

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.

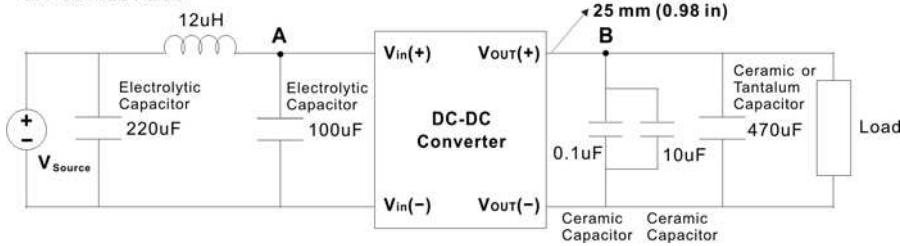

ELECTRICAL SPECIFICATIONS

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

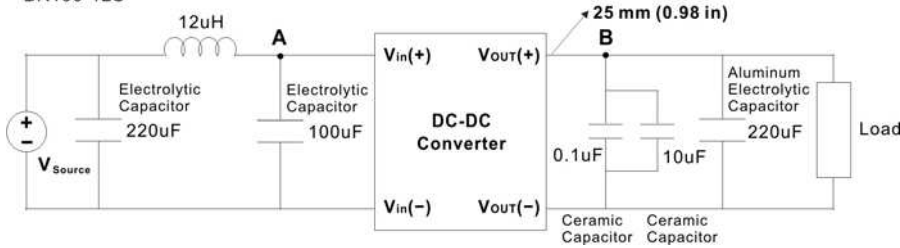
Model No.	BR100-1.2S	BR100-3.3S	BR100-12S
Max Output Wattage (W)	42W	82.5W	90W
Input	Voltage (V.DC.)		
	48V (36~75V)		
	Current (A) (max)		
Output	2A		
	3.5A		
	3.5A		
	No-Load Loss (W) (typ.)		
	1.9W		
	2W		
	2.1W		
	Voltage (V.DC.)		
	1.2V		
	3.3V		
12V			
Protection	Regulated Voltage Precision (max.)		
	±3%		
	Current (A) (max.)		
	35A		
	25A		
	7.5A		
	Line Regulation (LL-HL) (typ.)		
	±0.2%		
Environment	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			
Safety	Efficiency (typ.)		
	(Vin = 48 V; TA=25°C (77°F))		
	100% Load	85.5%	91%
	50% Load	88.5%	92%
EMC	20% Load	84.5%	89.5%
	88.5%		
	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)			
Physical	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, TÜV			
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
	Remote On/Off Current	Low level (mA) (max.)	1mA

