DM21-2W050H Product Specification

2W Low-power DC-DC Step-down Power Supply Module



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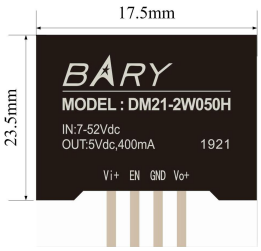
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1.product introduction

1.1. Brief introduction



DM21-2W050H is a DC-DC low-power buck power supply module, can continuously output 2W power, wide voltage input : 7 ~ 52V， the max input is up to 52V, greatly reduces the user design Threshold.all components come from a regular purchasing channel, industrial grade design: -40~85℃, even in complex voltage environment, it also can output steadily.

1.2. Characteristic

Ultra-small volume: 23.5*17.5*8.5mm；
output power: can continuously output 5V/400mA=2W power；
Synchronous rectification: adopted synchronous rectification scheme, has the advantages of large current, low temperature rise and high conversion efficiency.
Plastic-package plug-ins: special AB glue encapsulation to prevent human contact module from burning down the rear stage;
Over temperature protection：The highest working temperature is set in the module, module can be automatically restored.
working voltage： Ultra-wide working voltage: 7~52V, it can work steadily.
Ultra-low ripple: output ripple < 50 mV under full power load;

1.3. Application scenarios

- MCU, toys;
- Smart home；
- industrial internet of things；
- Industrial motherboards；
- Wireless communication equipment；
- Vehicle power supply；
- Security products；
- Industrial control；

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2.Specification parameter

2.1. Limit parameters

Order number	main parameter	minimum	Maximum	Remarks
1	Input voltage （Vdc）	6	52	Work voltage shouldn’t exceed 52Vac, otherwise will cause permanent damage to the module.
2	output power（W）	0	2	Can continuously output 2Wpower
3	working temperature （℃）	-40	+85	℃

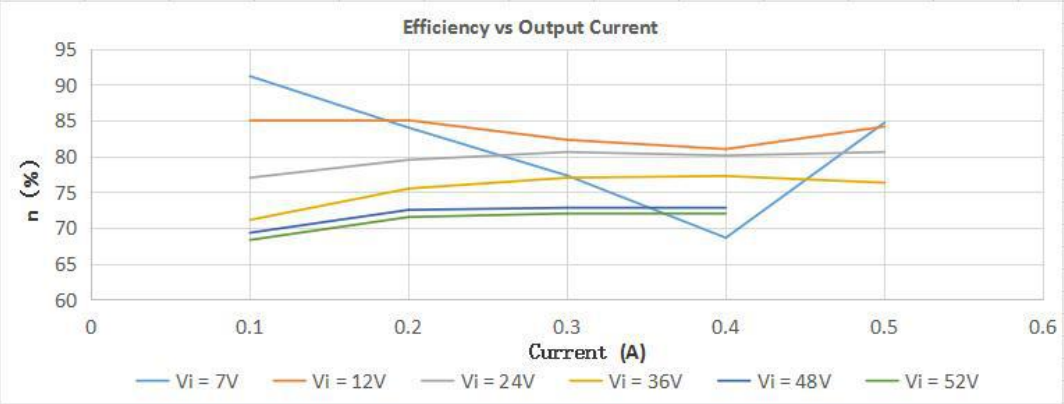
2.2. Work parameters

Order number	Main parameter	minimum	Typical value	Maximum	Remarks
1	Input voltage (Vdc)	7	-	52	V
2	work frequency (Hz)	-	1.2	-	MHz
3	Output power(W)	0	-	2	Can continuously output power of 2W
4	Work temperature (℃)	-40	+25	80	℃
5	Static power(mA)	-	-	1.0	< =1 mA
6	Shut-down current(uA)	-	1	2	<2uA
7	Output current(Vdc)	4.9	5.0	5.1	V
8	Persistent current(mA)	0	-	400	mA
9	ripple noise (mV)	20	-	50	<50mV
10	Maximum	68	-	91	%

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	efficiency (n%)				
11	Over-current protection (%)	-	-	-	No
12	Short circuit protection	-	-	-	No
13	Working humidity (RH%)	20	-	90	no-condensing
14	Storage temperature (℃)	-10	+25	+50	Dry storage at normal temperature
15	Storage humidity (RH%)	10	-	90	Dry storage at normal temperature

