

BR130 SERIES

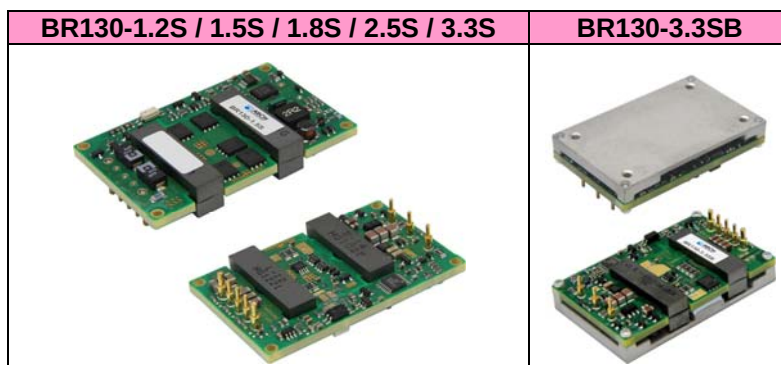
36/60/72/100/132 Watts

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 (others Model)
2.28 x 1.45 x 0.39 Inches (BR130-3.3S)
2.28 x 1.45 x 0.5 Inches (BR130-3.3SB)
- 3-Years Product Warranty

DESCRIPTION

The BR130 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 1.2V / 1.5V / 1.8V / 2.5V / 3.3V and the maximum output current of 30A / 40A.



ELECTRICAL SPECIFICATIONS

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



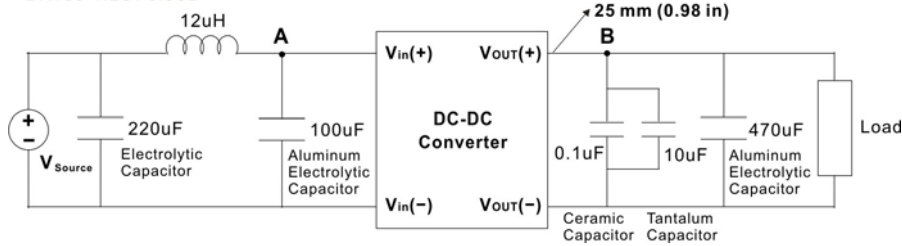
Model No.			BR130-1.2S	BR130-1.5S	BR130-1.8S	BR130-2.5S	BR130-3.3S	BR130-3.3SB
Max Output Wattage (W)			36W	60W	72W	100W	132W	
Input	Voltage (V.DC.)	48V (36~75V)						
	Current (A) (max)	1.3A 2A 2.4A 3.5A 4.5A						
	No-Load Loss (W) (typ.)	1W 2W 2W 3.5W 3.6W						
Output	Voltage (V.DC.)	1.2V 1.5V 1.8V 2.5V 3.3V						
	Regulated Voltage Precision (max.)	±3%						
	Current (A) (max.)	30A 40A						
	Line Regulation (LL-HL) (typ.)	±0.2% ±0.2% ±1% ±0.2% ±0.2%						
	Load Regulation (0-100%) (typ.)	±0.2% ±0.3% ±1% ±0.3% ±0.3%						
	Ripple & Noise (peak to peak) (typ.) (Oscilloscope Bandwidth:20 MHz)	100 mV 100 mV 100 mV 100 mV 120 mV						
	Efficiency (typ.) (Vin = 48 V; TA=25°C (77°F))	100% Load	89.5%	90.5%	91.5%	92%	93.5%	93.5%
		50% Load	89.5%	91.5%	92%	92%	93.5%	93.5%
		20% Load	—	87%	87%	86.5%	87.5%	—
Protection	Over Power Protection	Hiccup mode						
	Over Current Protection	Hiccup mode						
	Over Voltage Protection	1.4~2.0V 1.8~2.5V 2.2~3.0V 3.0~3.8V 3.9~4.7V (Hiccup mode) (Hiccup mode) (Hiccup mode) (Hiccup mode) (Hiccup mode)						
	Short Circuit Protection (max.)	Hiccup mode						
	Over Temperature Protection	Threshold:115~135°C (typ.) / 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 (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	2.5 Million Hr 1.5 Million Hr 1.5 Million Hr 1.5 Million Hr 1.5 Million Hr 2.5 Million Hr (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)	BR130-3.3SB: 2.28 x 1.45 x 0.5 Inches (57.9 x 36.8 x 12.7 mm) BR130-3.3S: 2.28 x 1.45 x 0.39 Inches (57.9 x 36.8 x 9.8 mm) others: 2.28 x 1.45 x 0.38 Inches (57.9 x 36.8 x 9.7 mm)						
	Tolerance ±0.5 mm							
	Weight	38 g	38 g	38 g	38 g	40 g	58 g	
Other	Remote On/Off Voltage	Low level (V.DC.)	-0.7~1.2V					
	On/Off Current	High level (V.DC.)	3.5~12V					
	On/Off Current	Low level (mA) (max.)	1mA					

