DM21-7W050H

7W low-power DC-DC step-down power module



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Chapter 1. Product Overview

1.1. Brief introduction



The DM21-7W050H is a direct current-to-direct current (DC-DC) low-power power supply step-down die
block, continuous external output of 7W power, wide voltage design 7.5 ~ 28V input, maximum output
The input can reach 28V, which greatly reduces the design threshold for users. All components are sourced from formal sources
Channel, industrial grade design -40~85°C, even in the most complex voltage environment, can be
Stable enough output.

1.2. peculiarity

Ultra-small size: 23.5*17.5*8.5mm;
Output power: 5V/1.5A=7.5W power can be continuously output;
Plastic sealing plug-in: special power glue potting to prevent the output voltage amplitude caused by human contact and burn-out of the post-stage;
Over-temperature protection: The maximum working temperature is preset inside the module, which can be automatically restored;
Working voltage: ultra-wide working voltage 7.5~28V input can work stably;
Ultra-low ripple: output ripple < 100mV at full power load;

1.3. Application scenarios

- MCU, toys;
- smart home;
- Industrial Internet of Things;
- industrial control motherboard;
- wireless communication equipment;
- on-board power supply;
- security products;
- industrial control;

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Chapter 2. Specifications

2.1. Limit parameters

serial number	Main parameters:	minimum	maximum	remark
1	Input voltage (Vdc).	7.5	30	Do not exceed 28Vac in working voltage, otherwise it may be permanently damaged
2	Output power (W).	0	7.5	It can output up to 7.5W of power
3	Operating temperature (°C).	-40	+85	℃

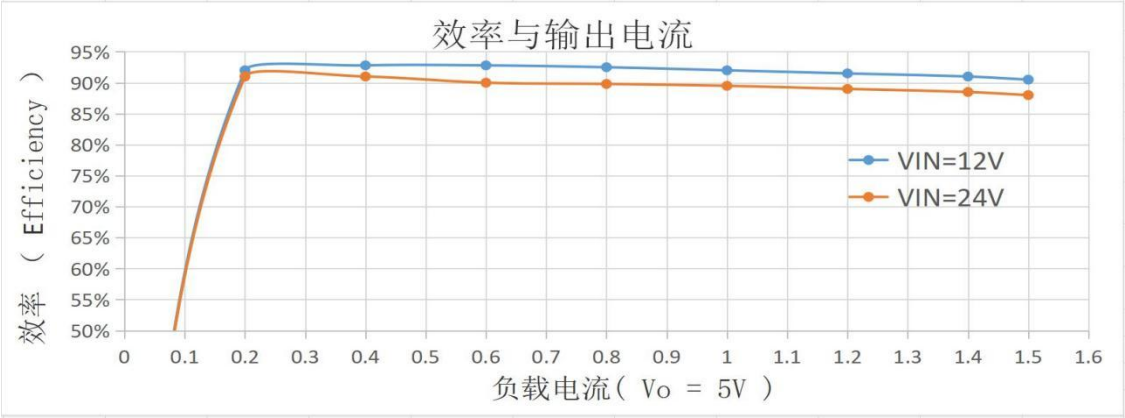
2.2. Working parameters

serial number	Main parameters:	minimum	Typical	maximum	remark
1	Input voltage (Vdc).	7.5	-	28	V
2	Operating Frequency (Hz).	-	0.5	-	MHz
3	Output power (W).	0	-	7.5	Continuous output power of 7.5 watts
4	Operating temperature (**℃**).	-40	+25	85	**℃**
5	Quiescent Power Consumption (mA)	-	-	1.0	< =1 mA
6	Shutdown current (uA).	-	1	2	<2uA
7	Output voltage (Vdc).	4.9	5.0	5.1	V
8	Continuous Current (mA)	0	-	1.5	A
9	Ripple Noise (mV)	20	-	100	<100mV
10	Maximum efficiency (n%)	86	-	91	%
11	Overcurrent Protection (%).	4	-	4.5	A
12	Short-circuit	-	-	-	not

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	protection				
13	Operating humidity (RH%)	20	-	90	No condensation
14	Storage temperature (°C).	-10	+25	+50	Store dry at room temperature
15	Storage humidity (RH%)	10	-	90	Store dry at room temperature