2.3. Work efficiency VS load



3.basic operation

3.1. Points for attention

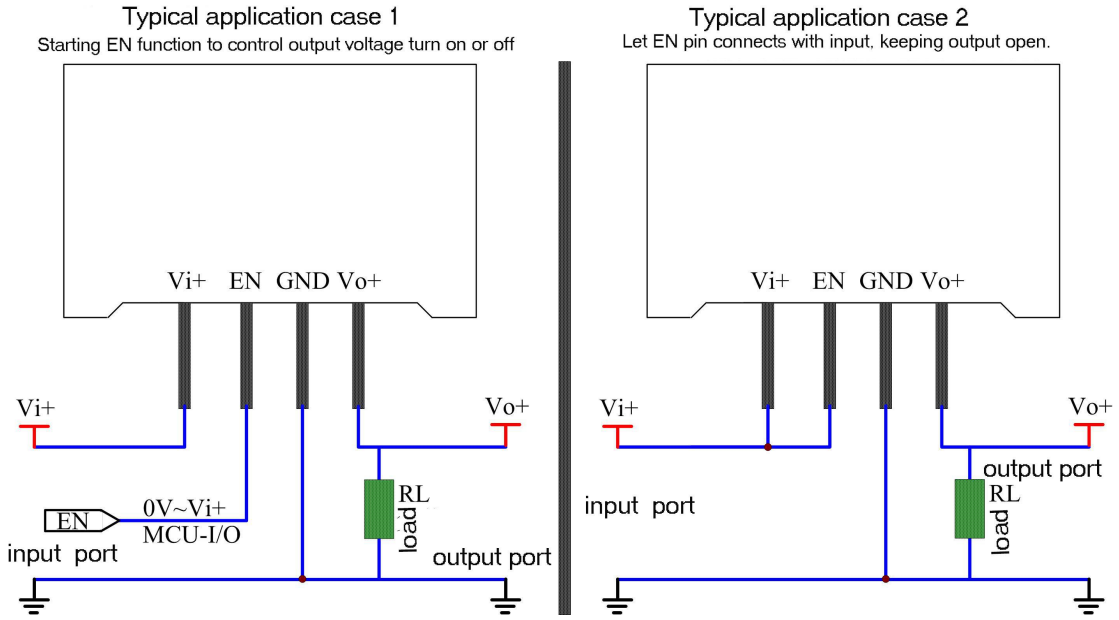
- Operating this module requires certain professional skills, prohibit non-professionals operate on it!
- Before using it, you must study Knowledge of safe use carefully.
- prohibit human body contact with power lines after electrification to prevent accidents caused by

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electric shock.Recommend input front-end to Increase isolation.

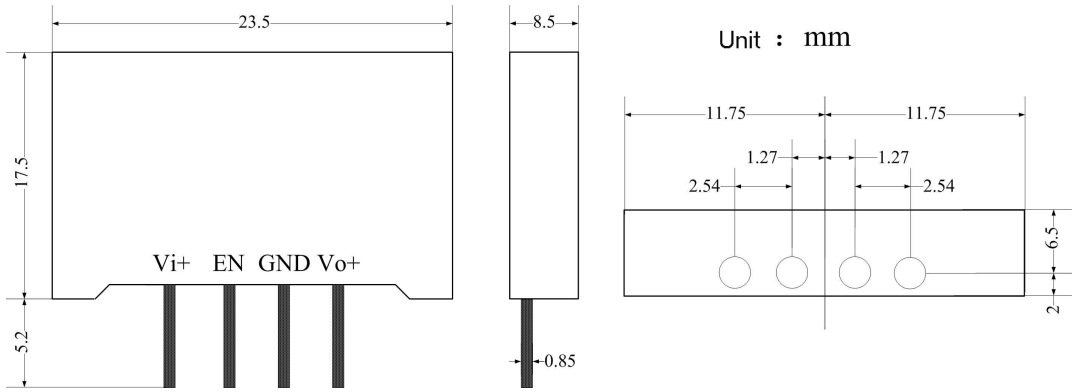
- The maximum input voltage shall not exceed 52 Vdc, otherwise may occur permanent damage.
- In daily maintenance, the input power should be disconnected to prevent from electric shock accidents.

3.2. Typical application



4.Mechanical characteristics and pin definition

4.1. Product size



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4.2. Pin definition

Order number	Pin name	orientation	use
1	Vi+	Input	DC input, positive power supply(7~52Vdc ,exceed 52V will cause permanent damage to the module.)
2	EN	Input	5~Vi+, output voltage Enable pin, High Level Enabling, low level prohibited.
3	GND	Input/Output	DC Input/Output, power supply reference GND.
4	Vo+	Output	DC output, positive power supply.

5.products selection

Product types	Input voltage	Output voltage	Output current	efficiency	Installation method
DM21-2W033H	4.5 ~ 52V	3.3V	0.6A	88%	Plastic package plug-ins
DM21-2W050H	7.0 ~ 52V	5.0V	0.5A	91%	Plastic package plug-ins
DM21-2W120H	13 ~ 52V	12V	0.16A	93%	Plastic package plug-ins

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Revision history

Order number	vision	modification date	Revision notes	Maintain person
1	V1.0	20190301	First edition, first public release	Deng
2	V1.1	20190916	Modify parameter	li

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