BRH100 SERIES 72/ 80/ 96 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 0.38 Inches (BRH100-24S)
- Size: 2.28 x 1.45 x 0.5 Inches (BRH100-96S/53.5S))
- 3-Years Product Warranty

*BRH100-96S and BRH100-24S without this function

DESCRIPTION

The BRH100 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 96V / 53.5V / 24V and the maximum output current of 1A / 1.5A / 3A.

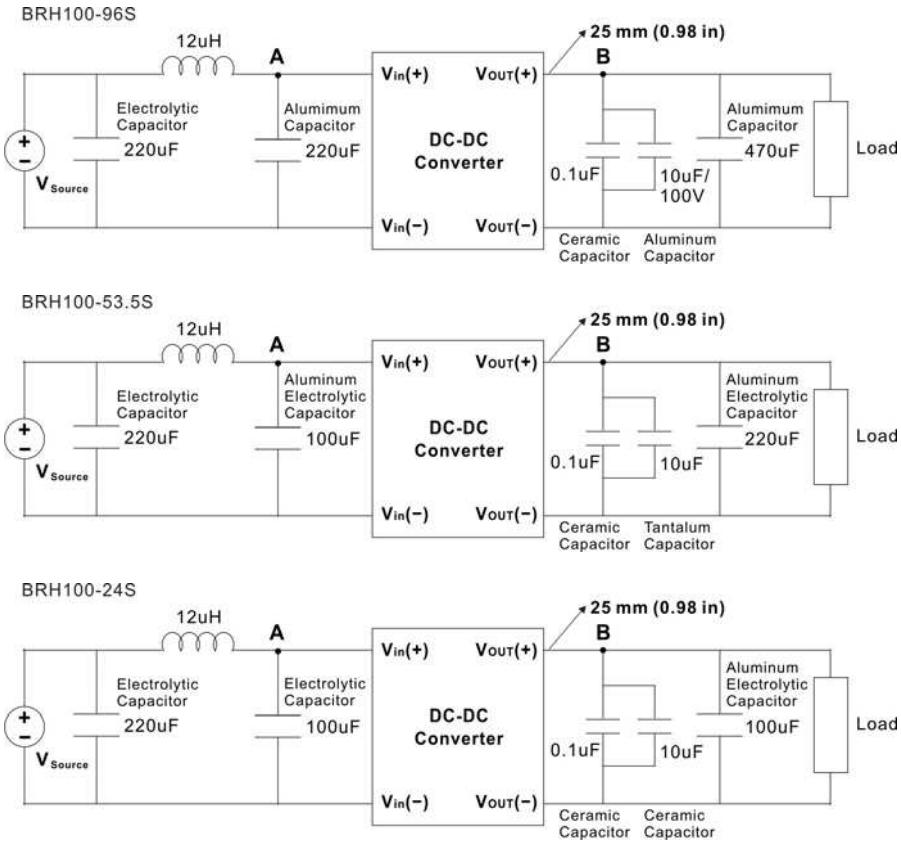
BRH100-96S	BRH100-53.5S	BRH100-24S
		

ELECTRICAL SPECIFICATIONS

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

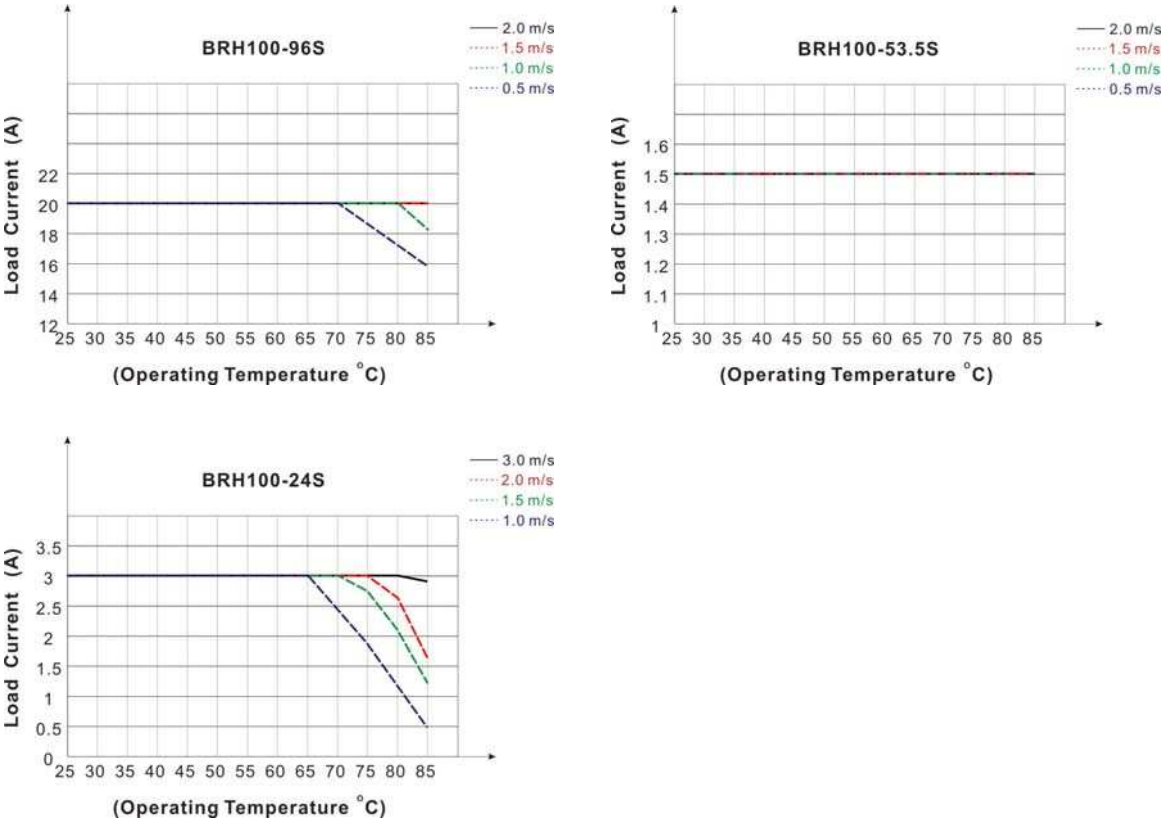
Model No.			BRH100-24S	BRH100-53.5S	BRH100-96S
Max Output Wattage (W)			72W	80W	96W
Input	Voltage (V.DC.)		48V (36~75V)		
	Current (A) (max)		2.4A	3.5A	4.0A
	No-Load Loss (W) (typ.)		4W	1.25W	2.5W
Output	Voltage (V.DC.)		24V	53.5V	96V
	Regulated Voltage Precision (max.)		±3%	±1.5%	±3%
	Current (A) (max.)		3A	1.5A	1A
	Line Regulation (LL-HL) (typ.)		±3%	±0.5	±1%
	Load Regulation (0-100%) (typ.)		±3%	±1.5%	±1%
	Ripple & Noise (peak to peak) (typ.) (Oscilloscope Bandwidth:20 MHz)		300 mV	200 mV	2000 mV
	Efficiency (typ.) (Vin = 48 V; TA=25℃ (77℉))	100% Load	92.5%	92.5%	87%
		50% Load	89%	91%	85%
		20% Load	80%	86.5%	78%
Protection	Over Power Protection		Hiccup mode		
	Over Current Protection		Hiccup mode		
	Over Voltage Protection		26.4~33.6V (Hiccup mode)	59~66V (Hiccup mode)	105~115V (Hiccup mode)
	Short Circuit Protection (max.)		Hiccup mode		
	Over Temperature Protection		Threshold:100~130℃ (typ.) / Hysteresis:5℃ (min.) Self-recovery BRH100-96S: The values are obtained by measuring the temperature of the PCB near the thermal resistor. others: 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 (BRH100-96S: Basic Isolation / others: 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) Tolerance ±0.5 mm		BRH100-24S: 2.28 x 1.45 x 0.38 Inches (57.9 x 36.8 x 9.7 mm) others: 2.28 x 1.45 x 0.5 Inches (57.9 x 36.8 x 12.7 mm)		
	Weight		33 g	50 g	38 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.

