



# CHB150-110S SERIES

## 150 WATT

### DC-DC CONVERTERS



### FEATURES

- \* 150W Isolated Output
- \* Efficiency to 92.5%
- \* 200KHz Switching Frequency
- \* 3:1 Input Range
- \* Regulated Outputs
- \* Remote ON/OFF
- \* Over Temperature Protection
- \* Over Voltage/Current Protection
- \* Continuous Short Circuit Protection
- \* Half-Brick size meet industrial standard
- \* CE Mark Meets 2004/108/EC
- \* UL60950-1 Approval
- \* Meet EN50155 With External Circuits



| MODEL NUMBER  | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT |        | INPUT CURRENT |           | % EFF. | Capacitor Load max. |
|---------------|---------------|----------------|----------------|--------|---------------|-----------|--------|---------------------|
|               |               |                | MIN.           | MAX.   | NO LOAD       | FULL LOAD |        |                     |
| CHB150-110S05 | 66-160 VDC    | 5.0VDC         | 0mA            | 30 A   | 40mA          | 1474mA    | 92.5   | 10000µF             |
| CHB150-110S12 | 66-160 VDC    | 12 VDC         | 0mA            | 12.5 A | 40mA          | 1474mA    | 92.5   | 5600µF              |
| CHB150-110S24 | 66-160 VDC    | 24 VDC         | 0mA            | 6.5 A  | 60mA          | 1541mA    | 92     | 2200µF              |

NOTE: 1. Nominal Input Voltage 110VDC

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range ..... 110V ..... 66-160V  
 Input Surge Voltage (100ms max.) ..... 180Vdc max.  
 Under voltage lockout ..... power up ..... 62V  
 ..... power down ..... 56V

Positive Logic Remote ON/OFF:

Logic Compatibility ..... Open Collector ref to -Input  
 Module ON ..... > 3.5Vdc to 75Vdc or Open Circuit  
 Module OFF ..... < 1.8Vdc  
 Input Filter ..... PI Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy: .....  $\pm 1.5\%$  max.  
 Transient Response: 25% Step Load Change  
 Error Band .....  $\pm 5\%$  Vout  
 Recover Time ..... < 200u sec  
 External Trim Adj. Range .....  $\pm 10\%$   
 Ripple & Noise, 20MHz BW(note 3)  
 5V ..... 40mV RMS, 100mV pk-pk max.  
 12V ..... 60mV RMS, 150mV pk-pk max.  
 24V ..... 100mV RMS, 240mV pk-pk max..  
 Temperature Coefficient .....  $\pm 0.03\%/^{\circ}\text{C}$   
 Short Circuit Protection ..... Continuous  
 Line Regulation (note 1) .....  $\pm 0.2\%$  max.  
 Load Regulation (note 2) .....  $\pm 0.2\%$  max.  
 Over Voltage Protection trip Range, % Vo nom. .... 115-140%  
 Current Limit ..... 110% ~180% Nominal Output  
 Start up time ..... 45ms typ.

## GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Isolation Voltage ..... Input/Output, Input/Case ..... 2250VDC min.  
 ..... Output/Case ..... 1500VDC min.  
 Isolation Resistance .....  $10^7$  ohm min.  
 Isolation Capacitance ..... 1000pF typ.  
 Switching Frequency ..... 200KHz typ.  
 Operating Case Temperature ..... -40°C to 100°C  
 Storage Temperature ..... -55°C to +105°C  
 Thermal Shutdown, Case Temp. .... 105°C typ.  
 Humidity ..... 95% RH max. Non condensing  
 MTBF ..... MIL-HDBK-217F, GB, 25°C, Full Load ..... TBD hrs typ.  
 Safety ..... UL60950-1 2<sup>nd</sup>(Basic insulation), Approval  
 EMC(note 7) ..... meet EN50155(EN50121-3-2) with external filter  
 Shock/Vibration ..... meet EN50155(EN61373)  
 Environmental ..... meet EN50155(EN60068-2-1)  
 Dimensions ..... 2.28x2.40x0.50 inches (57.9x61.0x12.7 mm)  
 Case Material ..... Aluminum Baseplate with Plastic Case  
 Weight ..... 90g

## NOTE:

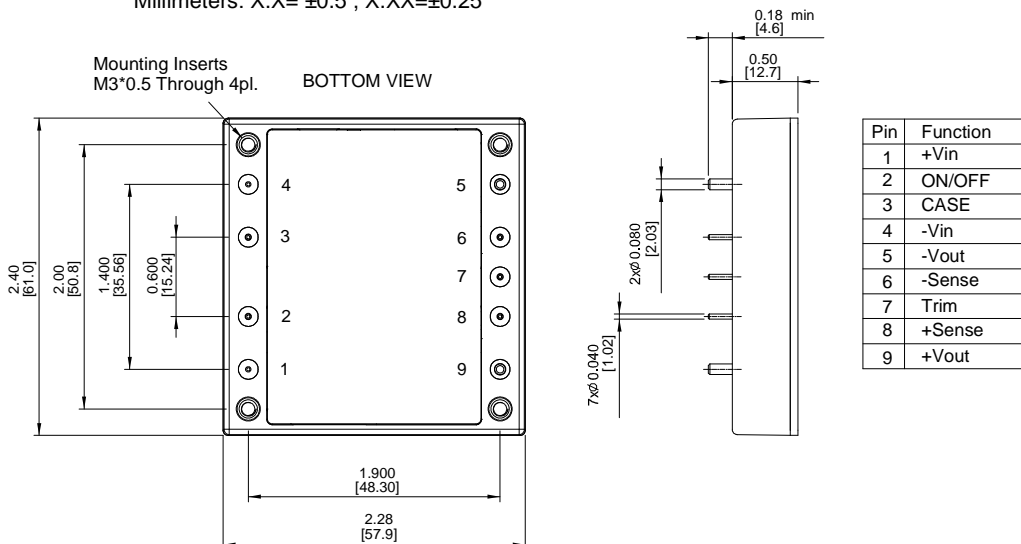
1. Measured From High Line to Low Line
2. Measured From Full Load to Zero Load
3. Output Ripple and Noise measured with 10uF tantalum and 1uF ceramic capacitor across output
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF  
 Module ON ..... < 1.8Vdc  
 Module OFF ..... > 3.5Vdc to 75Vdc or Open Circuit
5. Suffix "-C" to the Model Number with Clear Mounting Insert (3.2mm DIA.)
6. An external input capacitor 220uF for all models are recommended to reduce input ripple voltage.
7. Design meet EN50155 and RIA12 refer to Application Note

## CASE HB

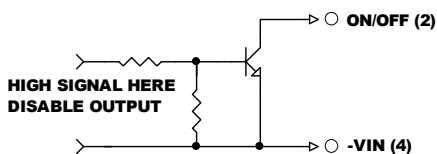
All Dimensions In Inches(mm)

Tolerances Inches: X.XX=  $\pm 0.02$ , X.XXX=  $\pm 0.010$

Millimeters: X.X=  $\pm 0.5$ , X.XX= $\pm 0.25$



## REMOTE ON/OFF CONTROL



## EXTERNAL OUTPUT TRIM

