CHB150-110S SERIES

150 WATT
DC-DC CONVERTERS

E176177

Railway System

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
* UL60950-1 Approval
* Meet EN50155 with External Circuit

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	5.0 VDC	0 mA	30 A	40 mA	1474 mA	92.5	10000μF
CHB150-110S12	66-160 VDC	12 VDC	0 mA	12.5 A	40 mA	1474 mA	92.5	5600μF
CHB150-110S24	66-160 VDC	24 VDC	0 mA	6.5 A	60 mA	1541 mA	92	2200μF

NOTE: 1. Nominal Input Voltage 110VDC

SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25℃ 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 ..... 0 to< 1.8Vdc
Input Filter (note 6) ..... Pi Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.0% max.
Transient Response:25% Step Load Change
Error Band ..... ±5% Vout
Recover Time ..... <200μs
External Trim Adj. Range ..... ±10%
Ripple & Noise, 20MHz BW (note3)
5V ..... 40mV RMS, 100mV pk-pk max.
12V ..... 60mV RMS, 150mV pk-pk max.
24V ..... 100mV RMS, 240mV 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 ..... 110%-180% Nominal Output
Start up time ..... 45ms typ.

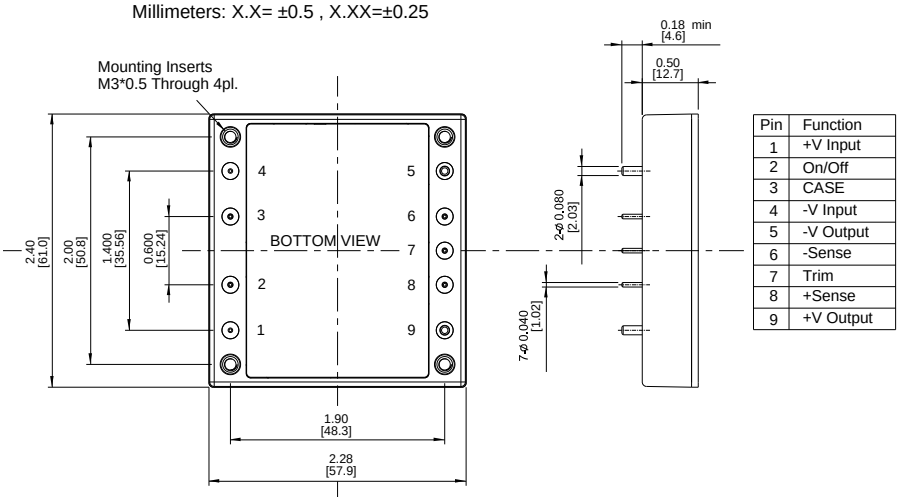
GENRAL SPECIFICATIONS:

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℃ to 100℃
Storage Temperature ..... -55℃ to +105℃
Thermal Shutdown Case Temp. ..... 105℃ typ.
Humidity ..... 95% RH max. Non condensing
MTBF ..... MIL-HDBK-217F, GB, 25℃, Full Load .....XXS05: 240Khrs typ.
Others: 320Khrs typ.
Safety ..... UL60950-1 2nd(Basic Insulation), Approval
EMC (note7) ..... 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:

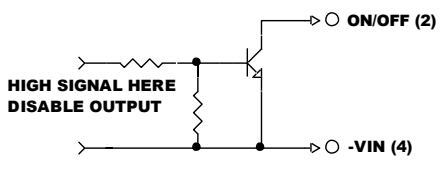
1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output.
4. Suffix "N" to the model number with negative logic remote on/off
   Module on ..... 0 to<1.8VDC
   Module off ..... >3.5VDC 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.

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

