

VB series VBxxxxD-xW 1KVDC isolation 1W to 2W regulator single output DIP14 pin package
Input voltage

5V/9V/12V/15V/24V DC

Output voltage

3.3V/5V/9V/12V/15V DC

If you need other specifications, please consult Shun Yuan technology company.

Electrical characteristics

The following data, except for special instructions, are at
 TA=25 C, nominal input.

Measurement of rated output
 current..

Voltage,
**Input
 characteris
 tics**

Voltage range

+/- 10%

Wave filtering

Ceramic capacitance

**Isolation
 characteris
 tics**

Rated voltage

1000 VDC

Leakage current

1 m A

Resistance

109

Ohm

Capacitance

60 p TYP.

**Output
 characteris
 tics**

Voltage precision

+/- 2 %, max.

(20 MHz BW) mVp-p

50 mV p-p,TYP

Sustainable short circuit
 time

Output has overload and short circuit protection function.
 (>20s)

Linear voltage

calibration

+/- 1.2 % / 1.0 % of Vin

Load voltage

calibration

+/- 8 %. load = 20 ~ 100 %

Temperature coefficient

+/- 0.02 % / °C

**General
 characteris
 tics**

Efficiency

60% to 80 %

Switching frequency

60~ 125KHz

Working temperature
 (environment)

- 40° C to + 85° C

Storage temperature

- 55 °C to + 125 °C

Lowering the quota
 value

See temperature characteristic diagram

Humidity

≤ 90 %, Uncompressed

Cooling mode

Natural air cooling

**Volume
 characteris
 itics**

DIP package size

20.4 x10.00x 8.2 mm

Weight
Shell
material

0.80 x 0.39x0.32 inch

2 g~3.5 g

Non conductive flame retardant black plastic

Product test data and model examples

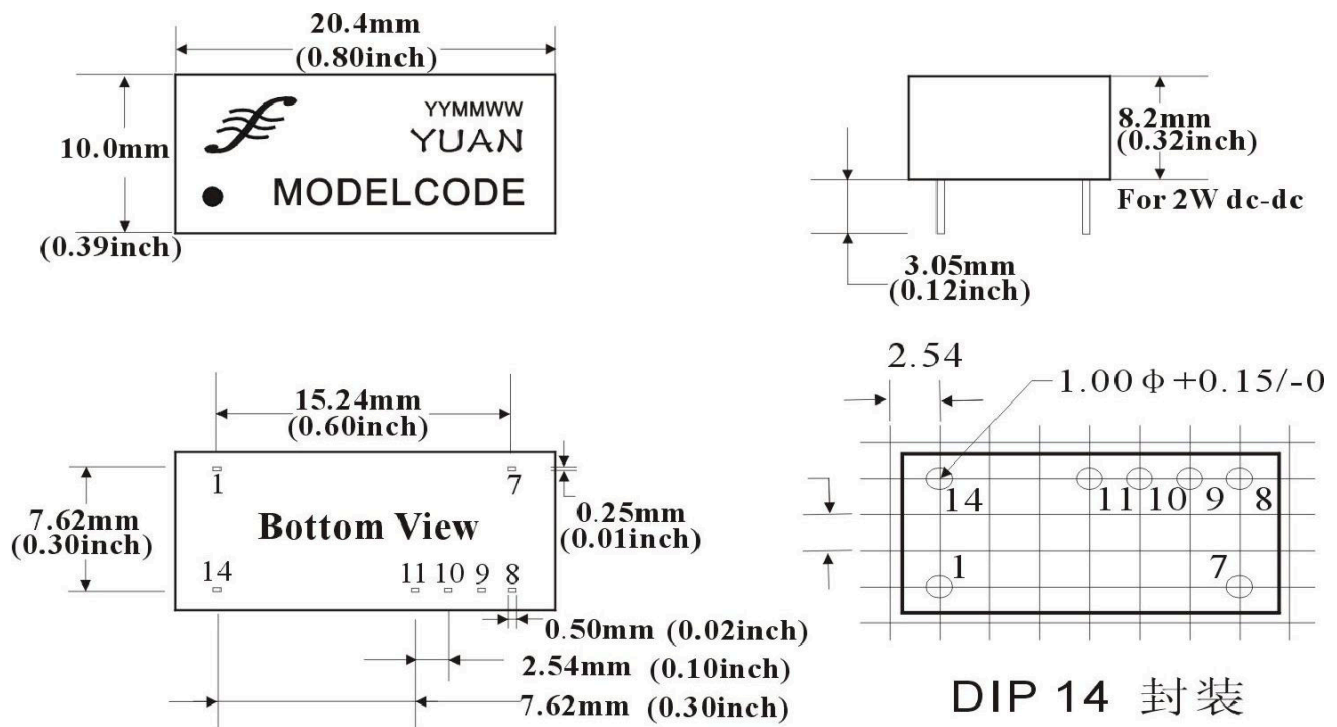
(The following data is the reference value of the product after 8 hours of continuous load aging.)

