



DM21-25W050V product specifications

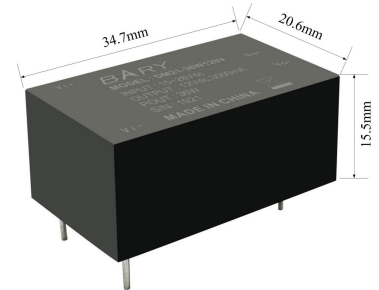
25W low-power DC-DC Step-down Power Supply Module



1.product introduction

1.1. brief introduction

DM21-25W050V is a DC-DC low-power buck power supply module, can continuously output 25W, wide voltage input: 8 ~ 36V, the max input can up to 42V, greatly reduces the user design threshold. All components come from regular purchasing channels. industrial grade design: -40~85℃, even in complex voltage environment, it also can output steadily.



1.2. Characteristics

Ultra-small volume: 34.7*20.6*15.5mm.

output power: can continuously output 5V/5A=25W.

Synchronous rectification: adopted synchronous rectification scheme, has the advantages of large current, low temperature rise and high conversion efficiency.

Plastic package plug-ins: specialized AB glue can protect components from hot expansion and cold contraction damage.

Over-current protection: It can be automatically restored by module internal preset constant current limitation.

Over temperature protection: The highest working temperature is set in the module, module can be automatically restored.

working voltage: Ultra-wide working voltage: 8~36, it can work steadily.

Ultra-low ripple: output ripple < 120mV under full power load.

1.3. Application scenarios

- It can be used in any digital or analog circuit;
- Wireless communication equipment;
- Industrial motherboards;
- Vehicle power supply;
- Power supply system of charging pile;
- Smart home and industrial sensors;
- Internal power supply system of security alarm;
- Industrial control;
- MCU, Toys;
- Power supply of LED drive lamp belt;
- Intelligent street lamps;

2.Specification parameter

2.1. Limit parameters

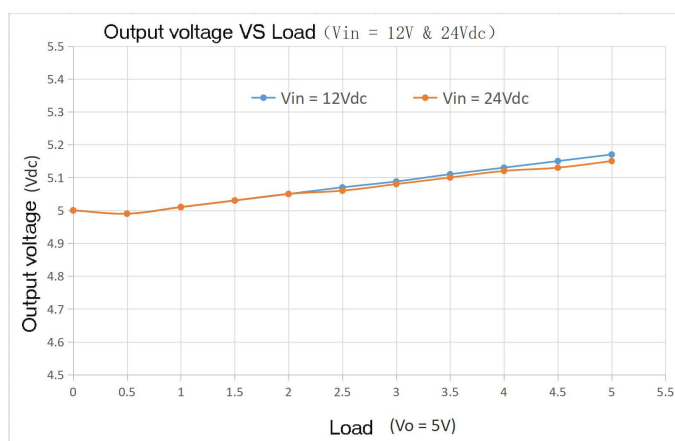
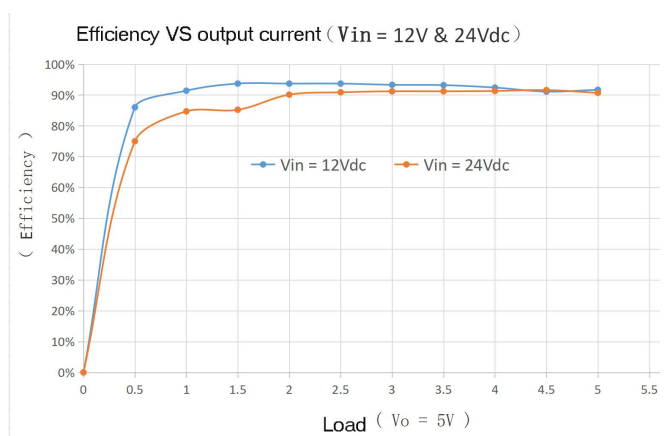
Order number	main parameter	minimum	Maximum	Remarks
1	Input voltage (Vdc)	8	36	Work voltage shouldn't exceed 36Vac, otherwise will cause permanent damage to the module.
2	output power (W)	0	25	Load power should not exceed 100%. It is recommended that the load power should be less than 90%.
3	working temperature (°C)	-40	+85	Can work with full load.

