



DM21-25W050S Product Specification Manual

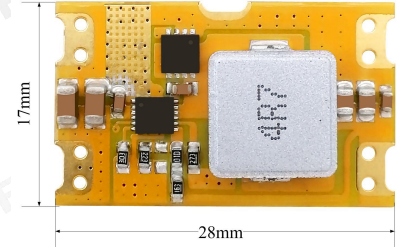
25W Low-power DC-DC Buck Power Supply Module



1.Product introduction

1.1. Brief introduction

DM21-25W050S is a DC-DC low-power buck power supply module, can continuously output 25W power, wide voltage input range: 8 ~ 36V, the max input can up to 42V, which greatly reduces the users design threshold. All components com from general procurement channel, industrial grade design : -40~80°C,when in complex voltage environment ,it also can output steadily.



1.2. Product features

Super-small volume: 28*17*4.5mm, SMD, production more efficient;

Over current protection: module internal preset constant current limit, can automatically recover;

High quality scheme: greatly improve its work efficiency, with an average efficiency of 95%;

Over temperature protection: module internal preset highest work temperature, can automatically recover;

Short circuit protection: module internal preset short circuit protection, can automatically recover after the fault state is eliminated;

1.3. Application scenarios

- Wireless communication equipment;
- Industrial control motherboard;
- 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 module of LED driving lamp belt;
- Intelligent street lamp;

2.Specification parameter

2.1. Limit parameters

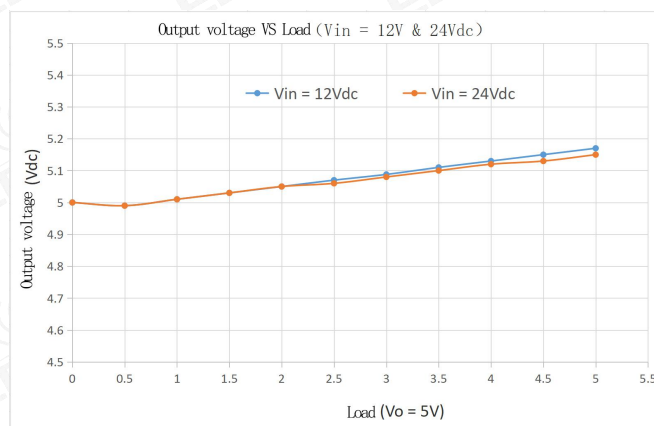
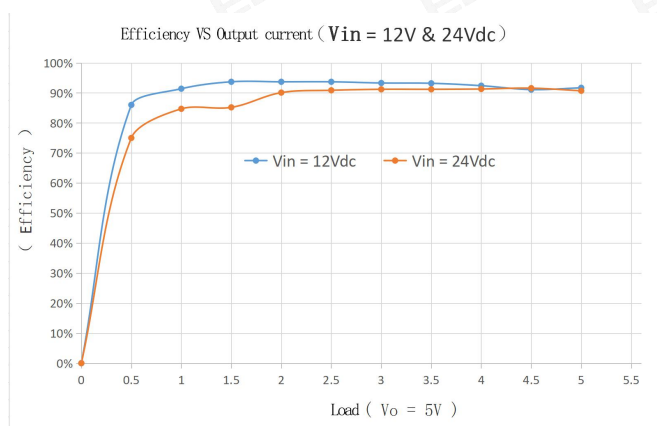
Order number	Main parameter	Minimum	Maximum	Remarks
1	Input voltage (Vdc)	8	36	Work voltage shouldn't exceed 36Vac, otherwise it may be permanently damaged.
2	Output power (W)	0	25	Load power shouldn't over 100%, recommended within 90% .
3	Working temperature (°C)	-20	+80	Can work with full load.

2.2. Work parameters

Order number	Main parameter	Minimum	Typical value	Maximum	Remarks
1	Input voltage(Vdc)	8	-	36	V(If input voltage exceed 18V, need to add TVS at power supply input port.)
2	Work frequency (Hz)	-	500	-	KHz
3	Output power(W)	0	-	25	Maximum continuous output power 25W.
4	Work temperature (°C)	-40	+25	80	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	Max efficiency (n%)	-	93	-	%

10	Over current protection(%)	4.5	-	5.3	A
11	Short circuit protection	4.5	-	5.3	Hiccup mode, automatic recovery after fault state elimination
12	Work humidity(RH%)	20	-	90	No condensation
13	Storage temperature(°C)	-10	+25	+50	Dry storage at normal temperature.
14	Storage humidity((RH%))	10	-	90	Dry storage at normal temperature.

