



# CHB50W SERIES

## 33 TO 50 WATT WIDE INPUT DC-DC CONVERTERS

### SINGLE OUTPUT



## FEATURES

- \* 33-50W Isolated Output
- \* Efficiency to 87%
- \* 300KHz Switching Frequency
- \* 4:1 Input Range
- \* Regulated Outputs
- \* Continuous Short Circuit Protection
- \* Five-Sided Shield Metal Case
- \* Half-Brick Size Meet Industrial Standard
- \* UL60950-1 Approval (Except 28 Vout)
- \* Safety Meets IEC/EN/UL60950-1



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CHB50W-24S33	9-36 VDC	3.3 VDC	0 mA	10 A	50 mA	1740 mA	79	10000uF
CHB50W-24S05	9-36 VDC	5 VDC	0 mA	10 A	50 mA	2570 mA	81	10000uF
CHB50W-24S12	9-36 VDC	12 VDC	0 mA	4.16 A	50 mA	2510 mA	83	4160uF
CHB50W-24S15	9-36 VDC	15 VDC	0 mA	3.33 A	50 mA	2448 mA	85	3330uF
CHB50W-24S24	9-36 VDC	24 VDC	0 mA	2.08 A	50 mA	2476 mA	84	2080uF
CHB50W-24S28	9-36 VDC	28 VDC	0 mA	1.78 A	50 mA	2510 mA	83	1780uF
CHB50W-24S48	9-36 VDC	48 VDC	0 mA	1.04 A	50 mA	2506 mA	83	1040uF
CHB50W-48S33	18-75 VDC	3.3 VDC	0 mA	10 A	50 mA	848 mA	81	10000uF
CHB50W-48S05	18-75 VDC	5 VDC	0 mA	10 A	50 mA	1255 mA	83	10000uF
CHB50W-48S12	18-75 VDC	12 VDC	0 mA	4.16 A	50 mA	1223 mA	85	4160uF
CHB50W-48S15	18-75 VDC	15 VDC	0 mA	3.33 A	50 mA	1196 mA	87	3330uF
CHB50W-48S24	18-75 VDC	24 VDC	0 mA	2.08 A	50 mA	1209 mA	86	2080uF
CHB50W-48S28	18-75 VDC	28 VDC	0 mA	1.78 A	50 mA	1223 mA	85	1780uF
CHB50W-48S48	18-75 VDC	48 VDC	0 mA	1.04 A	50 mA	1238 mA	84	1040uF

NOTE: 1. Nominal Input Voltage 24, 48VDC

# 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, power down .....
48Vin .....	power up .....	17V, power down .....
Positive Logic Remote On/Off (note3&4)		
Input Filter .....	Pi Type	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy (note7) .....	±1.0% max.
Transient Response: 25% Step Load Change .....	<500µs
External Trim Adj. Range .....	±10%
Ripple & Noise, 20MHz BW (note5)	
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 .....	200mV RMS max., 480mV pk-pk max.
Temperature Coefficient .....	±0.03%/°C max.
Short Circuit Protection .....	Continuous
Line Regulation (note1&7) .....	±0.2% max.
Load Regulation (note2&7) .....	±0.2% max.
Over Voltage Protection Trip Range, % Vo nom. ....	115-140%
Current Limit .....	110% -160% Nominal Output
Start up Time .....	5ms 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 .....	1000pF typ.
Switching Frequency .....	300KHz typ.
Operating Case Temperature .....	-40°C to 100°C
Storage Temperature .....	-55°C to +105°C
Thermal Shutdown Case Temp. ....	100°C typ.
Humidity .....	95% RH max. Non condensing
MTBF .....	MIL-HDBK-217F, GB, 25°C, Full Load .....
Dimensions .....	2.28x2.40x0.50 inches (57.9x61.0x12.7 mm)
Case Material .....	Aluminum
Weight .....	94g

## NOTE:

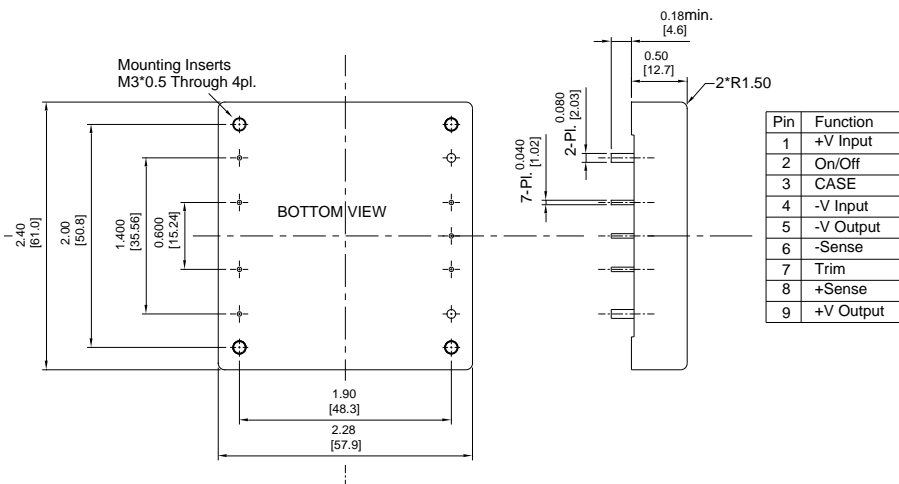
1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Logic compatibility ..... open collector ref to -input  
 Module on ..... >3.5VDC to 75VDC or open circuit  
 Module off ..... 0 to <0.8VDC
4. Suffix "N" to the model number with negative logic remote on/off.  
 Module on ..... 0 to <0.8VDC  
 Module off ..... >3.5VDC to 75VDC or open circuit
5. Output ripple and noise measured with 10µF tantalum and 1µF ceramic capacitor across output. (48V: 1µF ceramic cap. only)
6. Suffix "-C" to the model number with clear mounting insert (3.2mm DIA.)
7. Require a 47µF aluminum capacitor connected between +Vout and -Vout for 48Vout models.

### CASE HB

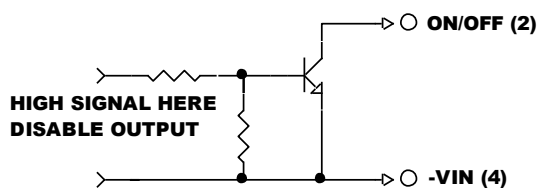
All Dimensions In Inches(mm)

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

