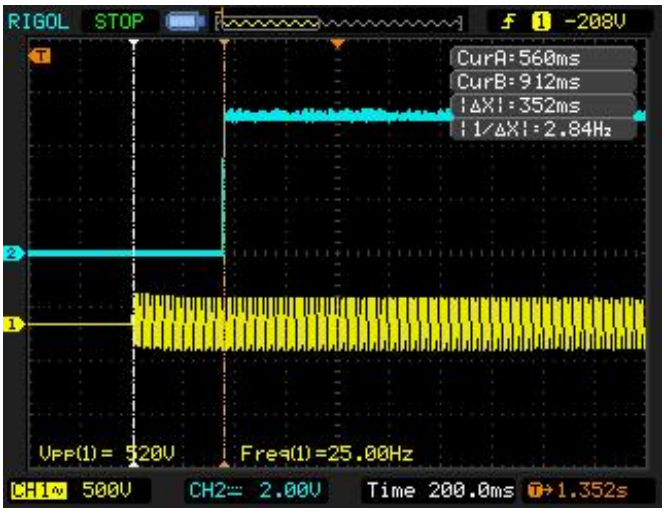


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2.4. Start-up time



INPUT:AC 120V OUTPUT:12V 1A

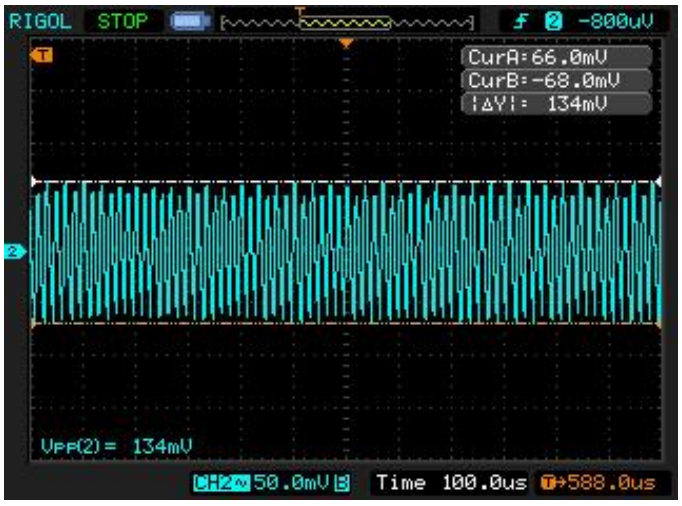


INPUT:AC 230V OUTPUT:12V 1A

2.5. Full-load ripple

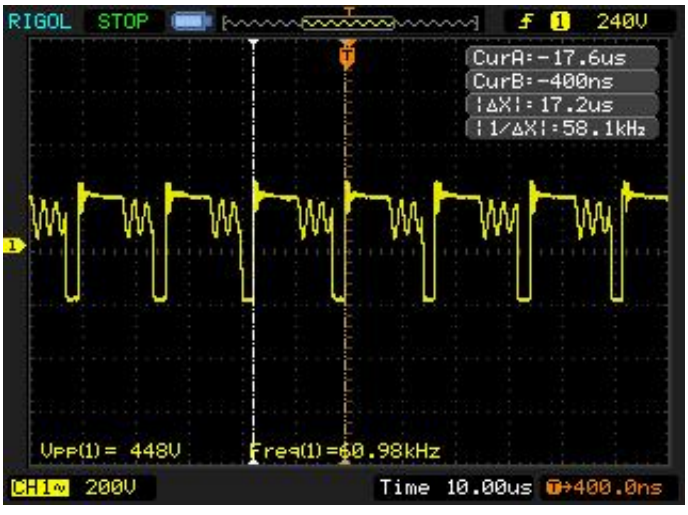


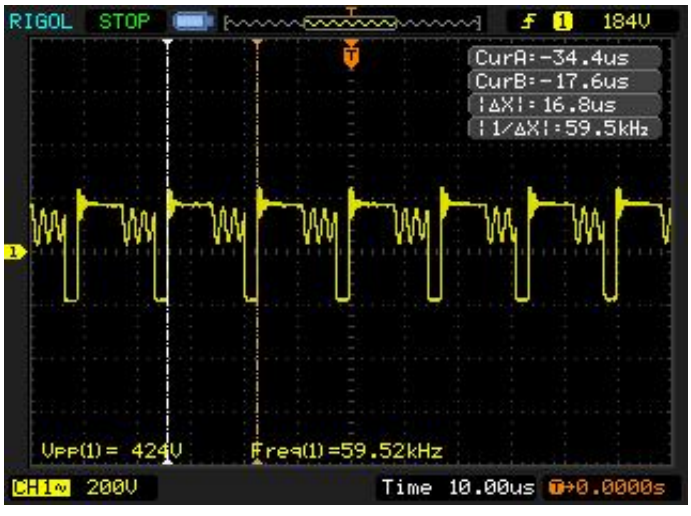
INPUT:AC 120V OUTPUT:12V 1A



INPUT:AC 230V OUTPUT:12V 1A

2.6. Working frequency





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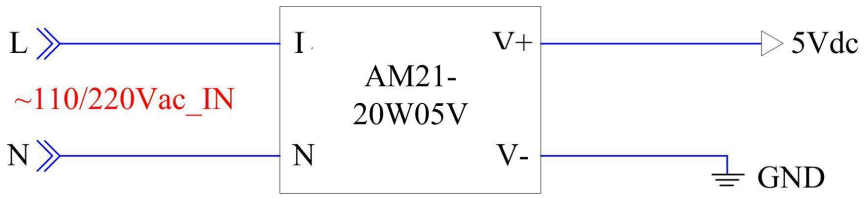
INPUT:AC 120V OUTPUT:12V 1A INPUT:AC 230V OUTPUT:12V 1A

3.Basic operation

3.1. Matters need attentions

- Operating this module requires certain professional skills, prohibit non-professionals operate on it!
- Before using it, you must study Knowledge of safe use。
- prohibit human body contact with L and N power lines after electrification to prevent accidents caused by electric shock.Recommend input front-end to Increase isolation
- The maximum input voltage shall not exceed 250 Vac, otherwise may occur permanent damage .
- In daily maintenance, the input power should be disconnected to prevent from electric shock accidents.

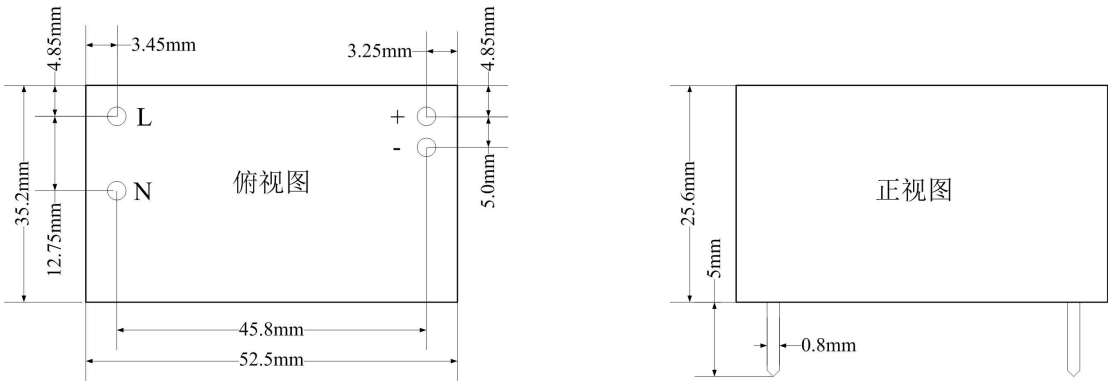
3.2. Typical Applications



*Note: There is no need to add any components to the input and output to meet the requirements of safety certification.

4.Mechanical Characteristics and Pin Definition

4.1. Product size



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4.2. Pin Definition

SN	Pin Name	Direction	Usage
1	L	Input	AC power input
2	N	Input	AC power input
3	-	Output	DC output, power ground
4	+	Output	DC output, power supply positive

5. Product selection

Product model	Input voltage	Output voltage	Output current	Efficiency	Installation mode
AM21-20W05V	100 ~ 250Vac	5Vdc	4A	76%	Plastic packaged plug-ins
AM21-24W12V	100 ~ 250Vac	12Vdc	2A	79%	Plastic packaged plug-ins
AM21-24W24V	100 ~ 250Vac	24Vdc	1A	86%	Plastic packaged plug-ins

Revision history

Order number	vision	modification date	Revision notes	Maintain person
1	V1.0	20190301	First edition, first public release	Deng
2	V1.1	20190801	modify parameters	Deng

About us

Sales hotline : 4000-330-990 Phone number: +86 028-61399028
Technical support: support@cdebyte.com Official website: www.ebyte.com
Address: B5 Mould Park,199# Xiqu Ave,High-tech West District,Chengdu,
Sichuan,China

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