



# CHB200W SERIES

## 132 TO 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



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

NOTE: 1. Nominal Input Voltage 24, 48 VDC

2. The output terminal of 48Vout models required a minimum capacitor 47µF 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 note 4 & 5 )		
Input Filter		PI Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Transient Response: 25% Step Load Change	<500us
External Trim Adj. Range Note6	±10%
Ripple & Noise, 20MHz BW	
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.
48V	150mV RMS, max., 480mV pk-pk max.
Temperature Coefficient	±0.03%/°C
Short Circuit Protection	Continuous
Line Regulation (note 1)	±0.2% max.
Load Regulation (note 2)	±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:

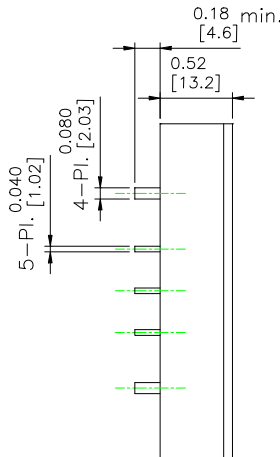
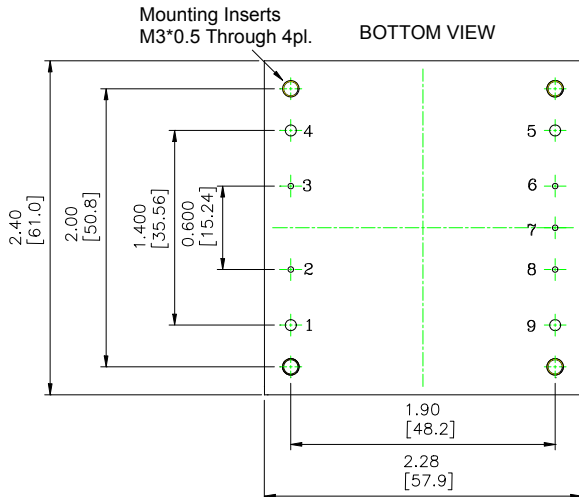
Efficiency	See Table
Isolation Voltage ... Input/Output, Input/Case, Output/Case ..	1500VDC min.
Isolation Resistance	10 <sup>7</sup> ohm min.
Isolation Capacitance	2000pF typ.
Switching Frequency	250KHz typ.
Operating Case Temperature	-40°C to 100°C
Storage Temperature	-55°C to +105°C
Thermal Shutdown, 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
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.

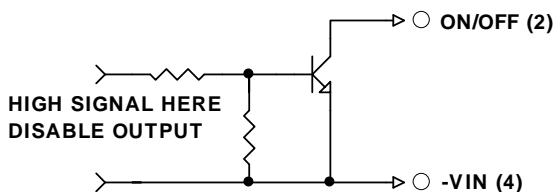
## CASE HB

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

