



# CHB200W SERIES

## 132 - 200 WATT 4:1 INPUT DC-DC CONVERTERS



### FEATURES

- \* 132-200W Isolated Output
- \* Half Brick Package
- \* 4:1 Input Range
- \* Regulated Output
- \* Efficiency to 89%
- \* Input Under Voltage Protection
- \* Over Temperature Protection
- \* Over Voltage/Current Protection
- \* Remote On/Off Control
- \* 1500VDC Isolation
- \* Continuous Short Circuit Protection
- \* CE Mark Meets 2004/108/EC
- \* UL60950-1 Approval (Except 28 Vout)



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CHB200W-24S3V3	10-36 VDC	3.3VDC	0 mA	50 A	130 mA	7.90 A	87	10000 $\mu$ F
CHB200W-24S05	10-36 VDC	5.0VDC	0 mA	40 A	150 mA	9.58 A	87	10000 $\mu$ F
CHB200W-24S12	10-36 VDC	12 VDC	0 mA	16.7 A	50 mA	9.71 A	86	2200 $\mu$ F
CHB200W-24S15	10-36 VDC	15 VDC	0 mA	13.3 A	50 mA	9.56 A	87	2200 $\mu$ F
CHB200W-24S24	10-36 VDC	24 VDC	0 mA	8.3 A	45 mA	9.54 A	87	2200 $\mu$ F
CHB200W-24S28	10-36 VDC	28 VDC	0 mA	7.14 A	55 mA	9.41 A	88.5	2200 $\mu$ F <sup>(2)</sup>
CHB200W-24S48	10-36 VDC	48 VDC	0 mA	4.2 A	60 mA	9.77 A	86	2200 $\mu$ F <sup>(3)</sup>
CHB200W-48S3V3	18-75 VDC	3.3VDC	0 mA	40 A	80 mA	3.13 A	88	10000 $\mu$ F
CHB200W-48S05	18-75 VDC	5.0VDC	0 mA	40 A	80 mA	4.68 A	89	10000 $\mu$ F
CHB200W-48S12	18-75 VDC	12 VDC	0 mA	16.7 A	60 mA	4.74 A	88	2200 $\mu$ F
CHB200W-48S15	18-75 VDC	15 VDC	0 mA	13.3 A	60 mA	4.72 A	88	2200 $\mu$ F
CHB200W-48S24	18-75 VDC	24 VDC	0 mA	8.3 A	60 mA	4.72 A	88	2200 $\mu$ F
CHB200W-48S28	18-75 VDC	28 VDC	0 mA	7.14 A	50 mA	4.68 A	89	2200 $\mu$ F <sup>(2)</sup>
CHB200W-48S48	18-75 VDC	48 VDC	0 mA	4.2 A	50 mA	4.83 A	87	2200 $\mu$ F <sup>(3)</sup>

#### NOTE:

1. Nominal Input Voltage 24, 48 VDC
2. The Output Terminal of 28Vout Models Required a Minimum Capacitor 100 $\mu$ F to Maintain Specified Regulation.
3. The Output Terminal of 48Vout Models Required a Minimum Capacitor 47 $\mu$ F to Maintain Specified Regulation.

# SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

## INPUT SPECIFICATIONS:

Input Voltage Range	24V	10-36V
	48V	18-75V
Input Surge Voltage (100ms max.)	24V	50Vdc max.
	48V	100Vdc max.
Under Voltage Lockout	24Vin power up	9.5V
	24Vin power down	8.5V
	48Vin power up	17V
	48Vin power down	16V
Positive Logic Remote On/Off (see note4&5)		
Input Filter		Pi Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Transient Response: 25% Step Load Change	<500µs
External Trim Adj. Range (note6)	±10%
Ripple & Noise, 20MHz BW (note3)	
3.3V & 5V	40mV RMS max., 100mV pk-pk max.
12V & 15V	60mV RMS max., 150mV pk-pk max.
24V	100mV RMS max., 240mV pk-pk max.
28V	100mV RMS max., 280mV pk-pk max.
48V	150mV RMS max., 480mV pk-pk max.
Temperature Coefficient	±0.03%/°C
Short Circuit Protection	Continuous
Line Regulation (note1)	±0.2% max.
Load Regulation (note2)	±0.2% max.
Over Voltage Protection Trip Range, % Vo nom.	115-140%
Current Limit	110%-150% Nominal Output
Start up time	120ms typ.

