



electronic powersolutions

CHASSIS MOUNT CQB150-300S SERIES 150 WATT 2:1 INPUT DC-DC CONVERTERS



FEATURES

- * 150W Isolated Output
- * Efficiency to 89%
- * Low No Load Power Consumption
- * Fixed Switching Frequency
- * Regulated Outputs
- * Over Temperature Protection
- * Over Voltage/Current Protection
- * Remote On/Off
- * Continuous Short Circuit Protection
- * Shock & Vibration Meet EN61373
- * Safety Meets IEC/EN/UL 62368-1
- * UL60950-1 2nd (Reinforced Insulation) Approval for DC Modules
- * Build-In EMI Filter
- * Fire & Smoke Meet EN45545-2
- * Baseplate Cooled



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB150-300S05□-CMFC CQB150-300S05□-CMFD	180-425 VDC	5 VDC	0 mA	30 A	10 mA	580 mA	85.5	10000μF
CQB150-300S12□-CMFC CQB150-300S12□-CMFD	180-425 VDC	12 VDC	0 mA	12.5 A	10 mA	560 mA	89	8800μF
CQB150-300S15□-CMFC CQB150-300S15□-CMFD	180-425 VDC	15VDC	0 mA	10 A	10 mA	560 mA	89	8800μF
CQB150-300S24□-CMFC CQB150-300S24□-CMFD	180-425 VDC	24 VDC	0 mA	6.3 A	10 mA	570 mA	88.5	3300μF
CQB150-300S28□-CMFC CQB150-300S28□-CMFD	180-425 VDC	28 VDC	0 mA	5.4 A	10 mA	570 mA	88.5	3300μF
CQB150-300S48□-CMFC CQB150-300S48□-CMFD	180-425 VDC	48 VDC	0 mA	3.2 A	10 mA	570 mA	89	1000μF

NOTE:

1. Nominal Input Voltage 300VDC
2. □ = N or None
3. VR 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 300V 180-425V
 Input Surge Voltage (100ms max.)500Vdc max.
 Under Voltage Lockout 300Vin Power up170V
 300Vin Power down 160.5V

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

OUTPUT SPECIFICATIONS:

Voltage Accuracy $\pm 1.0\%$ max.
 Transient Response: 75%-100% Step Load Change
 Error Band $\pm 5\%$ Vout Nominal, Recovery Time <250us
 Trim Adj. Range (By VR1) +10, -20%
 Ripple & Noise, 20MHz BW (note3)

5V 60mV RMS, 120mV pk-pk max.
 12V&15 80mV RMS, 150mV pk-pk max.
 24V&28V 100mV RMS, 200mV pk-pk max.
 48V150mV RMS, 300mV pk-pk max.

Temperature Coefficient $\pm 0.02\%/^{\circ}\text{C}$ max.
 Short Circuit Protection Continuous
 Line Regulation (note1) $\pm 0.2\%$ max.
 Load Regulation (note2) 5V $\pm 0.5\%$ max.
 Others $\pm 0.2\%$ max.

Over Voltage Protection Trip Range, % Vo Nom. 115-140%
 Current Limit 105%-140% Nominal Output
 Start up Time 350ms typ.

GENERAL SPECIFICATIONS:

Efficiency See Table
 Isolation Voltage Input/Output 3000VAC min.
 Input/Case 2500VAC min.
 Output/Case 500VAC min.
 Isolation Resistance 10^8 ohm min.
 Switching Frequency 360KHz typ.

Operating Case Temperature -40°C to 100°C
 Storage Temperature -40°C to $+105^{\circ}\text{C}$
 Thermal Shutdown, Case Temperature (DC Module) 110°C typ.
 Humidity 95% RH max. Non Condensing
 MTBF MIL-HDBK-217F, GB, 25°C , Full Load 589 Khrs typ.
 Safety Meets UL62368-1
 EMC Meets EN55032/EN55022 Class A
 Shock/Vibration MIL-STD-810F/EN61373
 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

NOTE:

- Measured from high line to low line.
- Measured from full load to zero load.
- Output ripple and noise measured with 1uF ceramic capacitor across output.
- Logic Compatibility open collector ref to -input
 Module on $>3.5\text{Vdc}$ to 12Vdc
 Module off 0 to $< 1.2\text{Vdc}$ or open circuit
- Suffix "N" to the model number with negative logic remote on/off.
 Module on 0 to $< 1.2\text{Vdc}$ or open circuit
 Module off $>3.5\text{Vdc}$ to 12Vdc
- Input connectors CN1 connection: DINKLE 166-04P5 series or equivalent, suitable electric wire: 18-12AWG(IEC 0.5-4mm²).
- Connector CN205 wafer with TAIWAN KING PIN TERMINAL P110I series and mate with JST housing PH series or equivalent.
- Output connectors CN2 connection: DINKLE EK500V-04P series or equivalent, suitable electric wire: 24-12AWG(IEC 0.5-2.5mm²).

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

