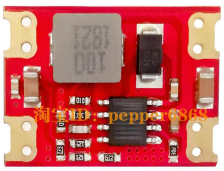


DM02-28050016DS

Industrial grad、high quality、high input、ultra-low power consumption、step-down DC-DC power module

REV1.2 —— 2017-03-05 Product manual

1.Product introduction

1.1. Module features

DM02-28050016DS is a step-down DC-DC power module, with wide voltage input of 7.5-28VDC, fixed output of 5V, working frequency up to 0.5MHz, high stability, high cost-effective, original imported MP1584 chip, Voltage no-drift in long working time, suitable for high-demand applications, it has been mass-produced and can be used safely.

1.2. Typical applications

Widely used in communication equipment, digital radio, industrial control motherboard, toys,model aircraft, single chip motherboard, household appliances products, vehicle power supply, security monitoring, field acquisition, street lamps.

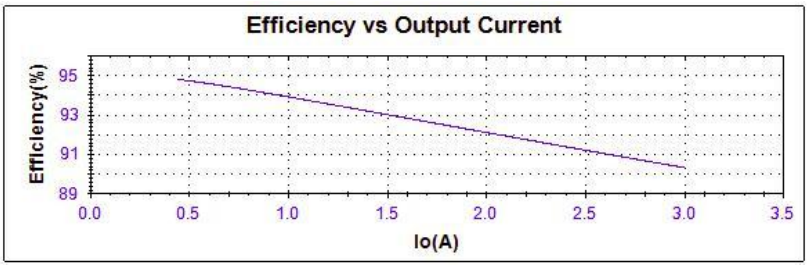
2.Electrical parameters

order number	Parameter name	Parameter details
1	Module size	16.5×22mm
2	Device source	All Imported Components from: Japan, USA, Germany
3	Production process	Lead-free process, machine mounting (machine mounting can ensure batch consistency and reliability)
4	Interface mode	2.54 Plug-in type and patch type (patch is strongly recommended)
5	input voltage	7.5 ~ 28Vdc
6	Input Reverse Connection Protection	no
7	output voltage	5.0V(The series has fixed output 3.3V, 5V, 9V, 12V, 24V can customize any voltage.)
8	Output accuracy	±0.1V
9	peak current	4.7A
10	Persistent	1.6A

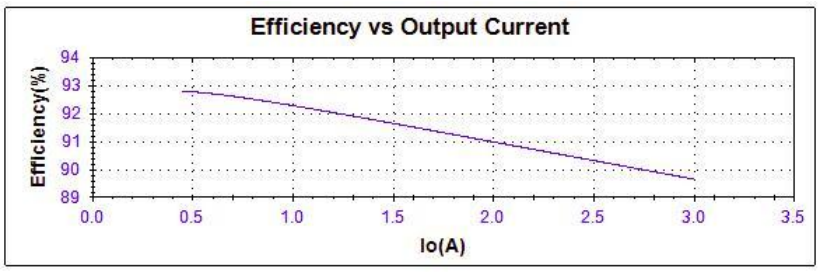
	current	
11	Full-load output ripple Vpp	<50mV
12	Quiescent current	120uA
13	shutdown capability	Not supported (can customize shutdown function)
14	working temperature	-20℃ ~ +85℃
15	Storage temperature	-40℃ ~ +125℃
16	Working humidity	20%-90% relative humidity,(no condensation)
17	Isolation or not	Not isolation
18	Aging Standard for production leave the factory	72 hours
19	Normal service life	30,000 hours (Civil class)

