CHB300W SERIES

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

E176177

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. (4)
			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	220-4700µF
CHB300W-24S28	9-36 VDC	28 VDC	0 mA	10.7 A	80 mA	14.12 A	88.5	88.5	220-4700µF
CHB300W-24S48	9-36 VDC	48 VDC	0 mA	6.25 A	100 mA	14.20 A	88	88	220-2200µF
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	0-4700µF
CHB300W-48S28	18-75 VDC	28 VDC	0 mA	10.7 A	60 mA	6.94 A	91	89.5	0-4700µF
CHB300W-48S48	18-75 VDC	48 VDC	0 mA	6.25 A	80 mA	7.02 A	90	89	220-2200µF

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℃ 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%/℃ 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.

GENRAL SPECIFICATIONS:

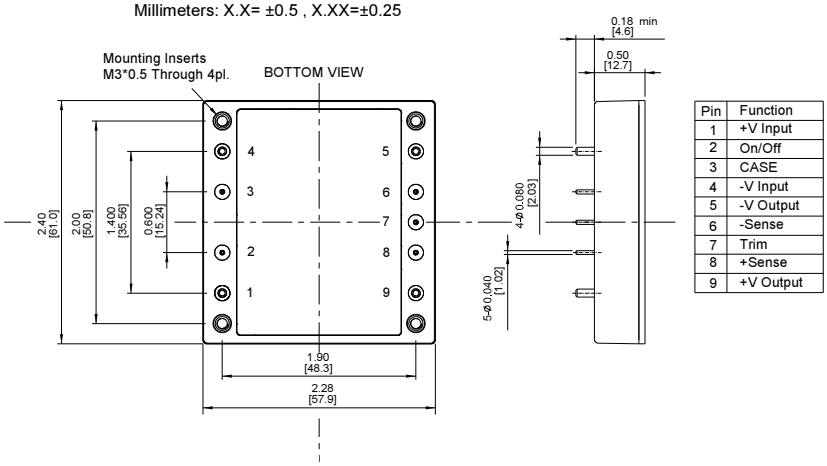
Efficiency ..... See Table
Isolation Voltage ..... Input/Output ..... 1500VDC min.
Input/Case, Output/Case ..... 1500VDC min.
Isolation Resistance ..... 10^7 ohm min.
Isolation Capacitance ..... 2000pF typ.
Switching Frequency ..... 220KHz typ.
Operating Case Temperature .....-40℃ to 100℃
Storage Temperature ..... -55℃ to +105℃
Thermal Shutdown Case Temperature ..... 110℃ typ.
Humidity ..... 95% RH max. Non Condensing
MTBF ..... MIL-HDBK, GB, 25℃, 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 with100uF tantalum and 48Vout with10uF 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)

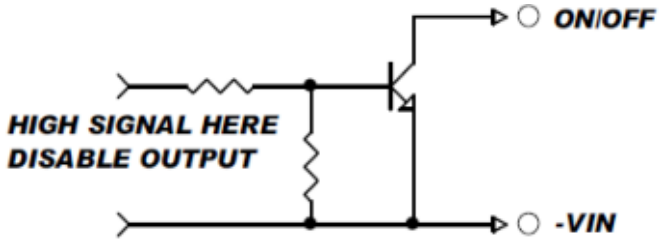
CASE HB

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



Pin	Function
1	+V Input
2	On/Off
3	CASE
4	-V Input
5	-V Output
6	-Sense
7	Trim
8	+Sense
9	+V Output

REMOTE ON/OFF CONTROL



EXTERNAL OUTPUT TRIM

