



### 25 ~ 75 Watts DIP Type Single Output DC - DC Converter

#### FEATURES

- 2:1 Input Range / Efficiency To 89% / Regulated Outputs
- CE Mark Meets 2006/95/EC, 93/68/EEC, and 89/336/EEC
- Safety Meets UL60950-1, EN60950-1, and IEC60950-1
- Five-Sided Metal Case / Half-Brick meet Industrial Standard

#### SPECIFICATIONS

Input Voltage Range.....12V: 9-18VDC  
24V: 18-36VDC / 48V: 36-75VDC

Undervoltage Lockout.....  
12Vin power up: 8.8VDC / power down: 8VDC  
24Vin power up: 17VDC / power down: 16VDC  
48Vin power up: 34VDC / power down: 32.5VDC

Positive Logic Remote On/Off.....See note 3 & 4

Input Filter.....PI Type

Voltage Accuracy..... $\pm 1\%$  max.

Transient Response: 25% Step Load.....< 500  $\mu$ s.

External Trim Adj. Range..... $\pm 10\%$

R & N (20MHz BW).....2.5, 3.3 & 5V.....75mVpk-pk max.

12V & 15V: 100mVpk-pk max. / 24V: 240mVpk-pk max.

Temperature Coefficient..... $\pm 0.03\%/^{\circ}\text{C}$  max.

Short Circuit Protection.....Continuous

Line Regulation..... $\pm 0.2\%$  max.

Load Regulation..... $\pm 0.2\%$  max.

OVP trip Range, % Vo nom.....115-140%

Current Limit.....110%~150% Nominal Output

Isolation Voltage.....1500VDC min.

Isolation Resistance..... $10^7$  ohm min.

Switching Frequency.....12/24Vin.....400KHz, Typ.

48Vin.....300KHz, Typ.

Operating Case Temperature.....-40°C To +100°C

Storage Temperature.....-55°C To +105°C

Thermal Shutdown, Case Temp. ....100°C Typ.

Case Material.....Aluminum

Weight.....CHB50 : 88g ; CHB75 : 92g

Note: (1) Measured From High Line to Low Line.

(2) Measured From Full Load to Zero Load.

(3) Logic Compatibility: Open Collector ref. to - Input

Module ON: Open circuit

Module OFF: < 0.8Vdc.

(4) Suffix "N" to the Model# with Negative Logic Remote On/Off.

| Model Number | Input Voltage (VDC) | Output Voltage (VDC) | Output Current (A) | EFF. % | Capacitor Load Max. |
|--------------|---------------------|----------------------|--------------------|--------|---------------------|
| CHB50-12S25  | 9-18                | 2.5                  | 0~10.0             | 76     | 10000 $\mu$ F       |
| CHB50-12S33  | 9-18                | 3.3                  | 0~10.0             | 79     | 10000 $\mu$ F       |
| CHB50-12S05  | 9-18                | 5                    | 0~10.0             | 83     | 10000 $\mu$ F       |
| CHB50-12S12  | 9-18                | 12                   | 0~4.16             | 87     | 4000 $\mu$ F        |
| CHB50-12S15  | 9-18                | 15                   | 0~3.33             | 87     | 2000 $\mu$ F        |
| CHB50-12S24  | 9-18                | 24                   | 0~2.08             | 87     | 1500 $\mu$ F        |
| CHB50-24S25  | 18-36               | 2.5                  | 0~10.0             | 78     | 10000 $\mu$ F       |
| CHB50-24S33  | 18-36               | 3.3                  | 0~10.0             | 81     | 10000 $\mu$ F       |
| CHB50-24S05  | 18-36               | 5                    | 0~10.0             | 85     | 10000 $\mu$ F       |
| CHB50-24S12  | 18-36               | 12                   | 0~4.16             | 88     | 10000 $\mu$ F       |
| CHB50-24S15  | 18-36               | 15                   | 0~3.33             | 88     | 4000 $\mu$ F        |
| CHB50-24S24  | 18-36               | 24                   | 0~2.08             | 88     | 2000 $\mu$ F        |
| CHB50-48S25  | 36-75               | 2.5                  | 0~10.0             | 77     | 10000 $\mu$ F       |
| CHB50-48S33  | 36-75               | 3.3                  | 0~10.0             | 81     | 10000 $\mu$ F       |
| CHB50-48S05  | 36-75               | 5                    | 0~10.0             | 84     | 10000 $\mu$ F       |
| CHB50-48S12  | 36-75               | 12                   | 0~4.16             | 88     | 10000 $\mu$ F       |
| CHB50-48S15  | 36-75               | 15                   | 0~3.33             | 88     | 4000 $\mu$ F        |
| CHB50-48S24  | 36-75               | 24                   | 0~2.08             | 89     | 2000 $\mu$ F        |
| CHB75-12S25  | 9-18                | 2.5                  | 0~15.0             | 76     | 10000 $\mu$ F       |
| CHB75-12S33  | 9-18                | 3.3                  | 0~15.0             | 78     | 10000 $\mu$ F       |
| CHB75-12S05  | 9-18                | 5                    | 0~15.0             | 83     | 10000 $\mu$ F       |
| CHB75-12S12  | 9-18                | 12                   | 0~6.25             | 87     | 10000 $\mu$ F       |
| CHB75-12S15  | 9-18                | 15                   | 0~5.00             | 86     | 4000 $\mu$ F        |
| CHB75-12S24  | 9-18                | 24                   | 0~3.13             | 87     | 2000 $\mu$ F        |
| CHB75-24S25  | 18-36               | 2.5                  | 0~15.0             | 77     | 10000 $\mu$ F       |
| CHB75-24S33  | 18-36               | 3.3                  | 0~15.0             | 80     | 10000 $\mu$ F       |
| CHB75-24S05  | 18-36               | 5                    | 0~15.0             | 84     | 10000 $\mu$ F       |
| CHB75-24S12  | 18-36               | 12                   | 0~6.25             | 88     | 10000 $\mu$ F       |
| CHB75-24S15  | 18-36               | 15                   | 0~5.00             | 88     | 4000 $\mu$ F        |
| CHB75-24S24  | 18-36               | 24                   | 0~3.13             | 88     | 2000 $\mu$ F        |
| CHB75-48S25  | 36-75               | 2.5                  | 0~15.0             | 77     | 10000 $\mu$ F       |
| CHB75-48S33  | 36-75               | 3.3                  | 0~15.0             | 81     | 10000 $\mu$ F       |
| CHB75-48S05  | 36-75               | 5                    | 0~15.0             | 84     | 10000 $\mu$ F       |
| CHB75-48S12  | 36-75               | 12                   | 0~6.25             | 89     | 10000 $\mu$ F       |
| CHB75-48S15  | 36-75               | 15                   | 0~5.00             | 88     | 4000 $\mu$ F        |
| CHB75-48S24  | 36-75               | 24                   | 0~3.13             | 89     | 2000 $\mu$ F        |

#### MECHANICAL DRAWING (Unit: inch(mm))

