

BXXXXXS-1WR3



Medical
electric
equipment



Power
Factor
Correction



World wide



Safety
Approvals



EMI



Inrush
current
limiting



OCP



OVP



Remote
ON/OFF

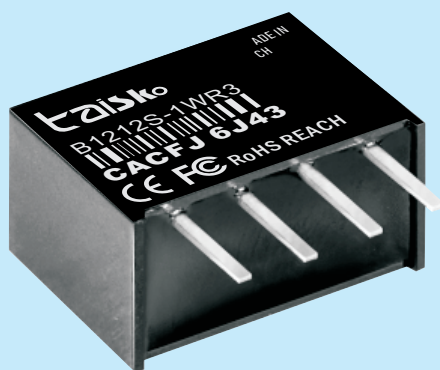


Parallel
Operation



1U

B-series



Feature

DC-DC converters
Ideal for semiconductor,
analytical, medical,
and detector applications
Accuracy, reliability and stability
are critical for high voltage DC-DC
applications. manufacturers, with
over 20 years of experience providing
accurate and reliable compact solutions.
applications – allowing us to maximize
functionality in a compact environment

Safety agency approval

ENI 55032:2015/A1:2020
EN IEC 62368-1:2020+A11:2020
IEC 62321-1:2013 IEC 62321-2:2021 IEC 62321-3-1:2013,

Up to 5-year warranty (Refer to Instruction Manual)

CE FCC marking

Low Voltage Directive
RoHS Directive

ROHS REACH marking

Electrical Equipment Safety Regulations
RoHS Regulations

EMI

- PCA300F, PCA600F
Complies with FCC-B, CISPR32-B, EN55011-B, EN55032-B, VCCI-B
- PCA1000F, PCA1500F
Complies with FCC-A, CISPR32-A, EN55011-A, EN55032-A, VCCI-A

EMS Compliance : EN61204-3, EN61000-6-2

IEC60601-1-2 (2014), EN60601-1-2 (2015)

EN61000-4-2
EN61000-4-3
EN61000-4-4
EN61000-4-5
EN61000-4-6
EN61000-4-8
EN61000-4-11

Product features:

Isolation voltage: 1000Vdc isolation

Working temperature: -45 °C -85 °C

Low power consumption, high reliability,

MTBF \geq 2 million hours

Flame retardant shell packaging meets UL94-

V0 requirements

International standard pin configuration (1 2 3

4 pins)

DC-DC module power supply/1000V

isolation

Fixed voltage input/Non regulated

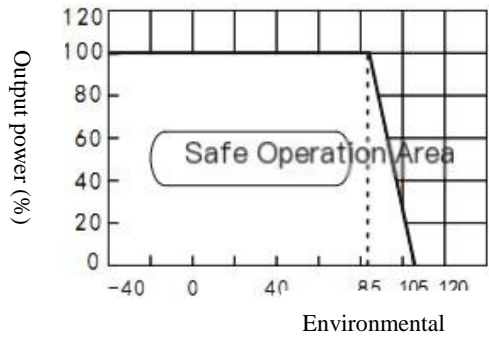
Module Selection Guide

PRODUCT MODEL	input		output			conversion efficiency
	nominal voltage	Voltage range (V)	rated voltage (V)	minimum current	Maximum current	(%)
B0503S-1WR3	5	4.5-5.5	3.3	31	303	76
B0505S-1WR3			5	20	200	81
B0509S-1WR3			9	12	111	82
B0512S-1WR3			12	9	83	82
B0515S-1WR3			15	7	67	82
B0524S-1WR3			24	5	42	80
B1203S-1WR3	12	10.8-13.2	3.3	31	303	76
B1205S-1WR3			5	20	200	79
B1209S-1WR3			9	12	111	80
B1212S-1WR3			12	9	83	82
B1215S-1WR3			15	7	67	82
B1224S-1WR3			24	5	42	80
B2403S-1WR3	24	21.6-26.4	3.3	31	303	76
B2405S-1WR3			5	20	200	78
B2409S-1WR3			9	12	111	79
B2412S-1WR3			12	9	83	80
B2415S-1WR3			15	7	67	80
B2424S-1WR3			24	5	42	80
B*****S-1WR3	** Can be customized according to actual needs **					

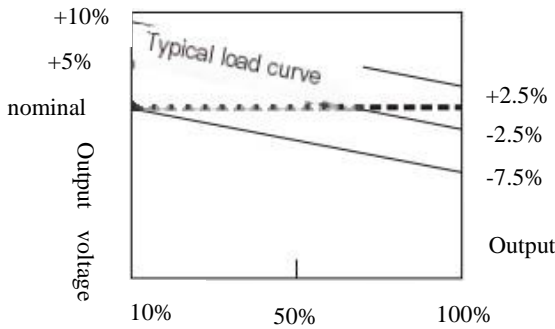
General characteristics		
switching frequency	100KHz	100% load, input nominal voltage
Output short-circuit duration		Sustainable short-circuit protection
The shell heats up during product operation	15°C(Typ.)	25°C(Max)
temperature coefficient	0.03%/°C	100% full load
Pin soldering temperature resistance	300°C	Welding time ≤ 3 seconds
Isolation voltage (input and output)	1000VDC	Test time 1 minute, leakage current less than 1mA
insulation resistance	1000MΩ	Insulation voltage 500V
operation temperature	-40~+85°C	Ambient Temperature
storage temperature	-55~+125°C	
Storage Humidity	<95%	No condensation
Cooling method	Natural air cooling	
weight	SIP series: 1.2g	standard
Input characteristics		
Voltage range		≤±10%
filtering		Ceramic capacitor
No-load power consumption		10% rated power (typical value)
output characteristic		
project	numerical value	Test conditions
Linear voltage regulation rate	±1.2(Max)	Input voltage changes by 1%
Load regulation rate	≤±10%(Typ); ±15%(Max)	10% to 100% load
Accuracy of output voltage	Refer to the error envelope curve graph	100% full load
RIPPLE AND NOISE	≤75mVp-p (Typ); 100mVp-p (Max)	20MHz bandwidth
Unless otherwise specified, all other parameter testing conditions are: nominal input voltage, pure resistive load, and 25 °C room temperature environment		

