

## KEY FEATURES

- Input under Voltage Protection
- Over Current Protection (Hiccup Mode)
- Short Circuit Protection (Hiccup Mode)
- Over Voltage Protection (Hiccup Mode)
- Over Temperature Protection (Self-recovery)
- Remote ON/OFF Control
- Remote Sense
- Output Voltage Trim \*
- UL60950-1 and CSA C22.2 No. 60950-1-07
- Meet UL94V-0 Flammability Requirements
- Rohs6 Compliant
- Size: 2.28 x 1.45 x 0.39 Inches
- 3-Years Product Warranty

\*BR120-12S without this function

## DESCRIPTION

The BR120 series is a new generation isolated DC-DC converter that uses an industry standard quarter-brick structure, and features high efficiency and power density, operates from an input voltage range of 36 V to 75 V, provides the rated output voltage of 5V / 12V and the maximum output current of 20A / 10A.

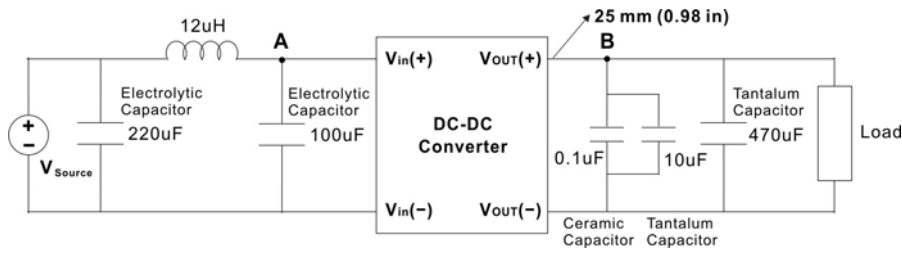


## ELECTRICAL SPECIFICATIONS

Conditions: TA = 25°C (77°F), Airflow = 1 m/s (200 LFM), Vin = 48 V, unless otherwise notes.

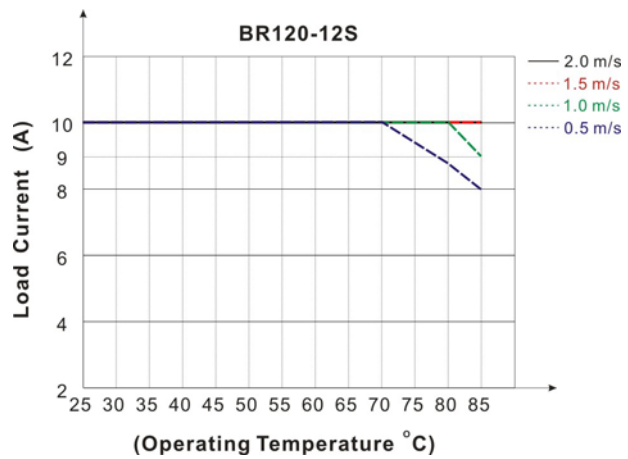
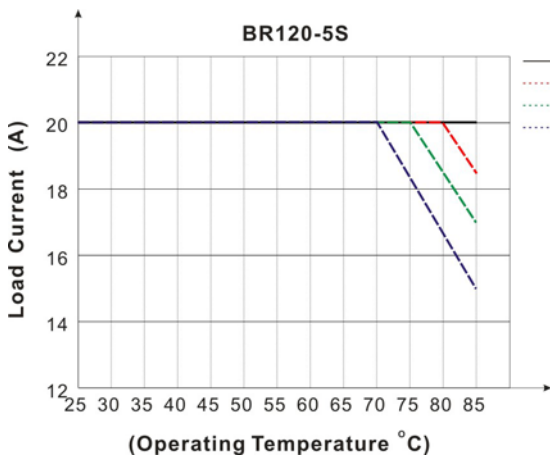
Model No.	BR120-5S		BR120-12S		
Max Output Wattage (W)	100W		120W		
Input	Voltage (V.DC.)	48V (36~75V)			
	Current (A) (max)	3.4A	4.0A		
	No-Load Loss (W) (typ.)	2.88W	3W		
Output	Voltage (V.DC.)	5V			
	Regulated Voltage Precision (max.)	±3%			
	Current (A) (max.)	20A	10A		
	Line Regulation (LL-HL) (typ.)	±0.2%			
	Load Regulation (0-100%) (typ.)	±0.3%			
	Ripple & Noise (peak to peak) (typ.) (Oscilloscope Bandwidth:20 MHz)	120 mV		200 mV	
	Efficiency (typ.) (Vin = 48 V; TA=25°C (77°F))	100% Load	87%	93.5%	
		50% Load	85%	92.5%	
20% Load		78%	87.5%		
Protection	Over Power Protection	Hiccup mode			
	Over Current Protection	Hiccup mode			
	Over Voltage Protection	105~115V (Hiccup mode)	6.0~7.5V (Hiccup mode)		
	Short Circuit Protection (max.)	Hiccup mode			
	Over Temperature Protection	Threshold:100~135°C (typ.) / Hysteresis:5°C (min.) Self-recovery <small>(The values are obtained by measuring the temperature of the hottest power component on the top surface of the converter.)</small>			
Isolation	Voltage (V.DC.)	1500 VDC (Functional Isolation)			
Environment	Operating Temperature	-40°C...+85°C			
	Storage Temperature	-55°C...+125°C			
	Temperature Coefficient (max.)	0.02 % Vout / °C (TA = -40°C to +85°C (-40°F to +185°F))			
	Humidity	95% RH			
	MTBF	1.5 Million Hours (Telcordia SR332; 80% load; Airflow = 1.5m/s (300 LFM); TA = 40°C (104°F))			
Safety	Agency Approvals	CE, UL, TUV			
EMC	EMI (Conducted & Radiated Emission)	UL60950-1 and CSA C22.2 No. 60950-1-07			
Physical	Dimension (L x W x H)	2.28 x 1.45 x 0.39 Inches ( 57.9 x 36.8 x 10.0 mm ) Tolerance ±0.5 mm			
	Weight	39 g			
Other	Remote On/Off Voltage	Low level (V.DC.)	-0.7~1.2V		
		High level (V.DC.)	3.5~12V		
	On/Off Current	Low level (mA) (max.)	1mA		