2.2. Work parameters

Order number	Main parameter	minimum	Typical value	Maximum	Remarks
1	Input voltage (Vdc)	8	-	36	V (If input over 18V, need add TVS at power supply port, please see detail in recommendation circuit.)
2	work frequency (Hz)	-	500	-	KHz
3	Output power (W)	0	-	25	Max continuously output power is 25 watt.
4	Work temperature (°C)	-40	+25	85	Can work with full load.
5	Static power (mA)	-	-	1.0	<=1 mA
6	Output voltage(Vdc)	4.95	5.1	5.15	V
7	Persistent current (mA)	4.9	5	5.1	A
8	ripple noise(mV)	100	-	120	<=120mV
9	Maximum efficiency (n%)	75	-	93	%

10	Over-current protection (%)	4.6	-	5.3	A
11	Work humidity (RH%)	20	-	90	no-condensing.
12	Storage temperature (°C)	-10	+25	+50	Dry storage at normal temperature.
13	Storage humidity (RH%)	10	-	90	Dry storage at normal temperature.

2.3. Work efficiency VS load



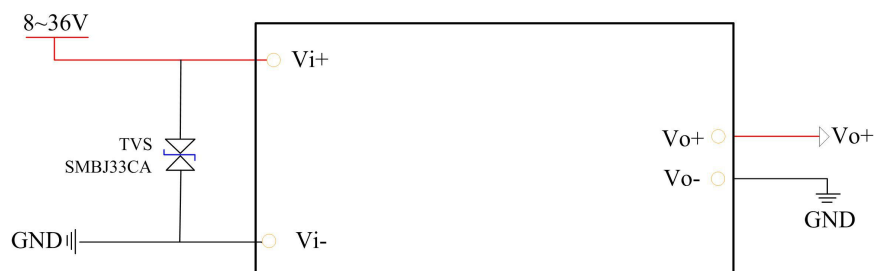
3.basic operation

3.1. Points for attention

- If input over 18V, need add TVS at power supply port, please see detail in recommendation circuit.
- 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 electric shock.
- The maximum input voltage shall not exceed 36Vdc, otherwise may occur permanent damage .
- In daily maintenance, the input power should be disconnected to prevent from electric shock accidents.

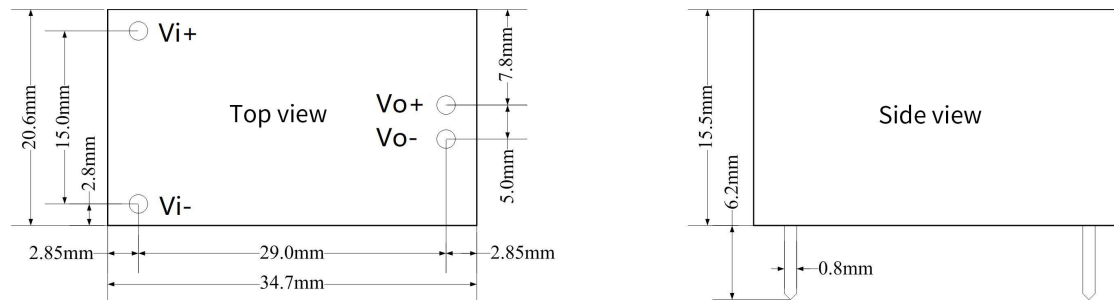
3.2. Recommended Circuits

- When the external input voltage is higher than 18V, a TVS must be added outside the module to prevent the module from being damaged by excessive peak value.



4. Mechanical characteristics and pin definition

4.1. Product size



4.2. Pin definition

Order number	Pin name	orientation	use
1	Vo+	Output	DC output, positive power supply.
2	Vo-	Output	DC output, power supply GND.
3	Vi-	Input	DC input, power supply GND.
4	Vi+	Input	DC output, positive power supply. (8~36Vdc, exceed 36V will cause permanent damage to the module.)

5. product types selection

Product types	Input voltage	Output voltage	Output current	efficiency	Installation method
DM21-25W050V	8.0 ~ 36Vdc	5Vdc	5A	93%	Plastic-package plug-ins
DM21-36W120V	14.5 ~ 36Vdc	12Vdc	3A	95%	Plastic-package 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	20190521	modify parameters	Deng
3	V1.2	20190530	modify parameters	Deng

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