

BTCPower™ Broadband TelCom Power, Inc.

Redefining "Current" Limits In Power Conversion

HB 48 Series

Description

The HB series of low cost DC/DC converters offer the different current levels and are comparable to existing quarter-bricks. With a wide input voltage range of 36-75V they are available with an output voltage of either 3.3, 5.0, 12, 15 or 24Volts. All models feature an input filter, output overvoltage and overtemperature protection, output current limiting and short circuit protection. The unique frame construction with aluminum heat spreader design achieves efficient heat transfer with no hot spots. The use of patented Flat Matrix Transformer technology and other patent-pending design concepts facilitate maximum power delivered. The converters combine creative design concepts with highly derated power devices to achieve very high reliability, high performance and offer a low cost solution to systems designers that are challenged to maximize power and minimize board space.

Features

- Delivers up to 30A in Half Brick
- High efficiency patented topology
- Low profile of only 0.50 inch
- 3.3V, 5.0V, 12V, 15V or 24V output modules
- 100V/100ms Input transient capability
- -40°C to +85 °C ambient operation
- Meets Basic Insulation requirements of EN60950
- UL 1950 recognized, CAN / CSA C22.2 No. 950-95 Certified, and TUV EN60950 (pending)
- Meets conducted limits of FCC Class B and CEI IEC61204-3 Class B with external filter

Applications

- Telecommunications
- Data Communications
- Wireless Communications
- Networking Gear
- Servers, Switches and Data Storage
- Semiconductor Test Equipment
- Distributed Power Architecture

Up to 30A Low Cost Half Bricks



Specification Summary

- 10A-30A @ 3.3V, 10A-30A @ 2.5V, 4.16A-12.5A @ 12V, 3.33A-10A @ 15V 2.08A-6.25A @ 24V
- Tight output regulation, typical $\pm 1\%$
- No minimum load required
- Ripple & Noise (20Mhz BW) 100 mV (pk-pk)
- Wide input operating range 36-75V
- On/Off pin and remote sense
- Output adjustment $\pm 10\%$ range
- 1500V, 10M input-to-output isolation
- Frame construction with heat spreader for low temperature rise
- Output overcurrent and overvoltage protection
- Over Temperature protection
- Input Under voltage protection
- MTBF of 1,600,000 hours @ 50°C (Bellcore)

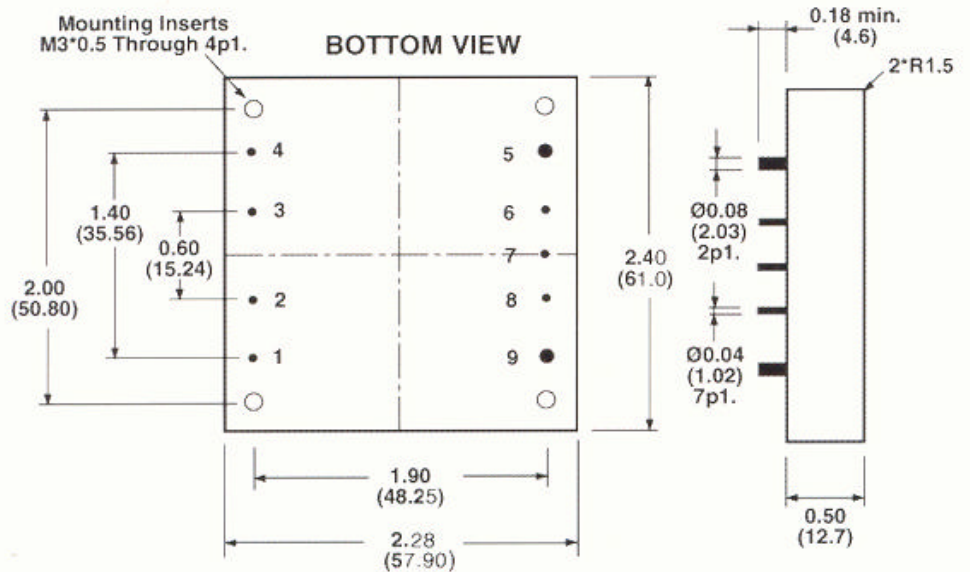
Part Number and Selection Information

Model		Input				Output		Efficiency
Part Number		Voltage (Volts)		Current (A)		Voltage	Current	75% Load
Positive Logic	Negative Logic	Nominal	Range	No load	Full load	(Volts)	(Amps)	(%)
HB50-48-33	HB50-48-33N	48	36-75	0.1	0.87	3.3	10	79
HB50-48-05	HB50-48-05N	48	36-75	0.1	1.25	5.0	10	83
HB50-48-12	HB50-48-12N	48	36-75	0.1	1.22	12	4.16	85
HB50-48-15	HB50-48-15N	48	36-75	0.1	1.22	15	3.33	85
HB50-48-24	HB50-48-24N	48	36-75	0.1	1.24	24	2.08	84
HB75-48-33	HB75-48-33N	48	36-75	0.1	1.24	3.3	15	79
HB75-48-05	HB75-48-05N	48	36-75	0.1	1.88	5.0	15	83
HB75-48-12	HB75-48-12N	48	36-75	0.1	1.84	12	6.25	85
HB75-48-15	HB75-48-15N	48	36-75	0.1	1.84	15	5.0	85
HB75-48-24	HB75-48-24N	48	36-75	0.1	1.72	24	3.13	86
HB100-48-33	HB100-48-33N	48	36-75	0.1	1.72	3.3	20	80
HB100-48-05	HB100-48-05N	48	36-75	0.1	2.48	5.0	20	84
HB100-48-12	HB100-48-12N	48	36-75	0.1	2.45	12	8.3	85
HB100-48-15	HB100-48-15N	48	36-75	0.1	2.46	15	6.7	85
HB100-48-24	HB100-48-24N	48	36-75	0.1	2.61	24	4.17	85
HB150-48-33	HB150-48-33N	48	36-75	0.1	2.61	3.3	30	79
HB150-48-05	HB150-48-05N	48	36-75	0.1	3.77	5.0	30	83
HB150-48-12	HB150-48-12N	48	36-75	0.1	3.68	12	12.5	85
HB150-48-15	HB150-48-15N	48	36-75	0.1	3.67	15	10	85
HB150-48-24	HB150-48-24N	48	36-75	0.1	3.67	24	6.25	85

Typical at Ta= +25 °C under nominal line voltage and 75% load conditions, unless noted.

Outline Information and Pin-out

Pin Connection	
Pin#	Function
1	Vin +
2	On/Off
3	Case
4	Vin -
5	Vout -
6	Sense -
7	Trim
8	Sense +
9	Vout +



All dimensions are in inches [mm]
 Pin 5 and 9 are dia. 0.08 [2.03]
 All other pins are all dia. 0.040 [1.02]
 Pin material: Brass
 Pin finish: Tin/Lead plated
 Heat spreader (baseplate) material:
 Aluminum
 Weight: 60.5g

The information and specifications contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to product specification sheet for performance characteristics and application guidelines.