## GENERAL SPECIFICATIONS:

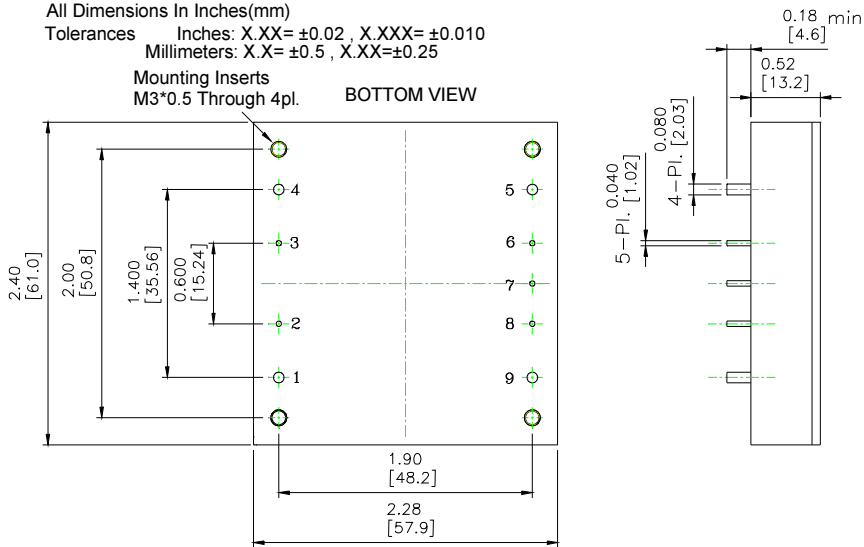
Efficiency	See Table
Isolation Voltage ... Input/Output, Input/Case, Output/Case ..	1500VDC min.
Isolation Resistance	10 <sup>7</sup> ohm min.
Isolation Capacitance	2000pF typ.
Switching Frequency	250KHz typ.
Operating Case Temperature	-40°C to 100°C
Storage Temperature	-55°C to +105°C
Thermal Shutdown Case Temp.	110°C typ.
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F, GB, 25°C, Full Load 600Khrs typ.
Dimensions	2.28x2.40x0.52 inches(57.9x61.0x13.2 mm)
Case Material	Aluminum Baseplate with Plastic Case
Weight	114g

## NOTE:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output. (48V: 10uF aluminum and 1uF ceramic capacitor across output)
4. Logic compatibility ..... open collector ref to -Input  
 Module on ..... >3.5VDC to 75VDC or open circuit  
 Module off ..... < 1.2VDC
5. Suffix "N" to the model number with negative logic remote on/off  
 Module on ..... < 1.2VDC  
 Module off ..... >3.5VDC to 75VDC or open circuit
6. Trim-up ..... connect a resistor between the trim pin and +Sense  
 Trim-down ..... connect a resistor between the trim pin and -Sense
7. Suffix "-C" to the model number with clear mounting insert. (3.2mm DIA.)
8. An external input capacitor 470uF for 24Vin or 47uF for 48Vin models are recommended to reduce input ripple voltage.

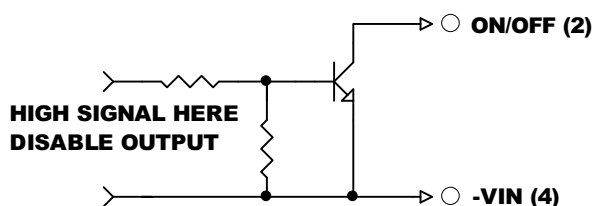
## CASE HB

All Dimensions In Inches(mm)  
 Tolerances Inches: X.XX= ±0.02, X.XXX= ±0.010  
 Millimeters: X.X= ±0.5, X.XX=±0.25



Pin	Function
1	+Vin
2	ON/OFF
3	CASE
4	-Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout

## Remote On/Off Control



## External Output Trim