**NOTE**



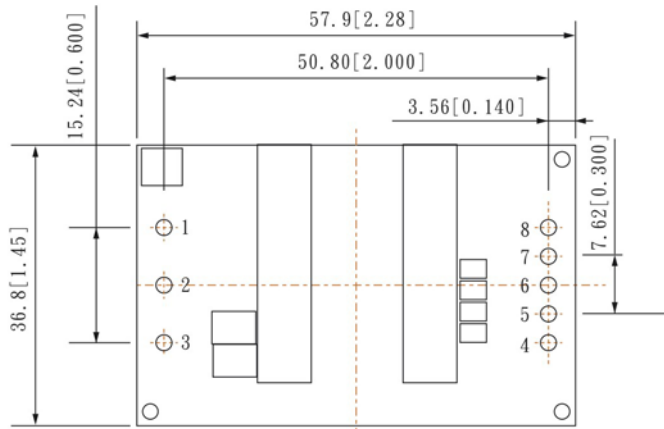
1. During the test of input reflected ripple current, the input terminal must be connected to a 12uH inductor and a 220uF electrolytic capacitor.
2. Point B, which is for testing the output voltage ripple, is 25 mm (0.98 in.) away from the Vout(+) pin.

**DERATING**

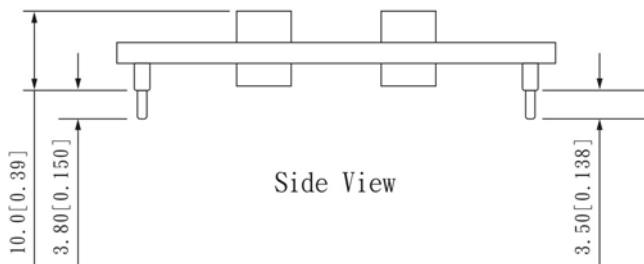


## MECHANICAL DIMENSION

Unit: mm [in.]



Top View  
(Facedown pins)



Side View

PIN#	5S	12S
1	+DC IN	+DC IN
2	ON / OFF CTL	ON / OFF CTL
3	-DC IN	-DC IN
4	-DC OUT	-DC OUT
5	-Sense	-Sense
6	TRIM	NC
7	+Sense	+Sense
8	+DC OUT	+DC OUT

### Note

- All dimensions in mm [in.] Tolerances:  $x.x \pm 0.5$  mm [ $x.xx \pm 0.02$  in.]  $x.xx \pm 0.25$  mm [ $x.xxx \pm 0.010$  in.]
- Pin 1-3, 5-7 are  $1.00 \pm 0.05$  mm [ $0.040 \pm 0.002$  in.] diameter with  $2.00 \pm 0.10$  mm [ $0.080 \pm 0.004$  in.] diameter standoff shoulders.  
Pin4 and pin8 are  $1.50 \pm 0.05$  mm [ $0.060 \pm 0.002$  in.] diameter with  $2.50 \pm 0.10$  mm [ $0.098 \pm 0.004$  in.] diameter standoff shoulders.