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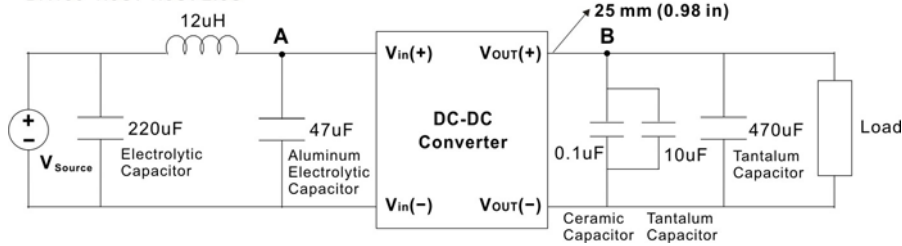
36/60/72/100/132 Watts

NOTE

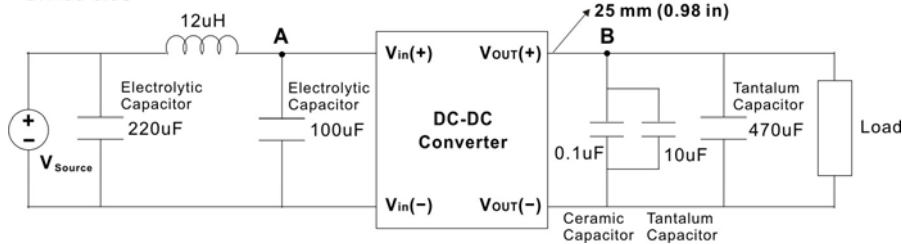
BR130-1.2S / 3.3SB



BR130-1.5S / 1.8S / 2.5S



BR130-3.3S

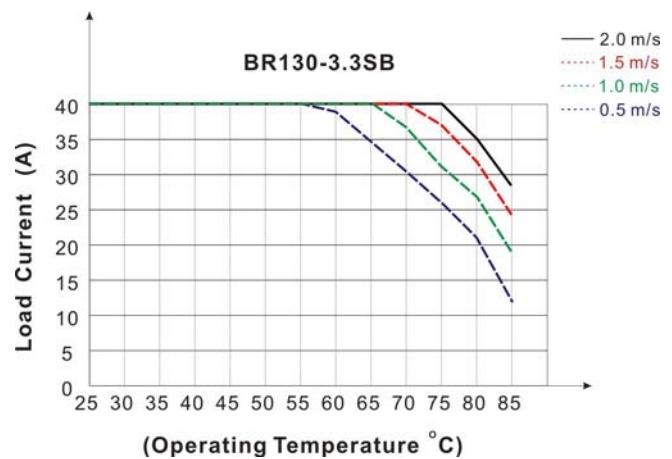
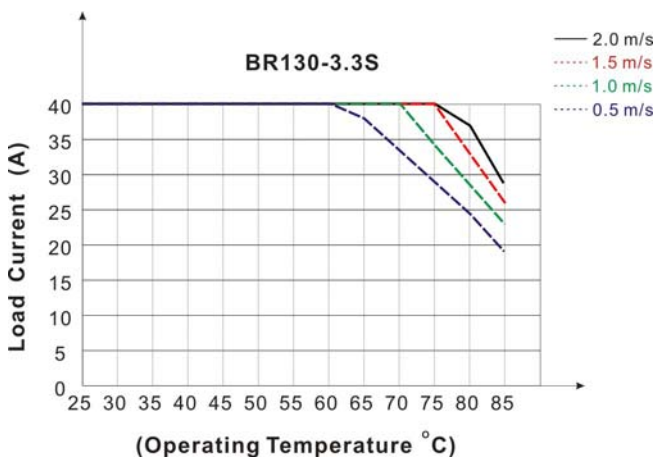
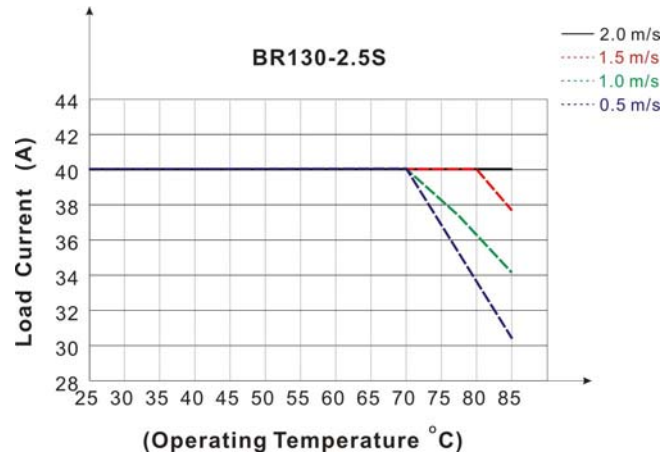
