



DM41-5W0512V Product Specification Manual

DC-DC 5W Isolated Boost Power Supply Module



Contents

1.Product introduction.....	2
1.1. Brief introduction.....	2
1.2. Features.....	2
1.3. Application scenarios.....	2
2.specification parameters.....	3
2.1. Limit parameters.....	3
2.2. Work parameters.....	3
2.3. Work efficiency VS load.....	4
3.Basic operation.....	4
3.1. Matters need attentions.....	4
4.Mechanical Characteristics and Pin Definition.....	5
4.1. Product size.....	5
4.2. Typical application.....	5
4.3. Pin definition.....	5
5.Product selection.....	6
Revision history.....	6
About us.....	6

1.Product introduction

1.1. Brief introduction

DM41-5W0512V is a isolated DC-DC low-power boost power supply module, can continuously output 5W power, wide voltage input range: 4.5~9V, the max efficiency is up to 78%, High efficiency, low heat, which greatly reduces the users design threshold. All components from the regular procurement channels, Industrial grade design: -40~85°C, when in complex voltage environment, it also output steadily.



1.2. Features

- Isolation and buck voltage: Filtering out the peak value of power supply, effectively protect the back-end load equipment from damage;
- Output power: 12V/416mA, can continuously output 5W;
- Ultra-small volume: 34.5*20.5*15.5mm, Black plastic fireproof shell, use more safe;
- Over-current protection: module internal preset the highest work current, can automatically recover after fault elimination;
- Short-circuit protection: module internal preset the over-current protection and short-circuit protection, can automatic recovery;
- Withstand voltage: 1500V.

1.3. Application scenarios

- Power supply of industrial control equipment;
- Aircraft model / remote control aircraft;
- intelligent robot;
- Wireless communication equipment;
- Industrial control motherboard;
- Vehicular power supply;

- Charging pile power supply system;
- Smart home and industrial sensors;
- Internal power supply system of security alarm;
- MCU, toys;
- power supply of LED Drive light belt;
- Intelligent street lamp.

2.specification parameters

2.1. Limit parameters

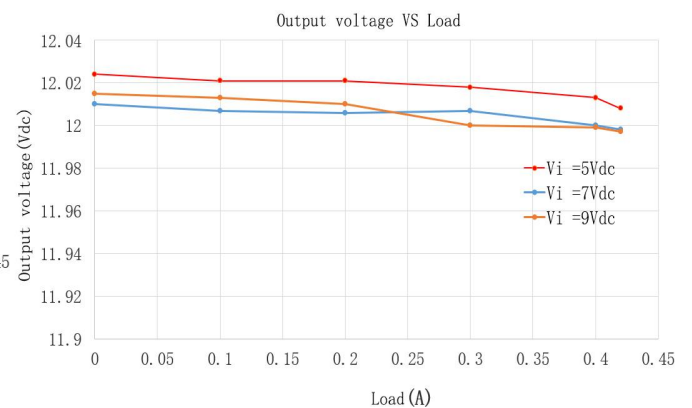
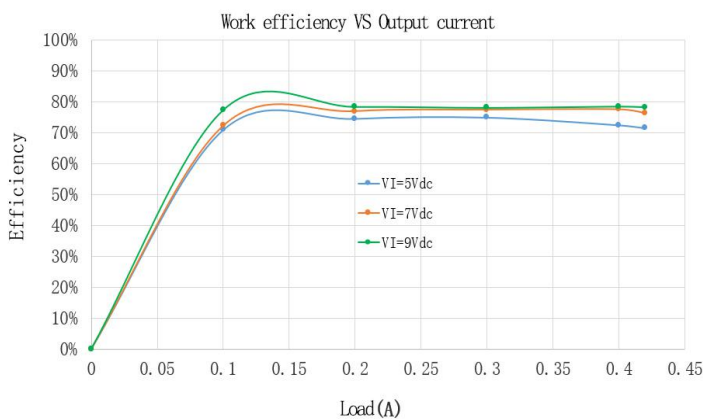
Order number	Main parameter	Minimum	Maximum	Remarks
1	Input voltage(Vdc)	4.5	9	V (The work voltage shall not exceed 9Vdc, Otherwise it will permanently damaged.)
2	output power (W)	0	5	W
3	working temperature (°C)	-40	+85	°C

2.2. Work parameters

Order number	Main parameter	Minimum	Typical value	Maximum	Remarks
1	Input voltage (Vdc)	4.5	5	9	V
2	Working frequency (Hz)	-	300	-	KHz
3	Output power(W)	0	-	5	W
4	Working temperature (°C)	-40	25	85	°C
5	Static power(mA)	-	-	0.4	< 0.4W
6	Output voltage (Vdc)	11.98	12	12.05	V

