



# CHB300W SERIES

## 300 WATT 4:1 INPUT DC-DC CONVERTERS SINGLE OUTPUT



### FEATURES

- \* 300W Isolated Output
- \* Efficiency to 92%
- \* Fixed Switching Frequency
- \* Input Under Voltage Protection
- \* Over Temperature Protection
- \* Over Voltage/Current Protection
- \* Remote On/Off
- \* Industry Standard Half-Brick Package
- \* Fully Isolated 1500VDC
- \* IEC/EN/UL 62368-1 Approval



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITIVE LOAD MAX. <sup>(4)</sup>
			MIN.	MAX.	NO LOAD	FULL LOAD	(2)	(3)	
CHB300W-24S05	9-36 VDC	5 VDC	0 mA	60 A	200 mA	14.12 A	88	88.5	470-10000uF
CHB300W-24S12	9-36 VDC	12 VDC	0 mA	25 A	200 mA	13.74 A	91	91	330-10000uF
CHB300W-24S15	9-36 VDC	15 VDC	0 mA	20 A	250 mA	13.74 A	91	91	0-10000uF
CHB300W-24S24	9-36 VDC	24 VDC	0 mA	12.5 A	80 mA	14.20 A	88	88	220-4700uF
CHB300W-24S28	9-36 VDC	28 VDC	0 mA	10.7 A	80 mA	14.12 A	88.5	88.5	220-4700uF
CHB300W-24S48	9-36 VDC	48 VDC	0 mA	6.25 A	100 mA	14.20 A	88	88	220-2200uF
CHB300W-48S05	18-75 VDC	5 VDC	0 mA	60 A	100 mA	6.94 A	89	90	0-10000uF
CHB300W-48S12	18-75 VDC	12 VDC	0 mA	25 A	120 mA	6.94 A	92	92	0-10000uF
CHB300W-48S15	18-75 VDC	15 VDC	0 mA	20 A	130 mA	6.80 A	92	92	0-10000uF
CHB300W-48S24	18-75 VDC	24 VDC	0 mA	12.5 A	60 mA	6.98 A	90	89	0-4700uF
CHB300W-48S28	18-75 VDC	28 VDC	0 mA	10.7 A	60 mA	6.94 A	91	89.5	0-4700uF
CHB300W-48S48	18-75 VDC	48 VDC	0 mA	6.25 A	80 mA	7.02 A	90	89	220-2200uF

#### NOTE:

1. Nominal Input Voltage 24,48 VDC
2. Measure at 12VDC for 24Sxx and 24VDC for 48Sxx Models
3. Measure at Nominal Input Voltage
4. The Output Terminal of Models Required a Minimum Capacitor to Maintain Specified Regulation
5. Output Peak Power 350W < 3 seconds with Maximum Duty Cycle of 10%, Average Output Power not to Exceed 300W.

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range	24V	9-36V
	48V	18-75V
Input Surge Voltage (100ms max.)	24V	50Vdc max.
	48V	100Vdc max.
Under Voltage Lockout	24Vin power up	8.8V
	24Vin power down	8.0V
	48Vin power up	17V
	48Vin power down	16V
Positive Logic Remote On/Off (note4&5)		
Input Filter (note7)	24SXX and 48S15	LC Type
	Other 48SXX	Pi Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.0% max.
Transient Response: 25% Step Load Change	<500µs
External Trim Adj. Range (note6)	±10%
Ripple & Noise, 20MHz BW (note3)	
5.0V	40mV RMS, 100mV pk-pk max.
12V	60mV RMS, 120mV pk-pk max.
15V	80mV RMS, 200mV pk-pk max.
24V&28V	100mV RMS, 280mV pk-pk max.
48V	200mV RMS, 480mV pk-pk max.
Temperature Coefficient	±0.03%/°C max.
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	120%-160% Nominal Output
Start up Time	120ms typ.

## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	Input/Output 1500VDC min. Input/Case, Output/Case 1500VDC min.
Isolation Resistance	10 <sup>7</sup> ohm min.
Isolation Capacitance	2000pF typ.
Switching Frequency	220KHz typ.
Operating Case Temperature	-40°C to 100°C
Storage Temperature	-55°C to +105°C
Thermal Shutdown Case Temperature	110°C typ.
Humidity	95% RH max. Non Condensing
MTBF	MIL-HDBK, GB, 25°C, Full Load 600Khrs typ.
Dimensions	2.28x2.40x0.50 inches (57.9x61.0x12.7 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. The output ripple and noise measurement with, 10uF tantalum (for 24S05 with 330uF tantalum, 24S12 with 100uF tantalum and 48Vout with 10uF aluminum), 1uF ceramic capacitor and minimum capacitor across output.
4. Logic compatibility open collector ref. to -input  
Module on >3.5VDC to 75VDC or open circuit  
Module off 0 to < 1.2VDC
5. Suffix "N" to the model number with negative logic remote on/off.  
Module on 0 to < 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. The input terminal recommend to parallel with 1000uF for 24Vin, 470uF for 48S15 model and 220uF for other 48Vin models ESR<0.7Ω to reduce the input ripple voltage.
8. Suffix "-C" to the model number with clear mounting insert. (3.2mm DIA)

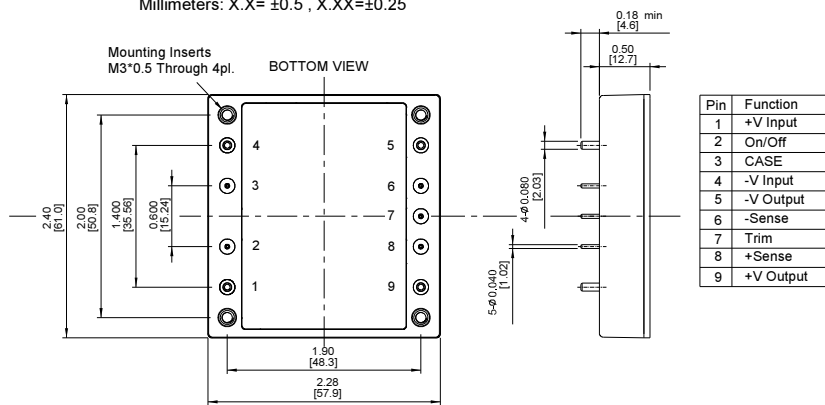
## CASE HB

CASE HB

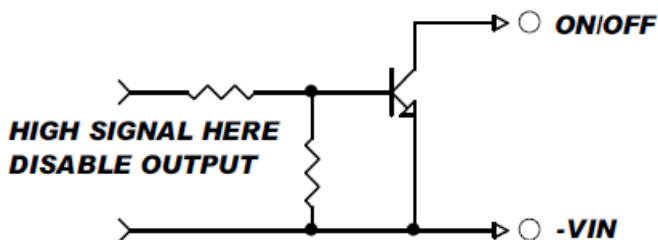
All Dimensions In Inches(mm)

Tolerances Inches: X.XX= ±0.02 , X.XXX= ±0.010

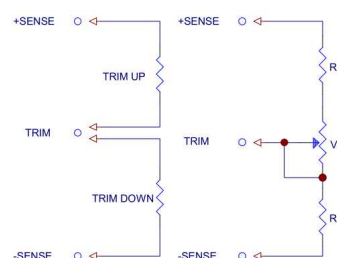
Millimeters: X.X= ±0.5 , X.XX=±0.25



### REMOTE ON/OFF CONTROL



### EXTERNAL OUTPUT TRIM



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