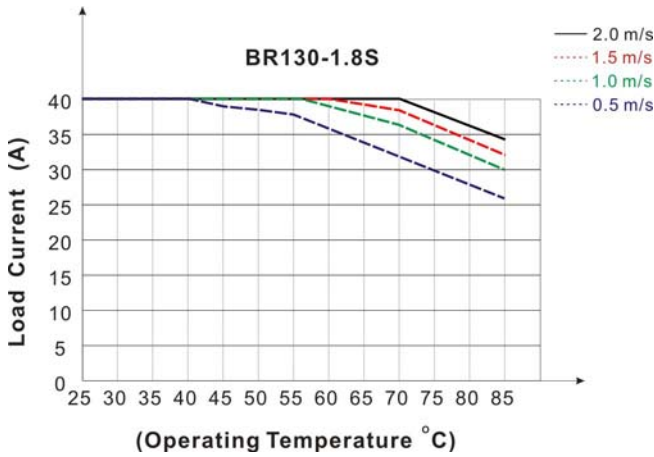
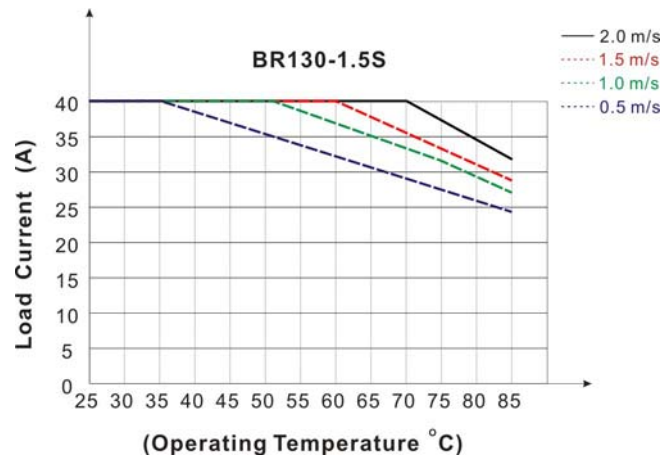
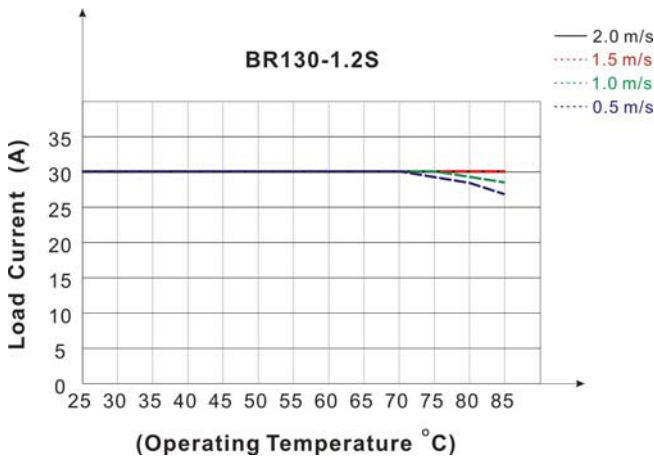


1. During the test of input reflected ripple current, the input terminal must be connected to a 12uH inductor and a 220uF electrolytic capacitor.
2. Point B, which is for testing the output voltage ripple, is 25 mm (0.98 in.) away from the $V_{out}(+)$ pin.

