



DM21-36W12S User Manual

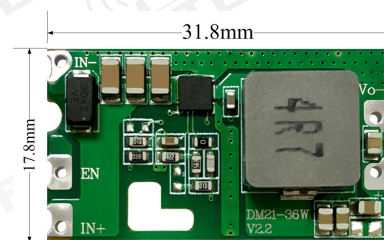
36W Step-down DC-DC Power Module



1.Product introduction

1.1. Brief introduction

DM21-36W12S is a DC-DC (DC-DC) low-power power supply step-down Module, continuous external output power of 36W, wide voltage 15 ~ 24V input, the highest input It can reach 26V, which greatly reduces the user's design threshold. All components come from regular procurement channels Road, industrial grade design -40~85°C, even in extremely complex voltage environment, it can Stable output. .



1.2. Product features

- Ultra-small size: 31.8*17.8*5.6mm;
- Output power: 12V/3A=36W power can be output continuously;
- Synchronous rectification: adopts synchronous rectification scheme design, with large current, low temperature rise and high conversion efficiency;
- Over-temperature protection: The maximum operating temperature is preset inside the module, which can be automatically restored;
- Working voltage: wide working voltage 15~24V input can work stably;
- Ultra-low ripple: output ripple <50mV under full power load;

1.3. Application scenarios

- Power Supply System of Charging Pile;
- Intelligent home and Industrial sensors, etc.;
- Internal power supply system of security alarm;
- Industrial control;
- MCU motherboard, toys;
- Supply LED driving Lamp belt with Power;
- Intelligent street lamp;
- Intelligent switch, socket;

2.Specification parameters

2.1. Limit parameters

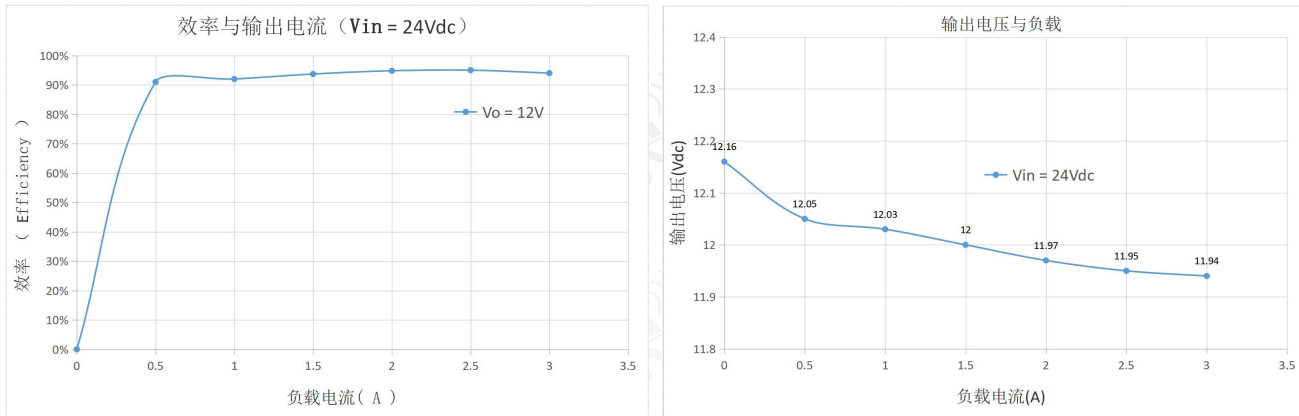
No.	Main parameter	Minimum	Maximum	Remarks
1	Input voltage (Vdc)	14.5	26	V (no more than 26Vac, or it will damage)

2	Output power (W)	0	36	W
3	Working temperature (°C)	-40	+85	°C

2.2. Operating parameters

No.	Main parameter	Minimum	Typical value	Maximum	Remarks
1	Input voltage(Vdc)	15	-	24	V
2	Working frequency (Hz)	-	500	-	KHz
3	Output power(W)	0	-	36	W
4	Working temperature (°C)	-40	+25	85	°C
5	Power-off current/EN=Low	-	3	10	uA
6	Static power/EN=High	-	-	1.0	< 1 mA
7	Output voltage(Vdc)	11.9	12.1	12.2	V
8	Persistent current(mA)	0	-	3	A
9	Ripple noise(mV)	10	25	50	<50mV
10	Maximum efficiency (n%)	92	-	95	%
11	Over-current protection(%)	-	-	-	None
12	Working temperature(RH%)	10	-	90	
13	Storage temperature(°C)	-10	+25	+50	
14	Storage humidity (RH%)	10	-	90	
15	Normal operating life	-	50000	-	H

2.3.Work efficiency and load



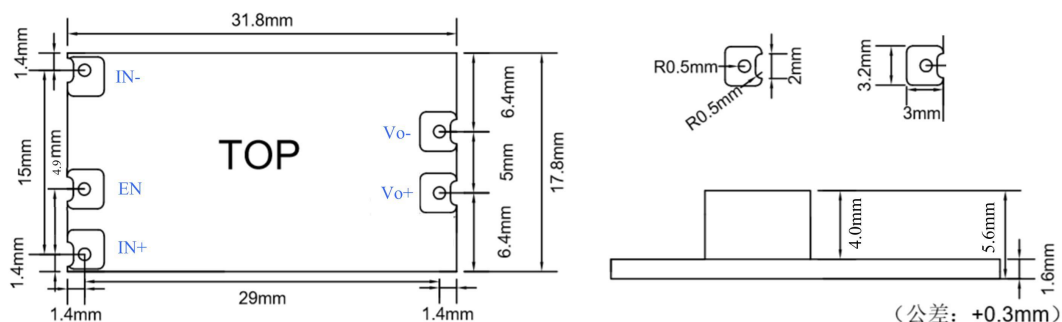
3.Basic operation

3.1.Notes

- 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 18Vdc, otherwise may occur permanent damage.
- In daily maintenance, the input power should be disconnected to prevent from electric shock accidents.

4.Mechanical Characteristics and Pin Definition

4.1. Product size



4.2. Pin Definition

No.	Pin	Direction	Details
1	Vo+	Output	DC output, power supply is positive
2	Vo-	Output	DC output, power ground
3	Vi-	Input	DC input, power ground
4	Vi+	Input	DC input, positive power supply (15~24Vdc, more than 26V will cause permanent damage to the module)
5	Vi+	Input	DC input, positive power supply (15~24Vdc, more than 26V will cause permanent damage to the module)

5. Product selection

Product model	Input voltage	Output voltage	Output current	Efficiency	Installation mode
DM21-30W09S	8.0 ~ 36Vdc	5Vdc	3.3A	93%	SOC SMD, DIP available
DM21-30W09V	8.0 ~ 36Vdc	5Vdc	3.3A	93%	DIP
DM21-36W12S	14.5 ~ 36Vdc	12Vdc	3A	95%	SOC SMD, DIP available
DM21-36W120V	14.5 ~ 36Vdc	12Vdc	3A	95%	DIP

Revision history

No.	Vision	Modification date	Revision notes	Maintain person
1	V1.0	20210325	First edition, first public release	LJ

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