3.Typical performance characteristics

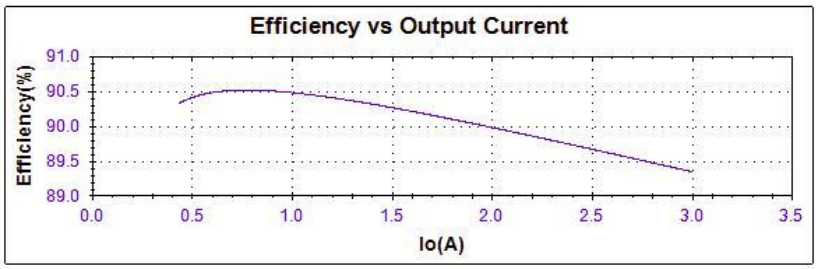
VIN = 8V VO = 5V FS = 0.5MHz



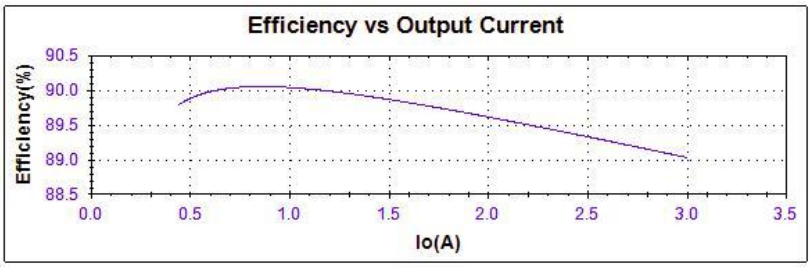
VIN = 12V VO = 5V FS = 0.5MHz



VIN = 24V VO = 5V FS = 0.5MHz

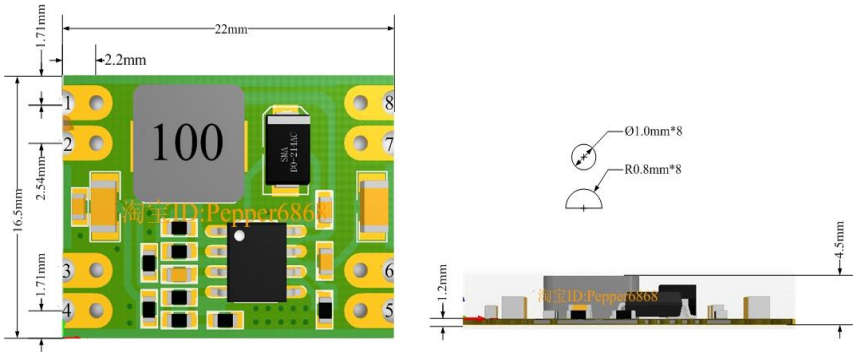


VIN = 28V VO = 5V FS = 0.5MHz



4.size Description and Pin Definition

4.1.size description



4.2. Pin Definition

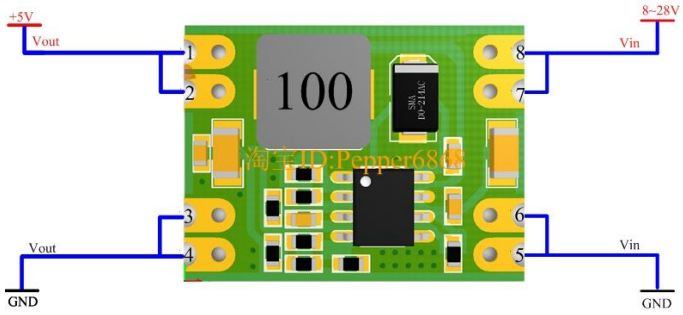
Order name	Name	Orientation	Use
1、2	Vo +	output	Output power supply positive
3、4	Vo -	output	Earth wire, output port power Reference Ground

5、6	Vin -	input	Earth wire, link to power reference ground
7、8	Vin+	input	The maximum input of power supply is 28V,Over 28V will damage module Permanently

5.Notes for using modules

- Welding soldering iron should be well grounded, human body as far as possible contact module electronic components (our production process is in accordance with the IC manufacturer's official anti-static labeling).
- The maximum input voltage shall not exceed 28VDC, otherwise the module may be damaged permanently.
- The maximum load current shall not exceed 4.7A, otherwise the module may be permanently damaged.
- Power Loss recommends control within 1.5W and over 1.5W requires proper heat dissipation.If the input voltage is close to the limit, please increase the peak elimination circuit of TVS or add Electrolytic capacitor.
- It is recommended to add an electrolytic capacitor about 47 ~ 68uF/50V when use it in extremely harsh operating conditions.

6.typical applications



7.Product selection

Module type	Embed mode	Input voltage range	Fixed output	peak current	Persistent current	working frequency	Working temperature
DM02-28033024DS	SMD/DIP	5.5 - 28V	3.3±0.1V	4.7A	2.4A	0.5MHz	-20 ~ 85℃

DM02-28050016DS	SMD/DIP	7.5 - 28V	5.0±0.1V	4.7A	1.6A	0.5MHz	-20 ~ 85℃
DM02-28090008DS	SMD/DIP	11.5 - 28V	9.0±0.1V	4.7A	0.8A	0.5MHz	-20 ~ 85℃
DM02-28120016DS	SMD/DIP	14.5 - 28V	12±0.1V	4.7A	0.6A	0.5MHz	-20 ~ 85℃

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