7	Persistent current (mA)	0	-	420	mA
8	Ripple noise (mV)	10	-	60	<60mV
9	Max efficiency (n%)	70.5	-	78	%
10	Over current protection (%)	0.45	-	0.5	A
11	Short circuit protection	-	-	-	Yes
12	Working humidity (RH%)	20	-	90	No-condensing.
13	Storage temperature (°C)	-40	+25	+85	Dry storage in normal temperature.
14	Storage humidity (RH%)	10	-	90	Dry storage in normal temperature.
15	Withstand voltage	-	1500	-	V

2.3. Work efficiency VS load



3. Basic operation

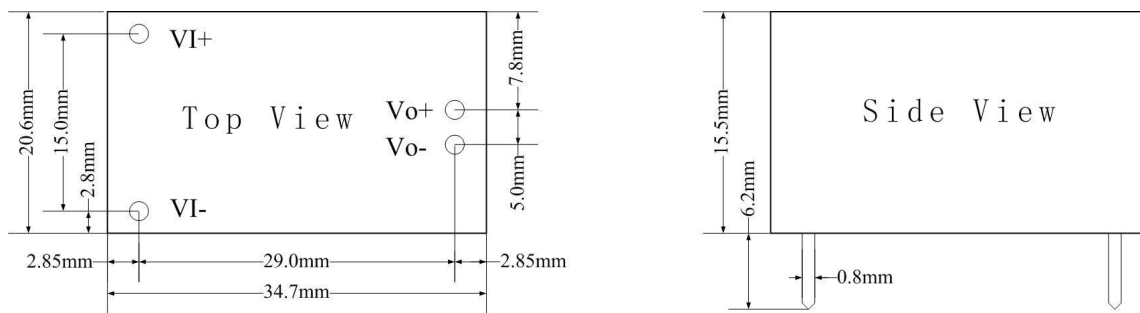
3.1. Matters need attentions

- 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 components when electrified.

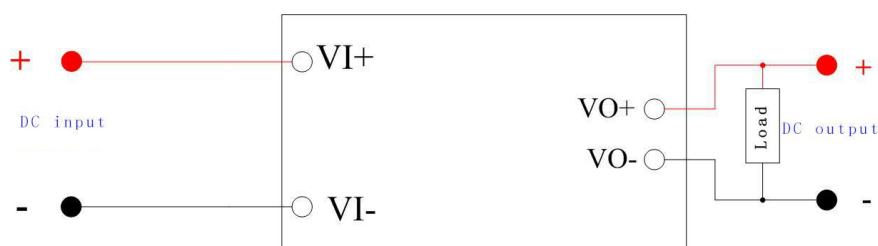
- The maximum input voltage shall not exceed 9Vdc, otherwise may occur permanent damage.
- Temperature is high when working at full load, please do not touch!
- Do not short-circuit the output port, otherwise it will cause permanent damage to the module.
- Over-current function only efficient in $V_{IN} = 4.5\sim 5.5V$, please notice that if over 5.5V, over-current point will become large, which need cautious about.

4. Mechanical Characteristics and Pin Definition

4.1. Product size



4.2. Typical application



4.3. Pin definition

Order number	Pin name	Direction	Use
1	Vi+	Input	Power supply input is positive.
2	Vi-	Input	Power supply input is negative.
3	Vo-	Output	Power supply output is negative.
4	Vo+	Output	Power supply output is positive.

5.Product selection

Product model	Input voltage	Output voltage	Output current	Efficiency	Installation mode
DM41-5W0505V	4.5 ~ 9.0Vdc	5Vdc	1000mA	77%	Plastic package plug-ins
DM41-5W0512V	4.5 ~ 9.0Vdc	12Vdc	416mA	78%	Plastic package plug-ins
DM41-5W1205V	9.0 ~ 18Vdc	5Vdc	1000mA	75%	Plastic package plug-ins
DM41-5W2405V	18 ~ 36Vdc	5Vdc	1000mA	75%	Plastic package plug-ins

***Note: the series of pin size (package) are fully compatible and replaceable.**

Revision history

Order number	vision	modification date	Revision notes	Maintain person
1	V1.0	2019/10/10	First edition, first public release.	GHW

About us

Technical support: support@cdebyte.com

Documents and RF Setting download link: www.ebyte.com

Thank you for using Ebyte products! Please contact us with any questions or suggestions: info@cdebyte.com

Fax: 028-64146160 ext. 821

Web: www.ebyte.com

Address: Innovation Center D347, 4# XI-XIN Road, Chengdu, Sichuan, China

