



# CQB100W-110S SERIES

**100 WATT 4:1 INPUT  
DC-DC CONVERTERS  
SINGLE OUTPUT**

**vitec**  
POWER GmbH  
V12



## 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 2<sup>nd</sup> (Basic Insulation) Approval(Except 15Vout)
- \* CB Test Certificate IEC60950-1 (Except 15Vout)
- \* Meets EN50155 with External Circuits
- \* Shock & Vibration Meets EN50155 (EN61373)
- \* Fire & Smoke Meets EN45545-2
- \* 3000m Operating Altitude
- \* Safety Meets IEC/EN/UL 62368-1



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITIVE LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB100W-110S05	43-160 VDC	5.0 VDC	0 mA	20 A	10 mA	1.00A	91	20000µF
CQB100W-110S12	43-160 VDC	12 VDC	0 mA	8.4 A	10 mA	1.00A	92	8400µF
CQB100W-110S15	43-160 VDC	15 VDC	0 mA	6.7 A	10 mA	1.00A	91	6700µF
CQB100W-110S24	43-160 VDC	24 VDC	0 mA	4.2 A	10 mA	1.03A	89	4200µF
CQB100W-110S28	43-160 VDC	28 VDC	0 mA	3.6 A	10 mA	1.04A	88.5	3600µF
CQB100W-110S48	43-160 VDC	48 VDC	0 mA	2.1 A	10 mA	1.02A	90	1000µF

### NOTE:

1. Nominal Input Voltage 110VDC
2. An External Input Capacitor 220uF 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	

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	.....	±1.0% max.
Transient Response: 75%-100% Step Load Change		
Error Band	.....	±5% Vout Nominal, Recovery Time
External Trim Adj. Range	.....	±10%
	15Vout	+10%, -20%
Ripple & Noise, 20MHz BW (note3)		
5V	.....	40mV RMS, 100mV pk-pk max.
12V/15V	.....	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 (note1)	.....	±0.2% max.
Load Regulation (note2)	.....	±0.2% max.
Over Voltage Protection Trip Range, % Vo nom.	.....	115-140%
Current Limit	.....	110%-160% Nominal Output
Start up Time	.....	60ms typ.

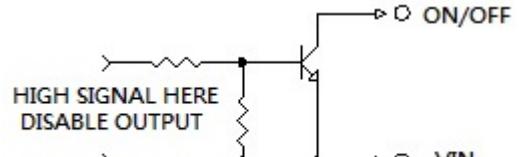
## GENERAL SPECIFICATIONS:

Efficiency	.....	See Table
Isolation Voltage		
Input/Output	.....	3000VDC min.
Input/Case	.....	2250VDC min.
Output/Case	.....	500VAC min.
Isolation Resistance	.....	10 <sup>8</sup> Ohm min.
Isolation Capacitance	.....	1500pF typ.
Switching Frequency	.....	300KHz typ.
Operating Case Temperature	.....	-40°C to +105°C
Storage Temperature	.....	-55°C to +125°C
Thermal Shutdown, Case Temperature	.....	110°C typ.
Humidity	.....	95% RH max. Non Condensing
MTBF ... MIL-HDBK-217F, GB, 25°C, Full Load ... 5V/12V	.....	720Khrs typ.
Others	.....	840Khrs typ.
Dimensions	.....	2.28×1.45×0.50 Inches (57.9×36.8×12.7 mm)
Safety	.....	UL60950-1 2 <sup>nd</sup> (Basic Insulation)
EMC (note 8)	.....	EN50155 (EN50121-3-2) with External Filter
Shock/Vibration	.....	EN50155(EN61373)
Environmental	.....	EN50155(EN60068-2-1)
Case Material	.....	Aluminum Base Plate with Plastic Case
Weight	.....	68g

## 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

