

**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: 1.3 x 0.9 x 0.5 Inches
- 3-Years Product Warranty

\*BR100-12S without this function

**DESCRIPTION**

The BR100 series DC-DC converter are high-efficiency and power density standard 1/16 brick isolated models, the output power from 42W to 90W, the output voltage covering 1.2V, 3.3V and 12V three levels. All models support primary ON/OFF control, the 1.2V and 3.3V output models have the functions of remote Sense and Trim. This series which conform to the RoHS6 requirement can be used in the fields of communication, data transmission and distributed power supply system.

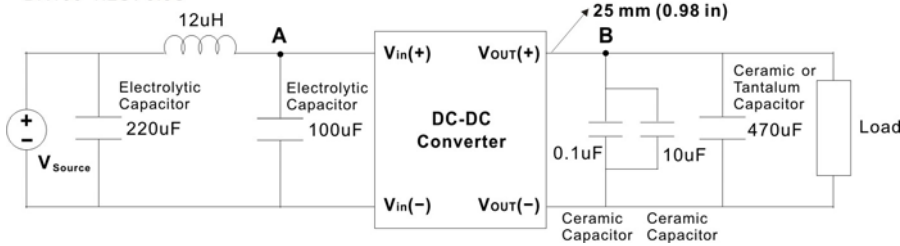

**ELECTRICAL SPECIFICATIONS**


Conditions: TA = 25°C (77°F), Airflow = 1.5 m/s (300 LFM), Vin = 48 V, unless otherwise notes.

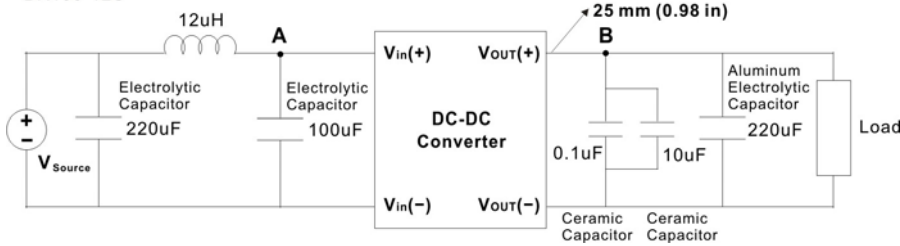
Model No.	BR100-1.2S		BR100-3.3S	BR100-12S	
Max Output Wattage (W)	42W		82.5W	90W	
Input	Voltage (V.DC.)	48V (36~75V)			
	Current (A) (max)	2A	3.5A	3.5A	
	No-Load Loss (W) (typ.)	1.9W	2W	2.1W	
Output	Voltage (V.DC.)	1.2V	3.3V	12V	
	Regulated Voltage Precision (max.)	±3%			
	Current (A) (max.)	35A	25A	7.5A	
	Line Regulation (LL-HL) (typ.)	±0.2%			
	Load Regulation (0-100%) (typ.)	±0.2%	±0.2%	±0.3%	
	Ripple & Noise (peak to peak) (typ.) (Oscilloscope Bandwidth:20 MHz)	100 mV	200 mV	200 mV	
	Efficiency (typ.) (Vin = 48 V; TA=25°C (77°F))	100% Load	85.5%	91%	93%
		50% Load	88.5%	92%	93%
20% Load		84.5%	89.5%	88.5%	
Protection	Over Power Protection	Hiccup mode			
	Over Current Protection	Hiccup mode			
	Over Voltage Protection	13.8~16.2V (Hiccup mode)			
	Short Circuit Protection (max.)	Hiccup mode			
	Over Temperature Protection	Threshold: 105~130°C / Hysteresis:5°C (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 (Basic 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)	1.3 x 0.9 x 0.5 Inches ( 33.0 x 22.9 x 12.7 mm ) Tolerance ±0.5 mm			
	Weight	37 g	33 g	30 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**