2.3. Work efficiency VS load



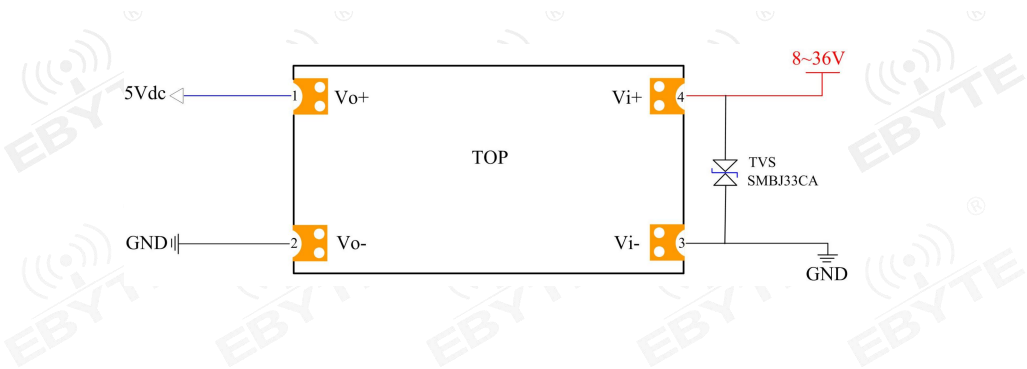
3. Basic operation

3.1. Matters needing attention

- If input voltage exceed 18V, need to add TVS at power supply input port.
- 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 touch components after electrified.
- 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.

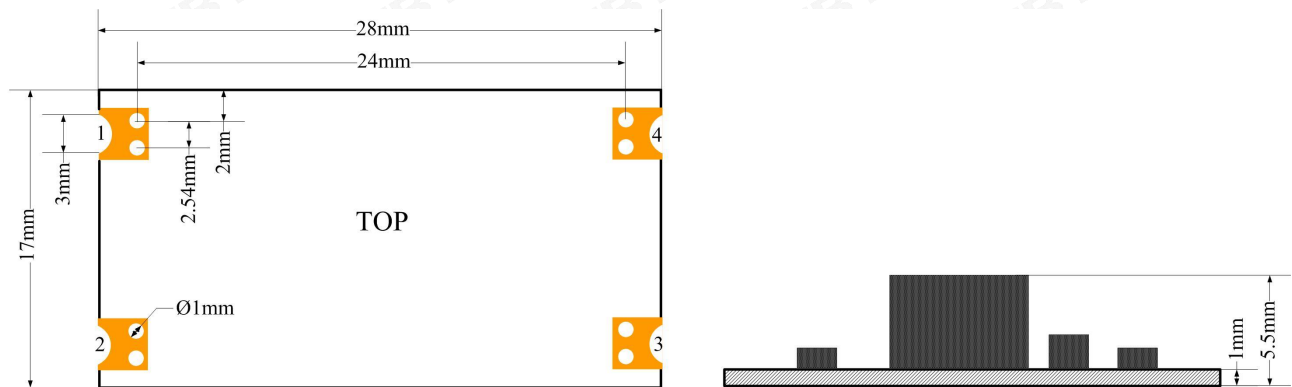
3.2. Recommended circuits

- If input voltage exceed 18V, need to add TVS at power supply input port.



4.Mechanical Characteristics and Pin Definition

4.1. Product size



4.2. Pin Definition

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

5.Product selection

Product model	Input voltage	Output voltage	Output current	efficiency	Installation method
DM21-25W050S	8.0 ~ 36Vdc	5Vdc	5A	93%	Bare board SMD, support plug-ins.
DM21-25W050V	8.0 ~ 36Vdc	5Vdc	5A	93%	plastic-package plug-ins.
DM21-25W120V	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	V1.03	20190521	Modify some parameters.	Deng

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