



FEATURES

- * 198-300W Isolated Output
- * Efficiency to 91%
- * Low No Load Power Consumption
- * Fixed Switching Frequency
- * 4:1 Input Range
- * Regulated Outputs
- * Input Under-Voltage Protection
- * Over Temperature Protection
- * Over Voltage/Current Protection
- * Remote On/Off
- * Half-Brick Size Meet Industrial Standard
- * UL60950-1 2nd (Basic Insulation) Approval (Except 3.3Vout)
- * CB Test Certificate IEC60950-1 (Except 3.3Vout)
- * Meet EN50155 With External Circuits
- * Shock & Vibration Meet EN50155 (EN61373)
- * Fire & Smoke Meet EN45545-2
- * 5000m Operating Altitude

CHB300W-110S SERIES

198-300 WATT 4:1 INPUT DC-DC CONVERTERS



| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. (2) | CAPACITOR LOAD MAX. |
|-----------------|---------------|----------------|----------------|--------|---------------|-----------|------------|---------------------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| CHB300W-110S3V3 | 43-160 VDC | 3.3VDC | 0 mA | 60 A | 10 mA | 2093 mA | 86 | 60000uF |
| CHB300W-110S05 | 43-160 VDC | 5 VDC | 0 mA | 60 A | 10 mA | 3099 mA | 88 | 60000uF |
| CHB300W-110S12 | 43-160 VDC | 12 VDC | 0 mA | 25 A | 10 mA | 3030 mA | 90 | 25000uF |
| CHB300W-110S24 | 43-160 VDC | 24 VDC | 0 mA | 12.5 A | 10 mA | 3064 mA | 89 | 12500uF |
| CHB300W-110S28 | 43-160 VDC | 28 VDC | 0 mA | 10.7 A | 10 mA | 3064 mA | 89 | 10700uF |
| CHB300W-110S48 | 43-160 VDC | 48 VDC | 0 mA | 6.25 A | 10 mA | 2997 mA | 91 | 4700uF |

NOTE:

1. Nominal Input Voltage 110 VDC.
2. Measure at Nominal Input Voltage.

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

| | | |
|---|-------------------------|-------------|
| Input Voltage Range | 110V | 43-160V |
| Input Surge Voltage (100ms max.) | 110V | 200Vdc max. |
| Under Voltage Lockout | 110Vin Power Up | 42V |
| | 110Vin Power Down | 39V |
| Positive Logic Remote ON/OFF (see note 4&5) | | |
| Input Filter | | Pi Type |

OUTPUT SPECIFICATIONS:

| | |
|--|-----------------------------|
| Voltage Accuracy | ±1.0% max. |
| Transient Response:25% Step Load Change | |
| Recover Time | <250µs |
| External Trim Adj. Range | ±10% |
| Ripple & Noise, 20MHz BW (note3) | |
| 3.3& 5V | 60mV RMS, 120mV pk-pk max. |
| 12V | 80mV RMS, 150mV pk-pk max. |
| 24V | 120mV RMS, 240mV pk-pk max. |
| 28V | 140mV RMS, 280mV pk-pk max. |
| 48V | 220mV RMS, 480mV pk-pk max. |
| Temperature Coefficient | ±0.02%/°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%-160% Nominal Output |
| Start up time | 35ms typ. |

GENERAL SPECIFICATIONS:

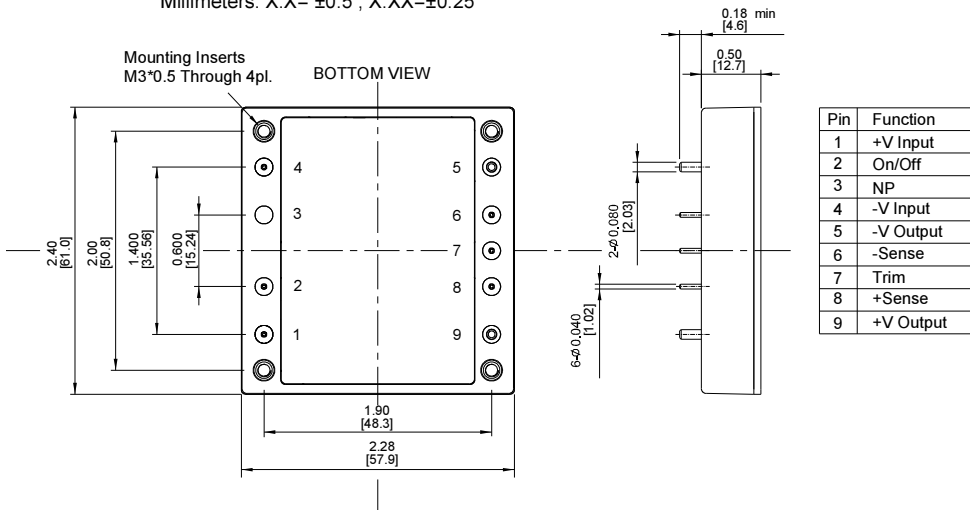
| | |
|---|---|
| Efficiency | See Table |
| Isolation Voltage | Input/Output, Input/Case |
| | Output/Case |
| | 3000VDC min. |
| | 500VAC min. |
| Isolation Resistance | 10 ⁸ ohm min. |
| Isolation Capacitance | 3000pF typ. |
| Switching Frequency | 3.3V |
| | Others |
| | 250KHz typ. |
| | 300KHz typ. |
| Operating Case Temperature | -40°C to 100°C |
| Storage Temperature | -55°C to +125°C |
| Thermal Shutdown Case Temp. | 110°C typ. |
| Humidity | 95% RH max. Non condensing. |
| MTBF... MIL-HDBK-217F, GB,25°C, Full Load | 48V... 900Khrs typ. |
| | Others |
| | 600Khrs typ. |
| Safety | UL60950-1 2 nd (Basic Insulation). |
| EMC (note7) | EN50155(EN50121-3-2) with External Filter. |
| Shock/Vibration | EN50155(EN61373). |
| Environmental | EN50155(EN60068-2-1,2,30). |
| Fire & Smoke | Meet EN45545-2 |
| Dimensions | 2.28×2.40×0.50 inches (57.9×61.0×12.7 mm) |
| Case Material | Aluminum Baseplate with Plastic Case. |
| Weight | 114g |

NOTE:

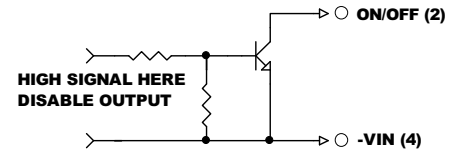
1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10µF aluminum solid capacitor and 1µF ceramic capacitor across output. (3.3V&5V: 47µF polymer tantalum capacitor and 1µF ceramic capacitor across output).
4. Logic compatibility
- Module on..... >3.5Vdc to 160Vdc or open circuit
- Module off
- >0 to <1.2Vdc
5. Suffix "N" to the model number with negative logic remote on/off
- Module on
- Module off
- >3.5Vdc to 160Vdc or open circuit
6. An external input capacitor 220µF for all models are recommended to reduce input ripple voltage.
7. For information about EN50155 and RIA12, refer to application note.
8. Suffix "-C" to the model number with clear mounting insert. (3.2mm DIA).

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