Product module	Input voltage Vin(VDC)	Input current No-load (mA)	Input current The full load (mA)	Output voltage Vout(VDC)	Output current (max.mA)	Full load efficiency (%TYPE)
VB0503D-1W	5	35	505	3.3	303	60
VB0505D-1W	5	30	317	5	200	63
VB0512D-1W	5	28	312	12	84	64
VB1203D-1W	12	19	137	3.3	303	61
VB1205D-1W	12	16	130	5	200	64
VB1209D-1W	12	16	126	9	111	66

Shenzhen Sunyuan Technology Co., Ltd.

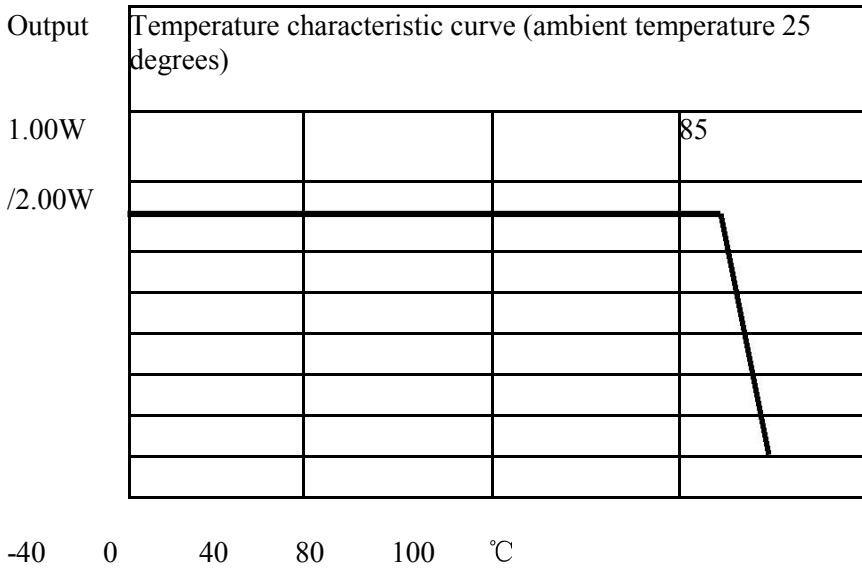
Product module	Input voltage	Input current	Input current	Output voltage	Output current	Full load efficiency
	V _{in} (VDC)	No-load (mA)	The full load (mA)	V _{out} (VDC)	(max.mA)	(%TYPE)
VB1212D-1W	12	15	123	12	84	68
VB1215D-1W	12	13	123	15	67	68
VB2403D-1W	24	12	67	3.3	303	62
VB2405D-1W	24	10	64	5	200	65
VB2409D-1W	24	9	63	9	111	66
VB2412D-1W	24	8	63	12	84	66
VB2415D-1W	24	7	62	15	67	67
VB0503D-2W	5	50	645	3.3	606	62
VB0505D-2W	5	46	579	5	400	69
VB0509D-2W	5	42	606	9	200	66
VB0512D-2W	5	38	588	12	167	68
VB0515D-2W	5	35	579	15	134	69
VB1205D-2W	12	25	256	5	400	65
VB1209D-2W	12	23	253	9	200	66
VB1212D-2W	12	21	245	12	167	68
VB1215D-2W	12	18	240	15	134	68
VB2405D-2W	24	12	128	5	400	65
VB2409D-2W	24	10	126	9	200	66
VB2412D-2W	24	9	124	12	167	67
VB2415D-2W	24	8	123	15	134	68

Outline and reference size of PCB cloth plate



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Temperature characteristic curve



Pin function description

Pin	Pin function description		
1		Vin	Input negative
2~6			Empty foot
7			NC
8			Empty foot
9	+	Vout	Output positive
10			Empty foot
11	0	0V	Zero point
12,13			Empty foot
14	+	Vin	Inplut positive

SUNYUAN DC-DC module power supply testing method⁴

The test uses standard Kelvin four terminal input and rated load (Figure).⁴

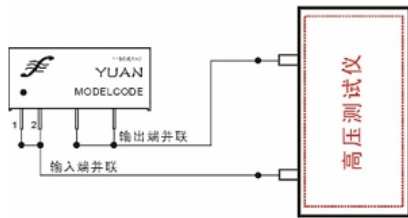
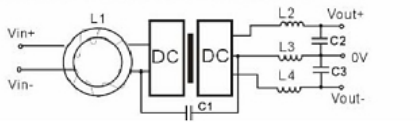
Test conditions: room temperature TA=25 degrees, humidity: < 75%. Nominal input and rated load.⁴

↵

DC-DC reference method for reducing noise common mode interference⁴

Module power will produce common mode and differential mode noise at switching frequency. The method to reduce noise and noise is to add a passive LC or RC filter network in the input and output. The self-resonant frequency of L is much higher than the switching frequency of the module. The allowable current should be more than twice the maximum input current of the block, and the internal resistance should be small to reduce the DC loss.⁴

For a fixed frequency module, the filter network parameters can be calculated. Generally, the differential mode noise is very small, just press L1 (common mode choke) outside the input to meet the requirements.⁴



Reference chart for input and output interval test⁴

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