



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 | 10000 μ F |
| CQB100W-24S05 | 9-36VDC | 5.0VDC | 0mA | 20 A | 120mA | 4817mA | 86.5 | 10000 μ F |
| CQB100W-24S12 | 9-36VDC | 12 VDC | 0mA | 8.3A | 80mA | 4798mA | 86.5 | 2200 μ F |
| CQB100W-24S15 | 9-36VDC | 15 VDC | 0mA | 6.7 A | 80mA | 4841mA | 86.5 | 2200 μ F |
| CQB100W-24S24 | 9-36VDC | 24 VDC | 0mA | 4.17 A | 80mA | 4793mA | 87 | 2200 μ F |
| CQB100W-48S3V3 | 18-75VDC | 3.3VDC | 0mA | 30 A | 60mA | 2344mA | 88 | 10000 μ F |
| CQB100W-48S05 | 18-75VDC | 5.0VDC | 0mA | 20 A | 60mA | 2367mA | 88 | 10000 μ F |
| CQB100W-48S12 | 18-75VDC | 12 VDC | 0mA | 8.3A | 30mA | 2358mA | 88 | 2200 μ F |
| CQB100W-48S15 | 18-75VDC | 15 VDC | 0mA | 6.7 A | 30mA | 2379mA | 88 | 2200 μ F |
| CQB100W-48S24 | 18-75VDC | 24 VDC | 0mA | 4.17 A | 30mA | 2369mA | 88 | 2200 μ F |

NOTE: 1. Nominal Input Voltage 24, 48VDC

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:

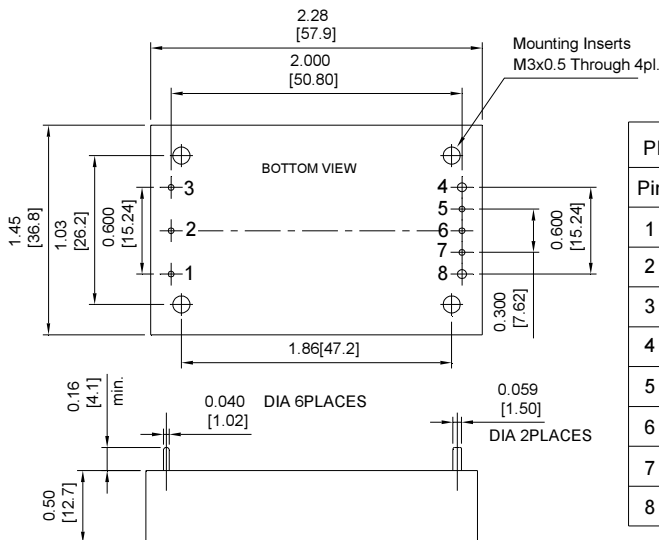
| | |
|--|--|
| Efficiency | See Table |
| Isolation Voltage .. Input/Output, Input/Case, Output/Case | 1500VDC min. |
| Isolation Resistance | 10 ⁷ Ohms min. |
| Isolation Capacitance | 1000pF typ. |
| Switching Frequency | 48Vin 250KHz typ. |
| | 24Vin 220KHz typ. |
| Operating Case Temperature | -40°C to 100°C |
| Storage Temperature Range | -40°C to +105°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

