

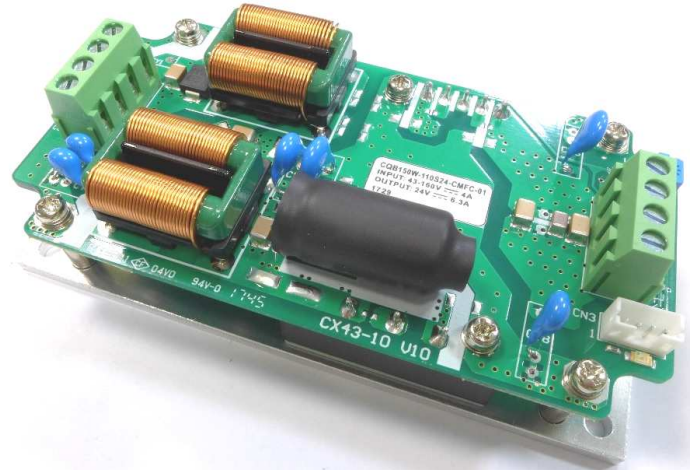


# CHASSIS MOUNT CQB150W-110S SERIES 150 WATT 4:1 INPUT DC-DC CONVERTERS



## FEATURES

- \* 150W Isolated Output
- \* Efficiency to 91%
- \* 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
- \* Shock & Vibration Meets EN50155 (EN61373)
- \* Safety Meets UL60950-1, EN60950-1 and IEC60950-1
- \* UL60950-1 2<sup>nd</sup> (Basic Insulation) Approval for DC Modules
- \* EN50155:2007 for EMC, Environmental and Characteristic
- \* Build-In EMI Filter
- \* Fire & Smoke Meets EN45545-2



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB150W-110S05□-CMFC CQB150W-110S05□-CMFD	43-160 VDC	5 VDC	0 mA	30.0 A	15 mA	1.53 A	89	30000µF
CQB150W-110S12□-CMFC CQB150W-110S12□-CMFD	43-160 VDC	12 VDC	0 mA	12.5 A	15 mA	1.50 A	91	12500µF
CQB150W-110S24□-CMFC CQB150W-110S24□-CMFD	43-160 VDC	24 VDC	0 mA	6.3 A	15 mA	1.56 A	88	6300µF
CQB150W-110S28□-CMFC CQB150W-110S28□-CMFD	43-160 VDC	28 VDC	0 mA	5.4 A	15 mA	1.56 A	88	5400µF
CQB150W-110S48□-CMFC CQB150W-110S48□-CMFD	43-160 VDC	48 VDC	0 mA	3.2 A	15 mA	1.56 A	89.5	1000µF

### NOTE:

1. Nominal Input Voltage 110VDC
2. □ = N or None.
3. VR1 is used for Output Voltage Adjustment.
4. Refer to application note for thermal resistance and derating informations.
5. TVS is included for input surge voltage protection.
6. Recommend an external fuse for input reverse polarity protection (shunt diode is included inside).

# 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 .....	38.5V

Positive Logic Remote On/Off (see note 4&5)

## OUTPUT SPECIFICATIONS:

Voltage Accuracy .....	±1.0% max.
Transient Response: 25% Step Load Change .....	<250usec
Trim Adj. Range (By VR1) .....	±10%
Ripple & Noise, 20MHz BW	
5V&12V .....	40mV RMS, 100mV pk-pk max.
24V&28V .....	100mV RMS, 200mV pk-pk max.
48V .....	150mV RMS, 300mV pk-pk max.
Temperature Coefficient .....	±0.02%/°C max.
Short Circuit Protection .....	Continuous
Line Regulation (note1) .....	±0.2% max.
Load Regulation (note2) .....	5V .....
	Others .....
	±0.2% max.
Over Voltage Protection Trip Range, % Vo nom. ....	115-140%
Current Limit .....	110% ~160% Nominal Output
Start up Time .....	100ms typ.
Hold up Time .....	See Application Note

## NOTE:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 1uF ceramic capacitor across output.
4. Logic Compatibility .....

  - Module on .....

