BR120 SERIES 100/ 120 Watts

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

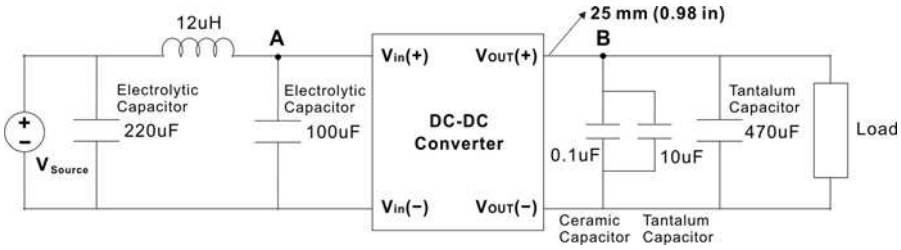
The BR120 series is a new generation isolated DC-DC converter that uses an industry standard quarter-brick structure, and features high efficiency and power density, operates from an input voltage range of 36 V to 75 V, provides the rated output voltage of 5V / 12V and the maximum output current of 20A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

ELECTRICAL SPECIFICATIONS

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

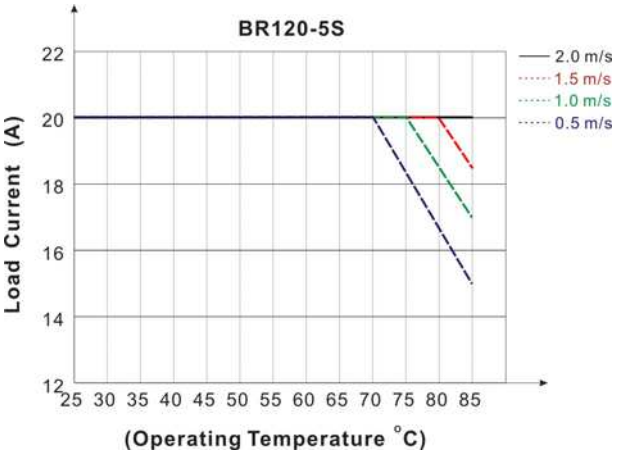
Model No.			BR120-5S	BR120-12S
Max Output Wattage (W)			100W	120W
Input	Voltage (V.DC.)		48V (36~75V)	
	Current (A) (max)		3.4A	4.0A
	No-Load Loss (W) (typ.)		2.88W	3W
Output	Voltage (V.DC.)		5V	12V
	Regulated Voltage Precision (max.)		±3%	
	Current (A) (max.)		20A	10A
	Line Regulation (LL-HL) (typ.)		±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℃ (77℉))	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℃ (typ.) / Hysteresis:5℃ (min.) Self-recovery (The values are obtained by measuring the temperature of the hottest power component on the top surface of the converter.)	
Isolation	Voltage (V.DC.)		1500 VDC (Functional Isolation)	
Environment	Operating Temperature		-40℃…+85℃	
	Storage Temperature		-55℃…+125℃	
	Temperature Coefficient (max.)		0.02 % Vout / ℃ (TA = -40℃ to +85℃ (-40℉ to +185℉))	
	Humidity		95% RH	
	MTBF		1.5 Million Hours (Telcordia SR332; 80% load; Airflow = 1.5m/s (300 LFM); TA = 40℃ (104℉)	
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	

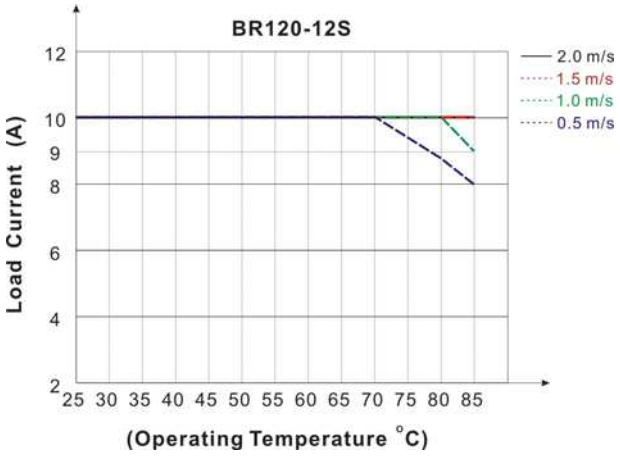
NOTE



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.

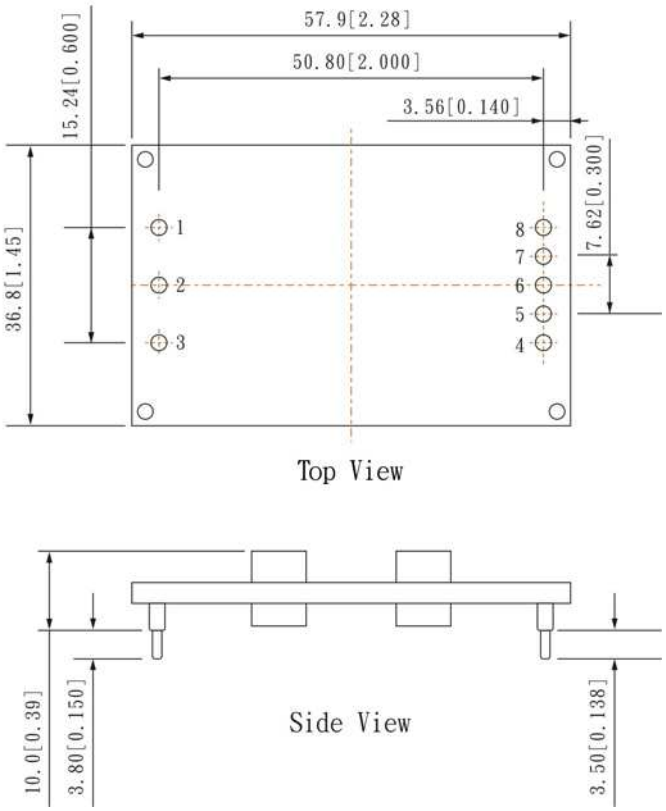
DERATING





MECHANICAL DIMENSION

Unit: mm [in.]



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

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