



CHB200 SERIES

165 TO 200 WATT 2:1 INPUT DC-DC CONVERTERS SINGLE OUTPUT



FEATURE

- * 165 - 200W Isolated Output
- * Efficiency to 93%
- * 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
- * No Tantalum Capacitor Inside



| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. | CAPACITOR LOAD MAX. |
|---------------|---------------|----------------|----------------|--------|---------------|-----------|--------|---------------------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| CHB200-24S3V3 | 18-36 VDC | 3.3 VDC | 0 mA | 50 A | 140 mA | 7.64 A | 90 | 10000 μ F |
| CHB200-24S05 | 18-36 VDC | 5 VDC | 0 mA | 40 A | 240 mA | 9.16 A | 91 | 10000 μ F |
| CHB200-24S12 | 18-36 VDC | 12 VDC | 0 mA | 16.7 A | 230 mA | 9.03 A | 92.5 | 10000 μ F |
| CHB200-24S24 | 18-36 VDC | 24 VDC | 0 mA | 8.3 A | 40 mA | 9.12 A | 91 | 2200 μ F |
| CHB200-24S48 | 18-36 VDC | 48 VDC | 0 mA | 4.2 A | 70 mA | 9.23 A | 91 | 2000 μ F |
| CHB200-48S3V3 | 36-75 VDC | 3.3 VDC | 0 mA | 50 A | 80 mA | 3.80 A | 90.5 | 10000 μ F |
| CHB200-48S05 | 36-75 VDC | 5 VDC | 0 mA | 40 A | 120 mA | 4.55 A | 91.5 | 10000 μ F |
| CHB200-48S12 | 36-75 VDC | 12 VDC | 0 mA | 16.7 A | 90 mA | 4.49 A | 93 | 10000 μ F |
| CHB200-48S24 | 36-75 VDC | 24 VDC | 0 mA | 8.3 A | 50 mA | 4.56 A | 91 | 2200 μ F |
| CHB200-48S48 | 36-75 VDC | 48 VDC | 0 mA | 4.2 A | 60 mA | 4.59 A | 91.5 | 2000 μ F |

NOTE:

1. Nominal Input Voltage 24, 48 VDC
2. The output terminal of 48Vout models required a minimum capacitor 47 μ F to maintain specified regulation.

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

| | | |
|----------------------------------|------------------|-------------|
| Input Voltage Range | 24V | 18-36V |
| | 48V | 36-75V |
| Input Surge Voltage (100ms max.) | 24V | 50Vdc max. |
| | 48V | 100Vdc max. |
| Under voltage lockout | 24Vin power up | 17V |
| | 24Vin power down | 16V |
| | 48Vin power up | 35V |
| | 48Vin power down | 33V |

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 < 1.2Vdc |
| Input Filter (note 6) | PI Type |

OUTPUT SPECIFICATIONS:

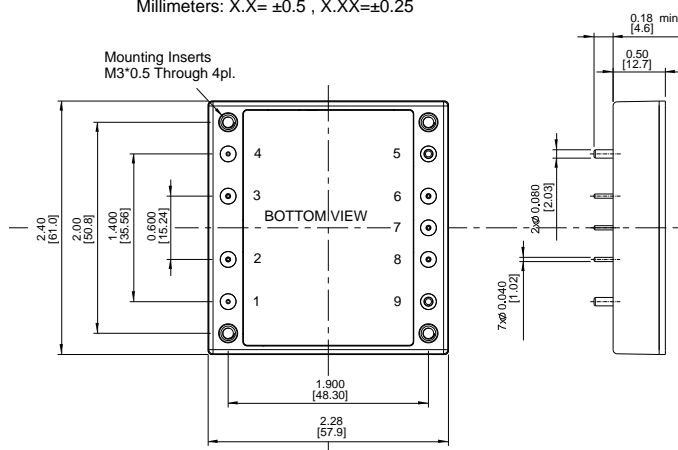
| | |
|--|-----------------------------|
| Voltage Accuracy: | ±1.0% max. |
| Transient Response: 25% Step Load Change | <500u sec. |
| External Trim Adj. Range (note5) | ±10% |
| Ripple & Noise, 20MHz BW | |
| 3.3V & 5V | 40mV RMS, 100mV pk-pk max., |
| 12V | 60mV RMS, 120mV pk-pk max. |
| 24V | 100mV RMS, 240mV pk-pk max. |
| 48V | 200mV RMS, 480mV 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 | 105% ~140% Nominal Output |
| Start up Time | 150ms typ. |

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 |

GENERAL SPECIFICATIONS:

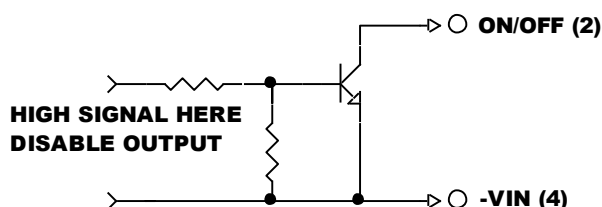
| | |
|---|--------------------------|
| Efficiency | See Table |
| Isolation Voltage ... Input/Output, Input/Case, Output/Case | 1500VDC min. |
| Isolation Resistance | 10 ⁷ ohm min. |
| Isolation Capacitance | 1000pF typ. |
| Switching Frequency | 3V3 200KHz typ. |
| | 5V 300KHz typ. |
| | 12V&24V&48V 330KHz typ. |

| | |
|------------------------------|--|
| Operating Case Temperature | -40°C to 100°C |
| Storage Temperature | -55°C to +105°C |
| Thermal Shutdown, Case Temp. | 110°C typ. |
| Humidity | 95% RH max. Non condensing |
| MTBF | MIL-STD-217F, GB, 25°C, Full Load 750Khrs 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. 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 < 1.2Vdc
 Module off >3.5Vdc to 75Vdc or open circuit
5. Trim-up connect a resistor between the trim pin and +sense.
 Trim-down connect a resistor between the trim pin and -sense.
6. The input terminal recommend to parallel with 100uF for 48Vin and 220uF for 24Vin ESR<0.7Ω to reduce the input ripple voltage.

REMOTE ON/OFF CONTROL



EXTERNAL OUTPUT TRIM

