



# CQB100W SERIES 100WATT 4:1 INPUT DC-DC CONVERTERS

## FEATURES

- \* 100W Isolated Output
- \* Quarter-Brick Package
- \* 4:1 Input Range
- \* Efficiency to 88%
- \* Regulated Output
- \* Input Under Voltage Protection
- \* Over Temperature Protection
- \* Over Voltage/Current Protection
- \* Remote ON/OFF
- \* 1500VDC Isolation
- \* Safety Meets UL60950-1



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	Capacitor Load max.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB100W-24S3V3	9-36VDC	3.3VDC	0mA	30 A	120mA	4797mA	86	10000μF
CQB100W-24S05	9-36VDC	5.0VDC	0mA	20 A	120mA	4817mA	86.5	10000μF
CQB100W-24S12	9-36VDC	12 VDC	0mA	8.3A	80mA	4798mA	86.5	2200μF
CQB100W-24S15	9-36VDC	15 VDC	0mA	6.7 A	80mA	4841mA	86.5	2200μF
CQB100W-24S24	9-36VDC	24 VDC	0mA	4.17 A	80mA	4793mA	87	2200μF
CQB100W-48S3V3	18-75VDC	3.3VDC	0mA	30 A	60mA	2344mA	88	10000μF
CQB100W-48S05	18-75VDC	5.0VDC	0mA	20 A	60mA	2367mA	88	10000μF
CQB100W-48S12	18-75VDC	12 VDC	0mA	8.3A	30mA	2358mA	88	2200μF
CQB100W-48S15	18-75VDC	15 VDC	0mA	6.7 A	30mA	2379mA	88	2200μF
CQB100W-48S24	18-75VDC	24 VDC	0mA	4.17 A	30mA	2369mA	88	2200μF

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	typ.
	power down	8V	typ.
	48Vin power up	17V	typ.
	power down	16V	typ.

Input Filter .....

Pi Type Positive Logic Remote ON/OFF (See Note 4 & 5)

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Transient Response: 75% to 100% Step Load Change	
Error Band	3.3V±7% Vout, Others±5% Vout
Recover Time	<500us

External Trim Adj. Range (Note6) ..... ±10%

Ripple and Noise, 20MHz BW (see note 3).

    3.3V & 5V ..... 40mV RMS, 100mV pk-pk max.

    12V & 15V ..... 60mV RMS, 150mV pk-pk max.

    24V ..... 100mV RMS, 240mV pk-pk max.

Temperature Coefficient ..... ±0.03%/C max.

Short Circuit Protection ..... Continuous

Line Regulation (Note 1) ..... ±0.2% max.

Load Regulation (Note 2) ..... ±0.2 % max.

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

Current Limit ..... 110%-160% Nominal Output

Start up time ..... 120ms typ.

## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage .. Input/Output, Input/Case, Output/Case	1500VDC min.
Isolation Resistance	10 <sup>7</sup> Ohms min.
Isolation Capacitance	1000 pF typ.
Switching Frequency	48Vin ..... 250KHz t yp.
	24Vin ..... 220KHz typ.
Operating Case Temperature	-40 to +100 °C
Storage Temperature Range	-40 to +10°C 5°C
Thermal Shutdown, Case Temp.	110°C typ.
Dimensions	1.45 x 2.28 x 0.50 inches(36.8 x 57.9 x 12.7 mm)
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F, GB, 25 °C, Full Load ..... 600Khrs typ.
Case Material	Aluminum Base -plate with Plastic Case
Weight	66g

## NOTE :

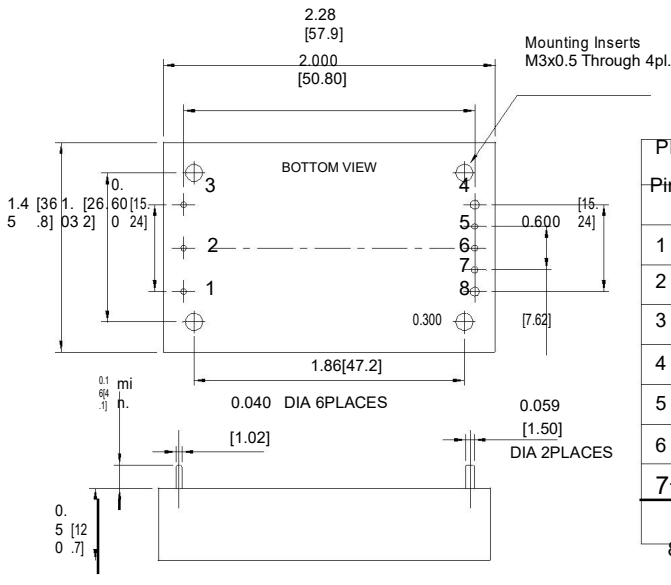
1. Measured From High Line to Low Line
2. Measured From Full Load to min. Load
3. The output noise is measured with 10uF tantalum capacitor and 1uF ceramic capacitor across output
4. Logic Compatibility ..... Open Collector ref to -Input  
 Module ON ..... >3.5Vdc to 75Vdc or Open Circuit  
 Module OFF ..... < 1.2Vdc
5. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF  
 Module ON ..... < 1.2Vdc  
 Module OFF ..... >3.5Vdc to 75Vdc or Open Circuit
6. Trim-up ..... connect a resistor between the trim pin and +Sense  
 Trim-down ..... connect a resistor between the trim pin and -Sense
7. Suffix "-C" to the Model Number with Clear Mounting Insert(3.2mm DIA.)
8. An external input capacitor 47uF for 48Vin models and 100uF for 24Vin models are recommended to reduce input ripple voltage.

## SIZE QB Dimensions:

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

## EXTERNAL OUTPUT TRIM

