CQB100W-110S SERIES
100 WATT 4:1 INPUT
DC-DC CONVERTERS
SINGLE OUTPUT

FEATURES
* 100W Isolated Output
* Efficiency up to 92%
* Fixed Switching Frequency
* 4:1 Input Range
* Regulated Outputs
* Remote On/Off
* Low No Load Power Consumption
* Over Temperature Protection
* Over Voltage/Current Protection
* Continuous Short Circuit Protection
* Quarter Brick Size Meet Industrial Standard
* UL60950-1 2nd (Basic Insulation) Approval
* CB Test Certificate IEC60950-1
* Meets EN50155 with External Circuits
* Shock & Vibration Meets EN50155 (EN61373)
* Fire & Smoke Meets EN45545-2
* 3000m Operating Altitude

<table>
<thead>
<tr>
<th>MODEL NUMBER</th>
<th>INPUT VOLTAGE</th>
<th>OUTPUT VOLTAGE</th>
<th>OUTPUT CURRENT MIN.</th>
<th>OUTPUT CURRENT MAX.</th>
<th>INPUT CURRENT NO LOAD</th>
<th>INPUT CURRENT FULL LOAD</th>
<th>% EFF.</th>
<th>CAPACITIVE LOAD MAX.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CQB100W-110S05</td>
<td>43-160 VDC</td>
<td>5.0 VDC</td>
<td>0 mA</td>
<td>20 A</td>
<td>10 mA</td>
<td>10 mA</td>
<td>91</td>
<td>20000µF</td>
</tr>
<tr>
<td>CQB100W-110S12</td>
<td>43-160 VDC</td>
<td>12 VDC</td>
<td>0 mA</td>
<td>8.4 A</td>
<td>10 mA</td>
<td>10 mA</td>
<td>92</td>
<td>8400µF</td>
</tr>
<tr>
<td>CQB100W-110S24</td>
<td>43-160 VDC</td>
<td>24 VDC</td>
<td>0 mA</td>
<td>4.2 A</td>
<td>10 mA</td>
<td>10 mA</td>
<td>89</td>
<td>4200µF</td>
</tr>
<tr>
<td>CQB100W-110S28</td>
<td>43-160 VDC</td>
<td>28 VDC</td>
<td>0 mA</td>
<td>3.6 A</td>
<td>10 mA</td>
<td>10 mA</td>
<td>88.5</td>
<td>3600µF</td>
</tr>
<tr>
<td>CQB100W-110S48</td>
<td>43-160 VDC</td>
<td>48 VDC</td>
<td>0 mA</td>
<td>2.1 A</td>
<td>10 mA</td>
<td>10 mA</td>
<td>90</td>
<td>1000µF</td>
</tr>
</tbody>
</table>

NOTE:
1. Nominal Input Voltage 110VDC
2. An external input capacitor 220µF for all models are recommended to reduce input ripple voltage.
SPECIFICATIONS

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

INPUT SPECIFICATIONS:
- Input Voltage Range: 110V ... 43-160V
- Input Surge Voltage (100ms max.): 110V ... 200Vdc max.
- Under voltage lockout: 110Vin power up: 41.5V
  110Vin power down: 38V
- Positive Logic Remote On/Off (note 4&5)
- Input Filter (note 7): PI Type

GENERAL SPECIFICATIONS:
- Efficiency: See Table
- Isolation Resistance: 10^8 ohm min.
- Isolation Capacitance: 1500pF typ.
- Voltage Accuracy: ±1.0% max.
- Transient Response: 75%-100% Step Load Change
  Error Band: ±5% Vout Nominal, Recovery Time <250us
- External Trim Adj. Range: ±10%
- Ripple & Noise, 20MHz BW (note 3):
  - 5V: 40mV RMS, 100mV pk-pk max.
  - 12V: 60mV RMS, 150mV pk-pk max.
  - 24V&28V: 100mV RMS, 280mV pk-pk max.
  - 48V: 200mV RMS, 480mV pk-pk max.
- Temperature Coefficient: ±0.02%/°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: 60ms typ.

NOTE:
1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10uF aluminum and 1uF ceramic capacitor across output for 48Vout and with 10uF tantalum and 1uF ceramic capacitor for others.
4. Logic compatibility: open collector ref to -Input
  Module on: >3.5Vdc to 160Vdc or open circuit
  Module off: 0 to < 1.2Vdc
5. Suffix "N" to the model number with negative logic remote on/off
  Module on: 0 to < 1.2Vdc
  Module off: >3.5Vdc to 160Vdc or open circuit
6. Suffix "-C" to the model number with clear mounting insert (3.2mm DIA.).
7. An external input capacitor 220uF for all models are recommended to reduce input ripple voltage.
8. For information about EN50155 and RIA12, refer to application note.

REMOTE ON/OFF CONTROL

EXTERNAL OUTPUT TRIM

PIN CONNECTION

<table>
<thead>
<tr>
<th>PIN</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+V Input</td>
</tr>
<tr>
<td>2</td>
<td>On/Off</td>
</tr>
<tr>
<td>3</td>
<td>-V Input</td>
</tr>
<tr>
<td>4</td>
<td>-V Output</td>
</tr>
<tr>
<td>5</td>
<td>-Sense</td>
</tr>
<tr>
<td>6</td>
<td>Trim</td>
</tr>
<tr>
<td>7</td>
<td>+Sense</td>
</tr>
<tr>
<td>8</td>
<td>+V Output</td>
</tr>
</tbody>
</table>