



CHB50 SERIES

25 TO 50 WATT WIDE INPUT DC-DC CONVERTERS

SINGLE OUTPUT

FEATURES

- * 25W-50W Isolated Output
- * Efficiency to 89%
- * 300KHz Switching Frequency
- * 2 : 1 Input Range
- * Regulated Outputs
- * Continuous Short Circuit Protection
- * Five-Sided Metal Case
- * Half-Brick size meet industrial standard
- * CE Mark Meets 2006/95/EC, 93/68/EEC, and 89/336/EEC
- * Safety Meets UL60950-1, EN60950-1, and IEC60950-1
- * UL60950-1 and EN60950-1 Approval



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	Capacitor Load max.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CHB50-12S25	9 -18 VDC	2.5 VDC	0 mA	10 A	50 mA	2740 mA	76	10000uF
CHB50-12S33	9 -18 VDC	3.3 VDC	0 mA	10 A	50 mA	3481 mA	79	10000uF
CHB50-12S05	9 -18 VDC	5 VDC	0 mA	10 A	50 mA	5020 mA	83	10000uF
CHB50-12S12	9 -18 VDC	12 VDC	0 mA	4.16 A	50 mA	4781 mA	87	4000uF
CHB50-12S15	9 -18 VDC	15 VDC	0 mA	3.33 A	50 mA	4781 mA	87	2000uF
CHB50-12S24	9 -18 VDC	24 VDC	0 mA	2.08 A	50 mA	4781 mA	87	1500uF
CHB50-24S25	18-36 VDC	2.5 VDC	0 mA	10 A	50 mA	1335 mA	78	10000uF
CHB50-24S33	18-36 VDC	3.3 VDC	0 mA	10 A	50 mA	1698 mA	81	10000uF
CHB50-24S05	18-36 VDC	5 VDC	0 mA	10 A	50 mA	2450 mA	85	10000uF
CHB50-24S12	18-36 VDC	12 VDC	0 mA	4.16 A	50 mA	2363 mA	88	10000uF
CHB50-24S15	18-36 VDC	15 VDC	0 mA	3.33 A	50 mA	2363 mA	88	4000uF
CHB50-24S24	18-36 VDC	24 VDC	0 mA	2.08 A	50 mA	2363 mA	88	2000uF
CHB50-48S25	36-75 VDC	2.5 VDC	0 mA	10 A	50 mA	676 mA	77	10000uF
CHB50-48S33	36-75 VDC	3.3 VDC	0 mA	10 A	50 mA	848 mA	81	10000uF
CHB50-48S05	36-75 VDC	5 VDC	0 mA	10 A	50 mA	1240 mA	84	10000uF
CHB50-48S12	36-75 VDC	12 VDC	0 mA	4.16 A	50 mA	1181 mA	88	10000uF
CHB50-48S15	36-75 VDC	15 VDC	0 mA	3.33 A	50 mA	1181 mA	88	4000uF
CHB50-48S24	36-75 VDC	24 VDC	0 mA	2.08 A	50 mA	1168 mA	89	2000uF

NOTE: 1. Nominal Input Voltage 12, 24 or 48VDC

SPECIFICATIONS

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

INPUT SPECIFICATIONS:

Input Voltage Range 12V 9-18V
24V 18-36V
48V 36-75V

Input Surge Voltage (100ms max.) 12V 25Vdc max.
24V 50Vdc max.
48V 100Vdc max.

Undervoltage lockout:

12Vin power up ---->8.8V, power down ---->8V
24Vin power up ---->17V, power down ---->16V
48Vin power up ---->34V, power down ---->32.5V

Positive Logic Remote ON/OFF (see note 3 & 4)

Input Filter PI Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy: ±1% max.

Transient Response:25% Step Load Change <500u sec.

External Trim Adj. Range
± 1 0 %

Ripple & Noise, 20MHz BW(see note 5)

2.5 & 3.3V & 5V 20mV RMS, max.
75mV pk-pk, max.
12V & 15V 30mV RMS, max.
100mV pk-pk, max.
24V 100mV RMS, max.
240mV pk-pk, max.