Typical characteristic curve

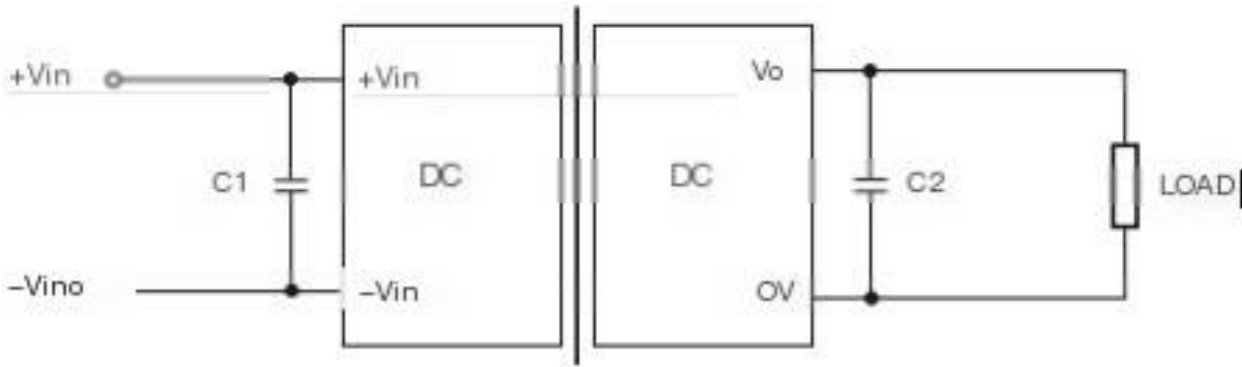
temperature profile



Error envelope curve graph



Recommended Basic Application Circuits:



(VDC)	(uF)	(VDC)	(uF)
3.3 or 5	4.7	3.3 or 5	10
12	2.2	9	4.7
15 or 24	1	12	2.2
		15/24	1/0.47

precautions

1. Output load requirements: Try to avoid using the module without load as much as possible. When the actual power consumption of the load is less than 10% of the module's rated output power or there is a no-load phenomenon, it is recommended to use it at the output end

External false load or selection of modules with lower rated power, the false load (resistance) can be calculated at 5-10% of the module's rated power,

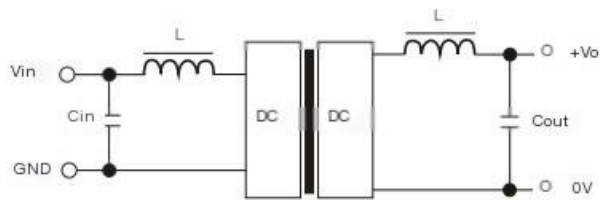
Resistance value= $U_2 / (10\% \times 1WR3)$;

2. Overload protection: Under normal working conditions, the output circuit of this product has no protection function against overload situations. The simplest method is to connect a self recovery fuse in series at the input end, or add a circuit breaker outside the circuit;

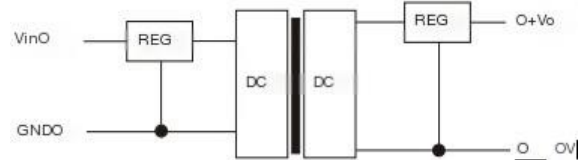
3. The capacitance value of the external capacitor connected to the output terminal should not be too large, otherwise it may cause overcurrent or poor startup during module startup. The specific selection should be based on the capacitive load value table

4. For situations with high requirements for ripple noise, an external LC filter should be connected, as shown in Figure 1. It is recommended that Cout use ceramic capacitors or high-frequency low impedance electrolytic capacitors, as using tantalum capacitors may cause module damage.

5. The simplest device for output voltage stabilization, overvoltage, and overcurrent protection is to connect a linear regulator with overheat protection in series at its input or output terminals, as shown in Figure 2:

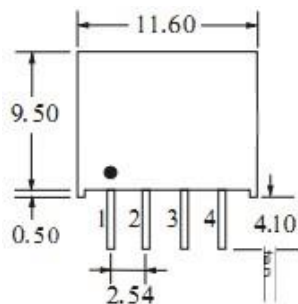


(Figure 1)

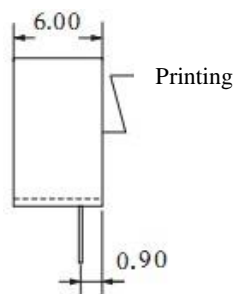


(Figure 2)

Appearance size and pin definition

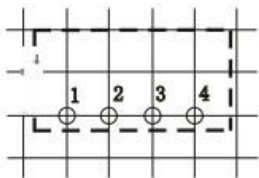


front view

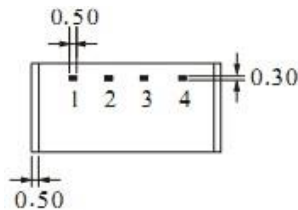


side view

Suggested printed



Top view, grid spacing 2.54mm



bottom view

(Unit: mm Tolerance: ± 0.25)

B****S-1WR3				
Pin	1	2	3	4
definition	-Vin	+Vin	0V	+Vo
describe	Input negative	Enter positive	Output location	output