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DERATING



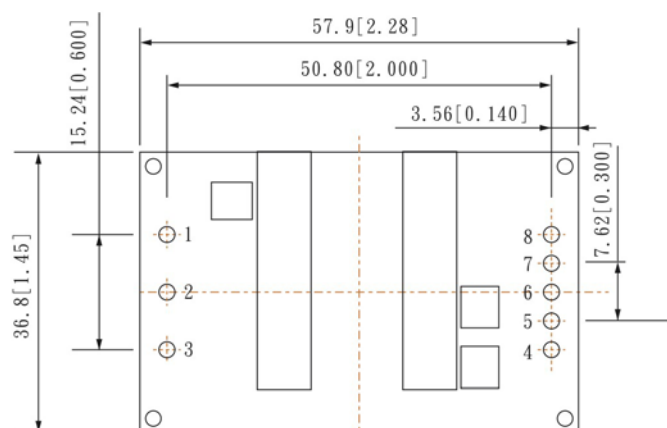
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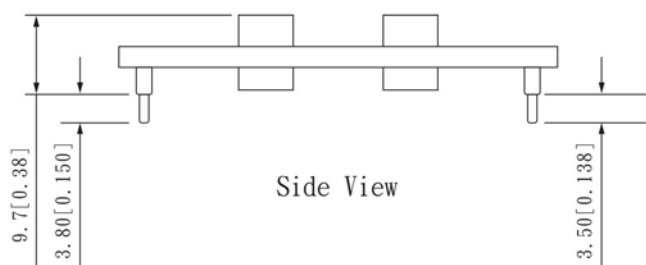
MECHANICAL DIMENSION

BR130-1.2S / BR130-1.5S / BR130-1.8S / BR130-2.5S / BR130-3.3S

Unit: mm [in.]



Top View
(Facedown pins)



Side View

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

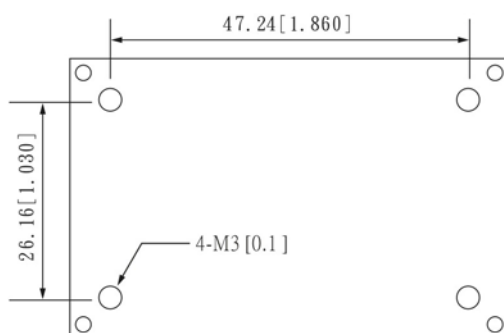
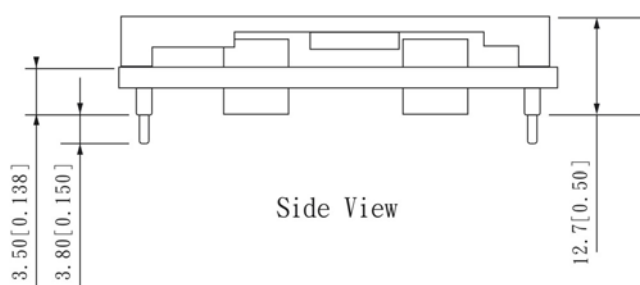
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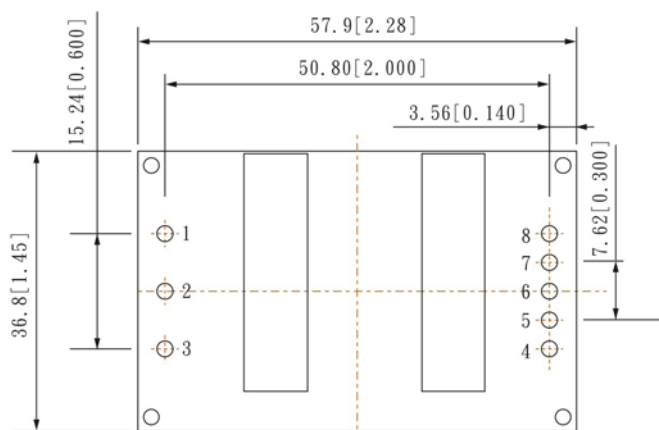
MECHANICAL DIMENSION

BR130-3.3SB

Unit: mm [in.]


Top View
(Facedown pins)


Side View


Bottom View
(Facedown pins)

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

Note

1. 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.]
2. 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.
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.