Temperature Coefficient ±0.03%/°C

Short Circuit Protection Continuous

Line Regulation (see note 1) ±0.2% max.

Load Regulation (see note 2) ±0.2% max.

Over Voltage Protection trip Range, % Vo nom. 115-140%

Current Limit 110% ~150% Nominal Output

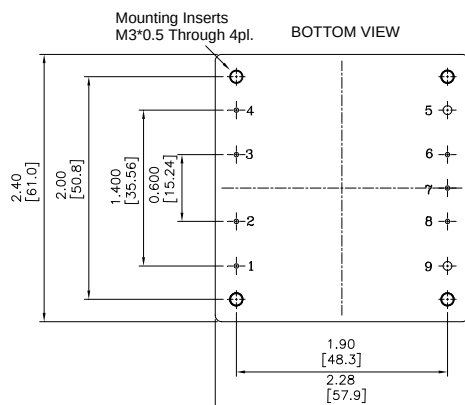
Start up time 5ms Typ.

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



GENERAL SPECIFICATIONS:

Efficiency See Table

Isolation Voltage Input/Output 1500VDC min.

Input/Case 1500VDC min.

Output/Case 1500VDC min.

Isolation Capacitance 1000pF Typ.

Isolation Resistance 10⁷ ohm min.

Switching Frequency (12/24)Vin. 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.

Humidity 95% RH max. Non condensing

MTBF MIL-STD-217F, GB, 25°C, Full Load 1000KHrs Typ.

Dimensions 2.28x2.40x0.50 inches (57.9x61.0x12.7 mm)

Case Material Aluminum

Weight 88g

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

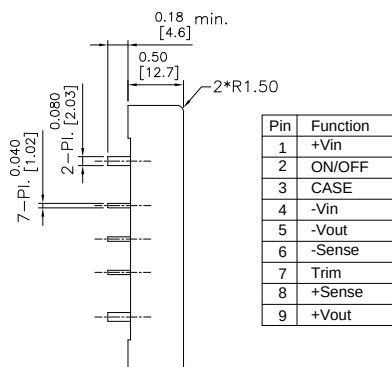
Module ON Open Circuit

Module OFF < 0.8Vdc

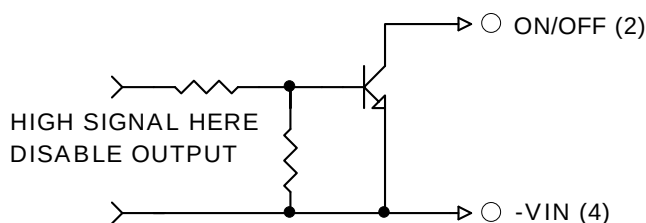
4. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF

5. Output Ripple and Noise measured with 10uF tantalum and 1uF Ceramic capacitor across output

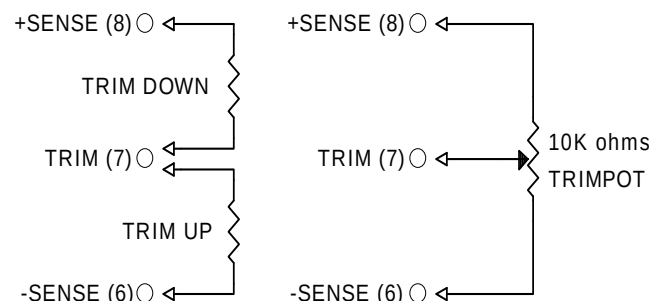
6. Suffix "-C" to the Model Number with Clear Mounting Insert (3.2mm DIA.)



REMOTE ON/OFF CONTROL



EXTERNAL OUTPUT TRIM



Mouser Electronics

Authorized Distributor

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[24S24](#) [CHB50-48S05](#) [CHB50-48S12](#) [CHB50-48S24](#) [CHB50-48S33N](#) [CHB50-48S05N](#) [CHB50-24S24N](#) [CHB50-](#)
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[48S24N](#) [CHB50-12S25N](#)