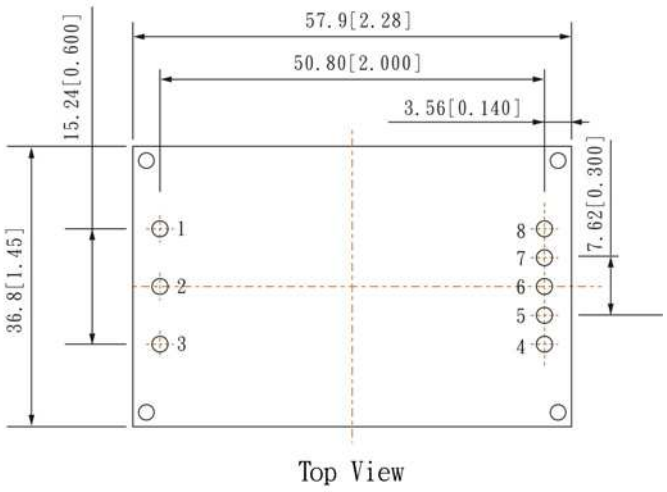
DERATING



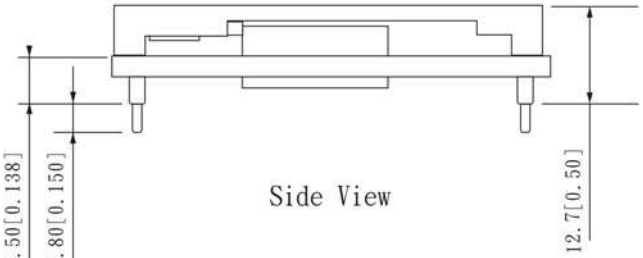
MECHANICAL DIMENSION

BRH100-96S / BRH100-53.5S

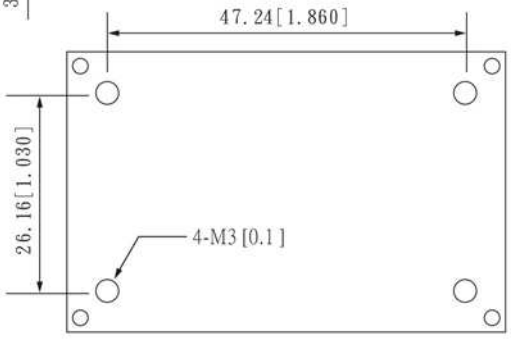
Unit: mm [in.]



Top View



Side View



BRH100-53.5S Bottom View

PIN#	54S	53.5S
1	-DC IN	-DC IN
2	ON / OFF CTL	ON / OFF CTL
3	+DC IN	+DC IN
4	+DC OUT	+DC OUT
5	+DC OUT	+Sense
6	TRIM	TRIM
7	-DC OUT	-Sense
8	-DC OUT	-DC OUT

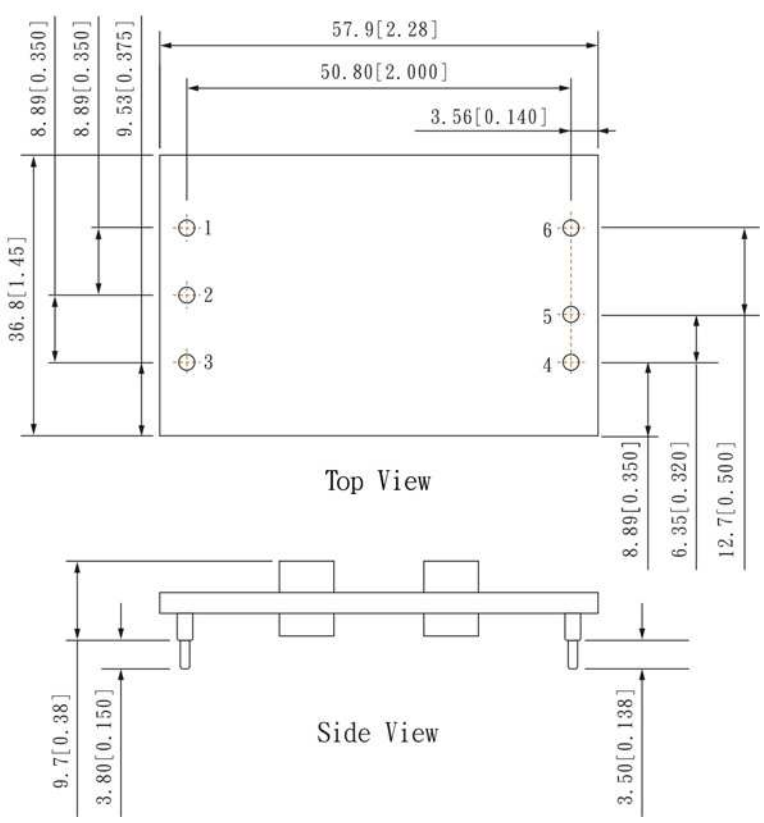
Note

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.
3. 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.

MECHANICAL DIMENSION

BRH100-24S

Unit: mm [in.]



PIN#	24S
1	-DC IN
2	ON / OFF CTL
3	+DC IN
4	+DC OUT
5	TRIM
6	-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 1-6 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