



CHB150W SERIES

99 - 150 WATT 4:1 INPUT DC-DC CONVERTERS SINGLE OUTPUT



FEATURES

- * 99-150W Isolated Output
- * Efficiency to 91%
- * 250KHz Switching Frequency
- * 4:1 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 (Except 28&48 Vout)



| MODEL NUMBER | INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | | INPUT CURRENT | | % EFF. | CAPACITOR LOAD MAX. |
|----------------|---------------|----------------|----------------|--------|---------------|-----------|--------|---------------------|
| | | | MIN. | MAX. | NO LOAD | FULL LOAD | | |
| CHB150W-24S3V3 | 9-36 VDC | 3.3 VDC | 0 mA | 30 A | 200 mA | 4741 mA | 87 | 30000uF |
| CHB150W-24S05 | 9-36 VDC | 5.0 VDC | 0 mA | 30 A | 200 mA | 7184 mA | 87 | 30000uF |
| CHB150W-24S12 | 9-36 VDC | 12 VDC | 0 mA | 12.5 A | 100 mA | 7102 mA | 88 | 12500uF |
| CHB150W-24S15 | 9-36 VDC | 15 VDC | 0 mA | 10 A | 100 mA | 7184 mA | 87 | 10000uF |
| CHB150W-24S24 | 9-36 VDC | 24 VDC | 0 mA | 6.5 A | 100 mA | 7386 mA | 88 | 1800uF |
| CHB150W-24S28 | 9-36 VDC | 28 VDC | 0 mA | 5.4 A | 100 mA | 7325 mA | 86 | 1800uF |
| CHB150W-24S48 | 9-36 VDC | 48 VDC | 0 mA | 3.12 A | 200 mA | 7428 mA | 84 | 1000uF |
| CHB150W-48S3V3 | 18-75 VDC | 3.3 VDC | 0 mA | 30 A | 100 mA | 2344 mA | 88 | 30000uF |
| CHB150W-48S05 | 18-75 VDC | 5.0 VDC | 0 mA | 30 A | 100 mA | 3472 mA | 90 | 30000uF |
| CHB150W-48S12 | 18-75 VDC | 12 VDC | 0 mA | 12.5 A | 50 mA | 3434 mA | 91 | 12500uF |
| CHB150W-48S15 | 18-75 VDC | 15 VDC | 0 mA | 10 A | 50 mA | 3472 mA | 90 | 10000uF |
| CHB150W-48S24 | 18-75 VDC | 24 VDC | 0 mA | 6.5 A | 50 mA | 3611 mA | 90 | 2200uF |
| CHB150W-48S28 | 18-75 VDC | 28 VDC | 0 mA | 5.4 A | 50 mA | 3580 mA | 88 | 2200uF |
| CHB150W-48S48 | 18-75 VDC | 48 VDC | 0 mA | 3.12 A | 100 mA | 3633 mA | 86 | 1000uF |

NOTE: 1. Nominal Input Voltage 24, 48VDC



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SPECIFICATIONS

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

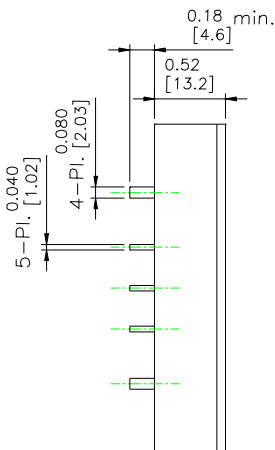
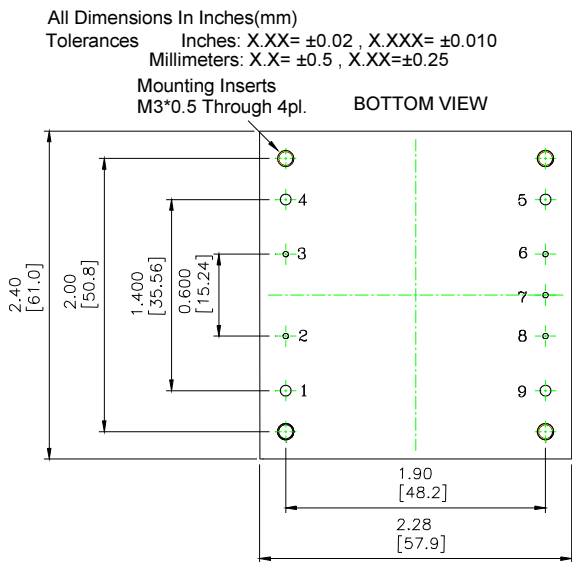
INPUT SPECIFICATIONS:

| | | |
|--|------------------|-------------|
| 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 |
| | 24Vin power down | 8.0V |
| | 48Vin power up | 17V |
| | 48Vin power down | 16V |
| Positive Logic Remote On/Off (note4&5) | | |
| Input Filter | | Pi Type |

OUTPUT SPECIFICATIONS:

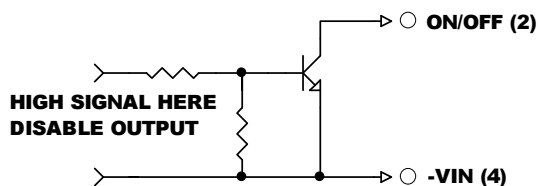
| | |
|---|----------------------------------|
| Voltage Accuracy (note7) | ±1.5% max. |
| Transient Response: 25% Step Load Change | <500µs |
| External Trim Adj. Range | ±10% |
| Ripple & Noise, 20MHz BW (note3) | |
| 3.3V & 5V | 40mV RMS max., 100mV pk-pk max. |
| 12V & 15V | 60mV RMS max., 150mV 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 |
| 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%-140% Nominal Output |
| Start up time | 25ms typ. |

CASE HB

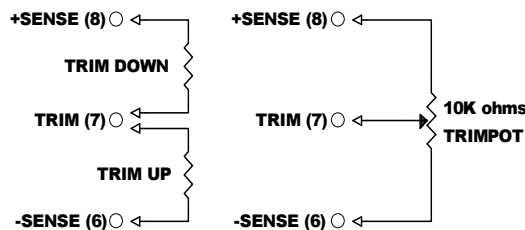


| Pin | Function |
|-----|----------|
| 1 | +Vin |
| 2 | ON/OFF |
| 3 | CASE |
| 4 | -Vin |
| 5 | -Vout |
| 6 | -Sense |
| 7 | Trim |
| 8 | +Sense |
| 9 | +Vout |

REMOTE ON/OFF CONTROL



EXTERNAL OUTPUT TRIM



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 | 250KHz 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-HDBK-217F, GB, 25°C, Full Load ... 400Khrs typ. |
| Dimensions | 2.28x2.40x0.52 inches (57.9x61.0x13.2 mm) |
| Case Material | Aluminum Baseplate with Plastic Case |
| Weight | 112g |

NOTE:

- Measured from high line to low line.
- Measured from full load to zero load.
- Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output.
- Logic compatibility open collector ref to -input
 Module on >3.5VDC or open circuit
 Module off <1.8VDC
- Suffix "N" to the model number with negative logic remote on/off
 Module on <1.8VDC
 Module off >3.5VDC or open circuit
- Suffix "-C" to the model number with clear mounting insert. (3.2mm DIA.)
- Require a 47uF aluminum capacitor connected between +Vout and -Vout for 48Vout models.



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