NOTE

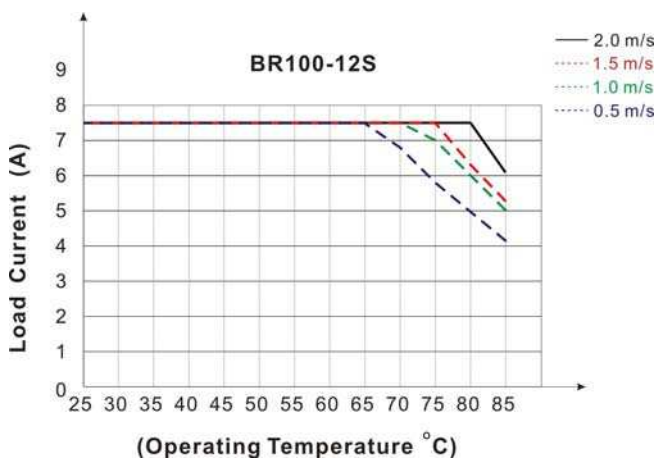
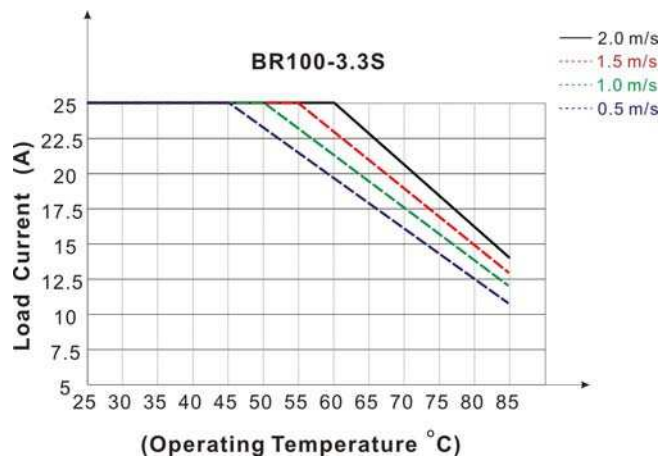
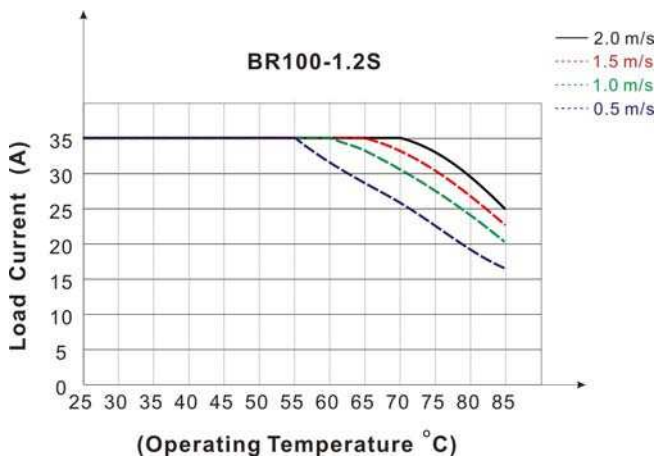
BR100-1.2S / 3.3S



BR100-12S

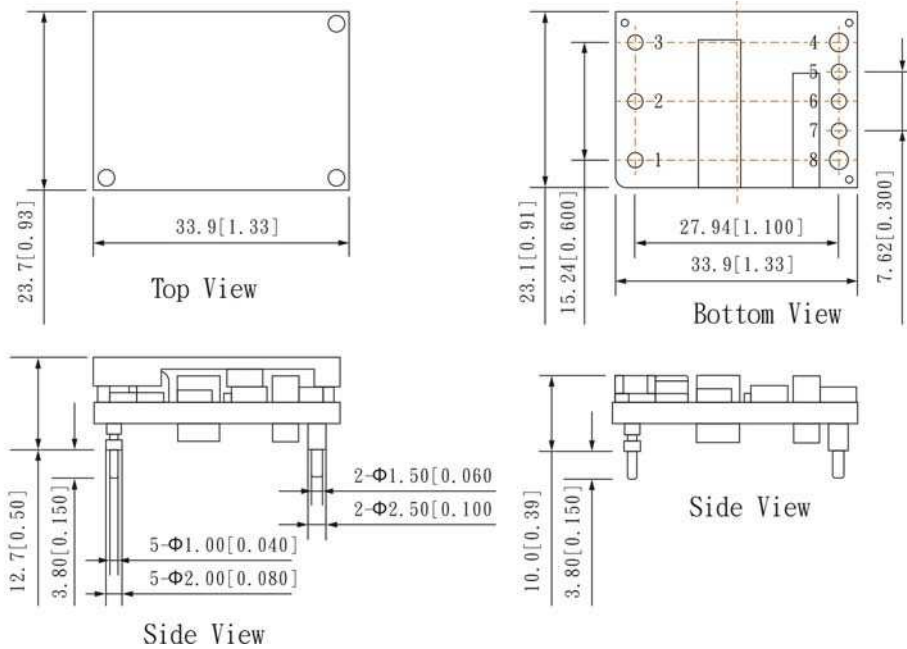


1. During the test of input reflected ripple current, the input terminal must be connected to a 12 uH inductor and a 220 uF electrolytic capacitor.
2. Point B, which is for testing the output voltage ripple, is 25 mm (0.98 in.) away from the Vout(+) pin.

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 ± 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.
- 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