BR100-1.2S / 3.3S

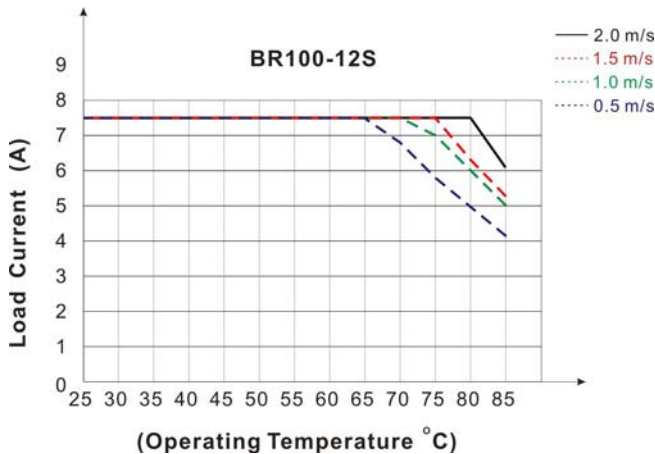
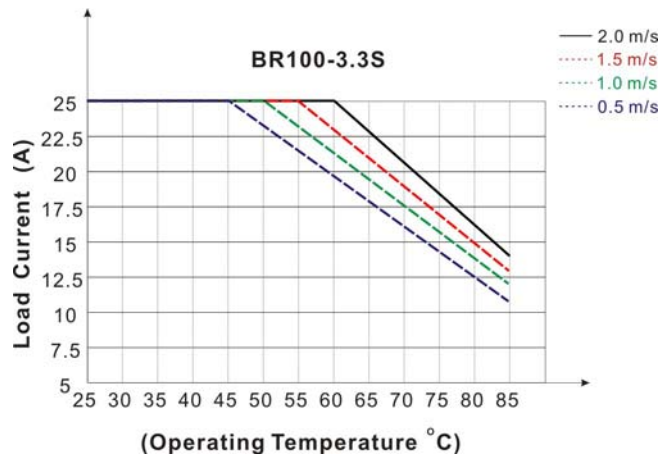
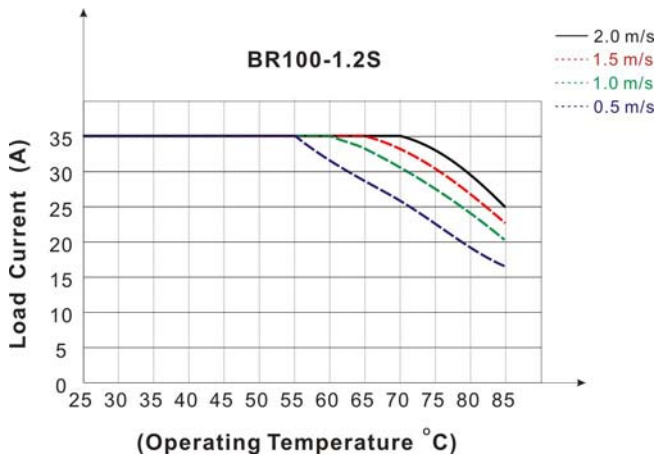


BR100-12S



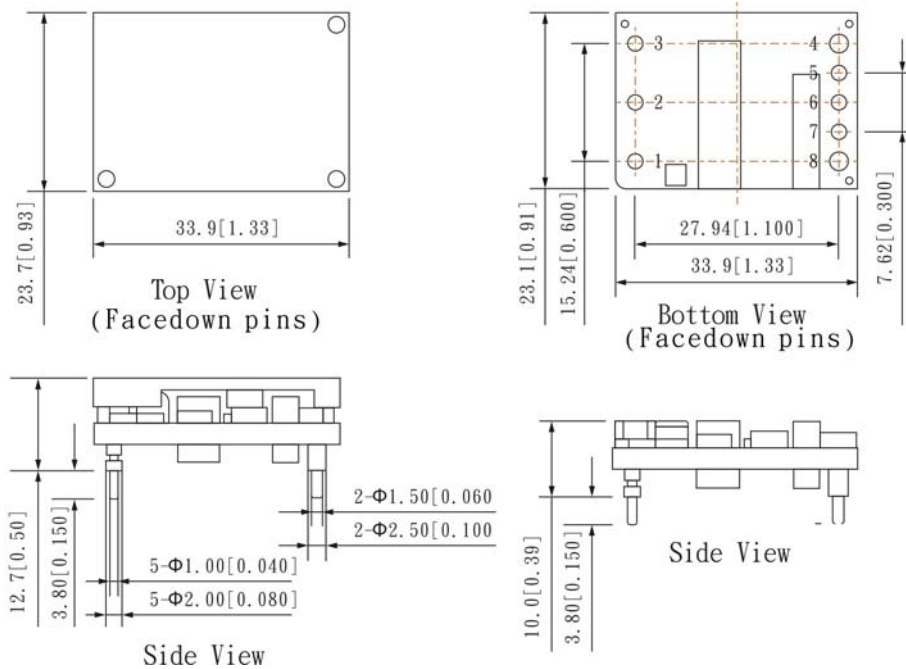
1. During the test of input reflected ripple current, the input terminal must be connected to a 12 uH inductor and a 220 uF electrolytic capacitor.
2. Point B, which is for testing the output voltage ripple, is 25 mm (0.98 in.) away from the Vout(+) pin.

**DERATING**



**MECHANICAL DIMENSION**

Unit: mm [in.]



PIN#	1.2S	12S
	3.3S	
1	+DC IN	+DC IN
2	ON / OFF CTL	NC
3	-DC IN	ON / OFF CTL
4	-DC OUT	-DC IN
5	-Sense	NC
6	Trim	-DC OUT
7	+Sense	NC
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.
- M3 Screw used to bolt unit's baseplate to other surfaces (such as heatsink) must not exceed 3.00 mm (0.120 in.) depth below the surface of baseplate