    - Module on .....
    - Module off .....

5. Suffix "N" to the model number with negative logic remote on/off .....

  - Module on .....
  - Module off .....

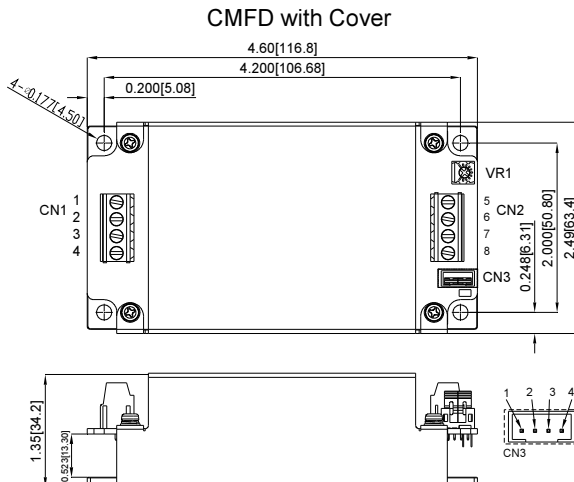
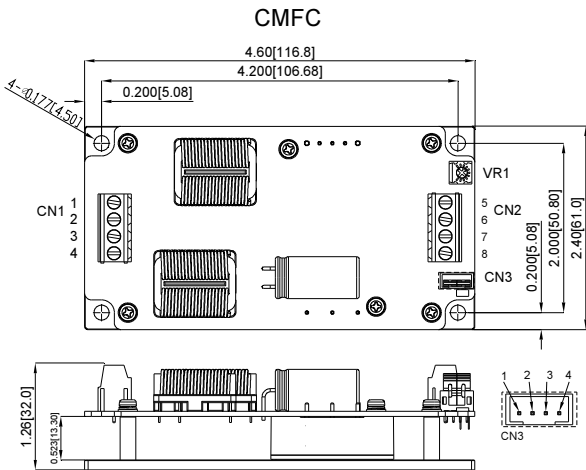
6. Output connector CN3 wafer with TAIWAN KING PIN TERMINAL P1101 series and mate with JST housing PH series or equivalent.
7. CN1 & CN2 connection: DINKLE EK500V-04P series or equivalent, suitable electric wire: 24~12AWG( IEC 0.5~2.5mm<sup>2</sup>).

## 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(DC Module) .....	1500pF typ.
Switching Frequency .....	300KHz typ.
Operating Case Temperature .....	-40°C to +100°C
Storage Temperature .....	-40°C to +105°C
Thermal Shutdown, Case Temperature(DC Module) .....	110°C typ.
Humidity .....	95% RH max. Non Condensing
MTBF .....	MIL-HDBK-217F, GB, 25°C, Full Load .....
	600Khrs typ.
Safety .....	Meets UL60950-1
EMC .....	Meets EN50155(EN50121-3-2:2008)
	with External Output Filter Meets EN50155(EN50121-3-2:2015)
Shock/Vibration .....	Meets EN50155(EN61373)
Environmental .....	EN50155(EN60068-2-1,2,30)
Case Material ...	-CMFC .....
	Aluminum Base
	-CMFD .....
	Aluminum Base and Aluminum Cover
Dimensions .....	-CMFC .....
	4.60x2.40x1.26 inches (116.8x61.0x32.0 mm)
	-CMFD .....
	4.60x2.49x1.35 Inches (116.8x63.4x34.2 mm)
Weight .....	-CMFC .....
	.215g
	-CMFD .....
	.300g

## Case Dimensions:

All Dimensions In Inches (mm)  
 Tolerance Inches: X.XX=±0.02, X.XXX=±0.010  
 Millimeters: X.X=±0.5, X.XX=±0.25



**CN1&CN2 PIN CONNECTION**

Pin	Function
1	+V Input
2	-V Input
3	Remote
4	Case
5	+V Output
6	+V Output
7	-V Output
8	-V Output

**CN3 PIN CONNECTION**

Pin	Function
1	-V Output
2	-Sense
3	+Sense
4	+V Output

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