



## FEATURES

- \* 150W Isolated Output
- \* Efficiency up to 89%
- \* Fixed Switching Frequency
- \* 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> (Reinforced Insulation) Approval
- \* CB Test Certificate IEC60950-1
- \* Shock & Vibration Meets EN50155 (EN61373)
- \* Fire & Smoke Meets EN45545-2

# CQB150-300S SERIES

## 150 WATT 2:1 INPUT

## DC-DC CONVERTERS

## SINGLE OUTPUT



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB150-300S05	180-425 VDC	5 VDC	0 mA	30 A	10 mA	580 mA	86	10000 $\mu$ F
CQB150-300S12	180-425 VDC	12 VDC	0 mA	12.5 A	10 mA	560 mA	89	8800 $\mu$ F
CQB150-300S15	180-425 VDC	15 VDC	0 mA	10 A	10 mA	560 mA	89	8800 $\mu$ F
CQB150-300S24	180-425 VDC	24 VDC	0 mA	6.3 A	10 mA	570 mA	88.5	3300 $\mu$ F
CQB150-300S28	180-425 VDC	28 VDC	0 mA	5.4 A	10 mA	570 mA	88.5	3300 $\mu$ F
CQB150-300S48	180-425 VDC	48 VDC	0 mA	3.2 A	10 mA	570 mA	89	1000 $\mu$ F

### NOTE:

1. Nominal Input Voltage 300 VDC.
2. Require a Ceramic Capacitor 2200pF Connected Between -Vin to Case for All Models.
3. An External Input Capacitor 180uF for All Models are Recommended to Reduce Input Ripple Voltage.
4. Measure at Nominal Input Voltage.

# SPECIFICATIONS

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

## INPUT SPECIFICATIONS:

Input Voltage Range ..... 300V ..... 180-425V  
 Input over voltage protection ..... Module On .....440V typ.  
   Module Off ..... 450V typ.  
 Under voltage lockout ..... 300Vin Power Up ..... 170V  
   300Vin Power Down ..... 160V  
 Positive Logic Remote On/Off (note 4&5)  
 Input Filter (note7) ..... PI Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.0% max.  
 Transient Response: 75%-100% Step Load Change  
     Error Band ..... ±5% Vout  
     Recover Time ..... <250us  
 External Trim Adj. Range ..... +10%, -20%  
 Ripple & Noise, 20MHz BW (note3)  
     5V ..... 60mV 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 ..... 280ms typ.

## GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Isolation Voltage ..... Input/Output ..... 3000VAC min.  
   Input/Case ..... 2500VAC min.  
   Output/Case ..... 500VAC min.  
 Isolation Resistance ..... 10<sup>8</sup> ohm min.  
 Switching Frequency ..... 360KHz typ.  
 Operating Case Temperature ..... -40°C to +105°C  
 Storage Temperature ..... -55°C to +105°C  
 Thermal Shutdown, Case Temperature ..... 110°C typ.  
 Humidity ..... 95% RH max. Non condensing  
 MTBF ... MIL-HDBK-217F, GB, 25°C, Full Load ... 48V ..... 1000Khrs typ.  
   Others .... .800Khrs typ.

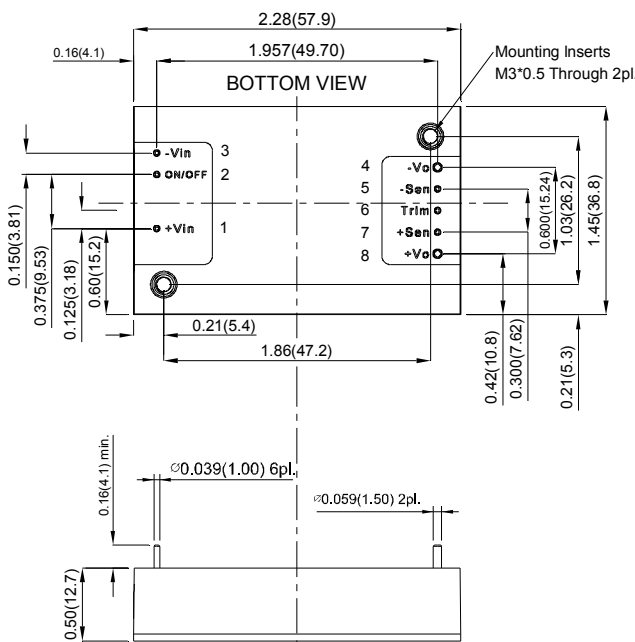
Dimensions ..... 2.28x1.45x0.50 inches (57.9x36.8x12.7 mm)  
 Case Material ..... Aluminum Base Plate with Plastic Case  
 Weight ..... 65g

## 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 75Vdc 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 75Vdc or open circuit
6. Suffix "-C" to the model number with clear mounting insert (3.2mm DIA.).
7. An external input capacitor 180uF for all models are recommended to reduce input ripple voltage.
8. Require a disc ceramic capacitor 2200pF (type KX Class X1 Y1 series Murata) connected between -vin to case for all models.

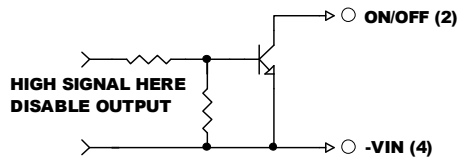
## QB Dimensions:

All Dimensions in Inches(mm)  
 Tolerance Inches:x.xx=±0.02 ,x.xxx=±0.010  
 Millimeters:x.x=±0.5 , x.xx=±0.25



PIN	Function
1	+V Input
2	On/Off
3	-V Input
4	-V Output
5	-Sense
6	Trim
7	+Sense
8	+V Output

## REMOTE ON/OFF CONTROL



## EXTERNAL OUTPUT TRIM