2.3. Productivity vs. load



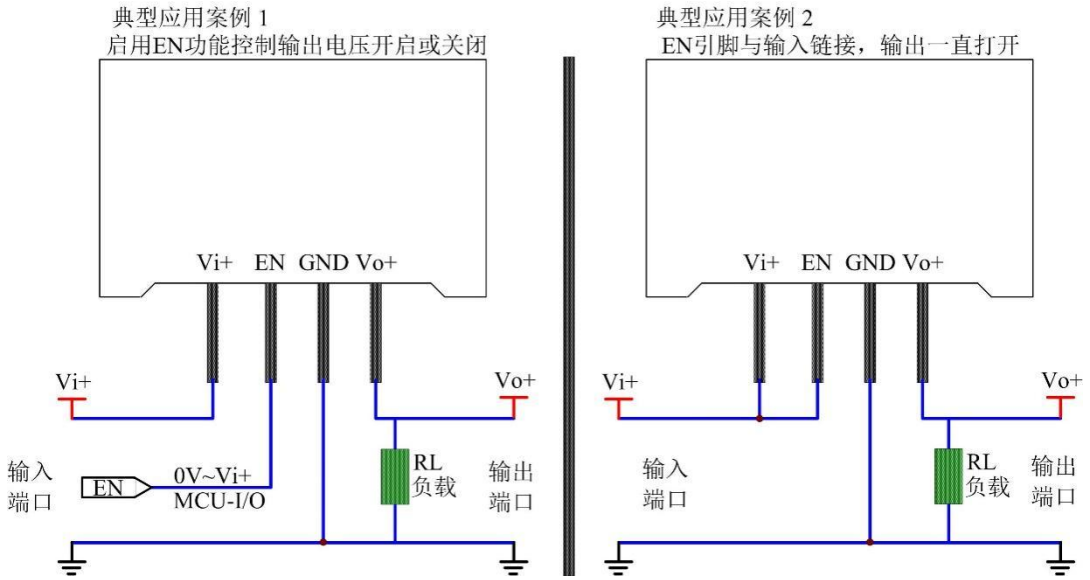
Chapter 3. Basic operations

3.1. Precautions

- The operation of this module requires certain professional skills, and the rigorous non-professional life operates on it!
- Be sure to carefully study the knowledge of safe use before use.
- After powering on, the human body should be strictly in contact with the input power cord to prevent accidents caused by electric shock.
- The maximum input voltage must not exceed 28Vdc, otherwise it may cause permanent damage to the module.
- During routine maintenance, the input power supply should be disconnected first to prevent damage to the device.

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3.2. Typical Applications

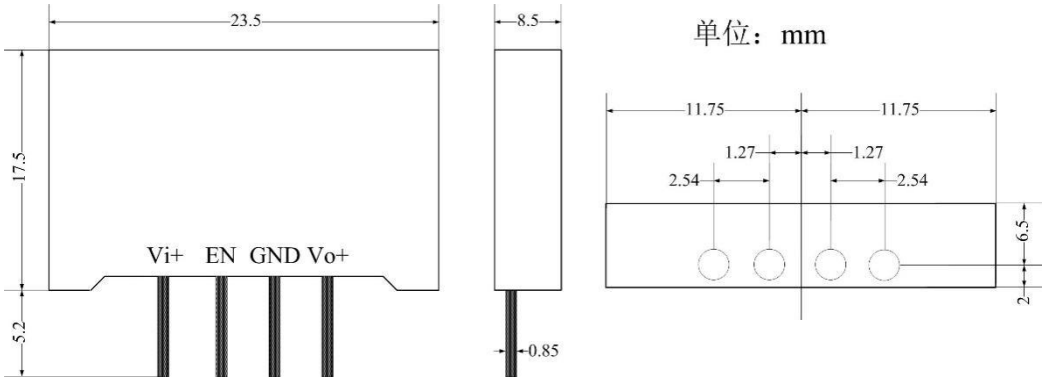


Chapter 4. Mechanical characteristics and pin definitions

4.1. Product dimensions

4.2. Pin definition

serial number	Pin name	direction	Description of use
1	Vi+	input	DC input, positive power supply (8~28Vdc, more than 28V will cause permanent damage to the module)
2	EN	input	5~Vi+, output voltage enable pin, high level enabled, low level disabled
3	GND	Inputs/Outputs	DC input/output, power reference ground
4	Vo+	output	DC output, positive power supply



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Chapter 5. Product selection

Product model	Input voltage	Output voltage	Output current	efficiency	Installation:
DM21-7W033H	5.5 ~ 28V	3.3V	2.0A	87%	Molded inserts
DM21-7W050H	7.5 ~ 28V	5V	1.5A	91%	Molded inserts
DM21-7W120H	14.5 ~ 28V	12V	0.6A	93%	Molded inserts

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