

# COB100W

S E R I E S

## 100 WATT 4 : 1 INPUT RANGE DC-DC CONVERTERS



### Features

- 100W Isolated Output
- Quarter-Brick Package
- 4 : 1 Input Range
- Efficiency to 88%
- Regulated Output
- Input Under Voltage Protection
- Over Temperature Protection
- Over Voltage/Current Protection
- Remote ON/OFF
- 1500VDC Isolation
- Safety Meets UL60950-1

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	Capacitor Load max.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB100W-24S3V3	9-36V DC	3.3VDC	0 mA	30 A	120 mA	4797 mA	86	10000µF
CQB100W-24S05	9-36 VDC	5.0VDC	0 mA	20 A	120 mA	4817 mA	86.5	10000µF
CQB100W-24S12	9-36 VDC	12 VDC	0 mA	8.3 A	80 mA	4798 mA	86.5	2200µF
CQB100W-24S15	9-36 VDC	15 VDC	0 mA	6.7 A	80 mA	4841 mA	86.5	2200µF
CQB100W-24S24	9-36 VDC	24 VDC	0 mA	4.17 A	80 mA	4793 mA	87	2200µF
CQB100W-48S3V3	18-75 VDC	3.3VDC	0 mA	30 A	60 mA	2344 mA	88	10000µF
CQB100W-48S05	18-75 VDC	5.0VDC	0 mA	20 A	60 mA	2367 mA	88	10000µF
CQB100W-48S12	18-75 VDC	12 VDC	0 mA	8.3 A	30 mA	2358 mA	88	2200µF
CQB100W-48S15	18-75 VDC	15 VDC	0 mA	6.7 A	30 mA	2379 mA	88	2200µF
CQB100W-48S24	18-75 VDC	24 VDC	0 mA	4.17 A	30 mA	2369 mA	88	2200µF

NOTE: 1. Nominal Input Voltage 48 VDC

## Specifications

### INPUT SPECIFICATIONS:

Input Voltage Range.....	24V.....	9 - 36V
	48V.....	18 - 75V
Input Surge Voltage(100ms max.).....	24V.....	50Vdc max.
	48V.....	100Vdc max.
Under voltage lockout .....	24Vin power up.....	8.8V typ.
	power down.....	1.6V typ.
	48Vin power up.....	17V typ.
	power down.....	1.6V typ.
Input Filter .....	Pi Type	
Positive Logic Remote ON/OFF ( see note 4 & 5 )		

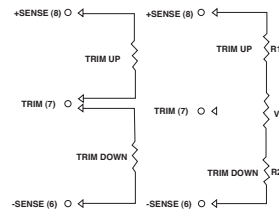
### OUTPUT SPECIFICATIONS:

Voltage Accuracy .....	±1.5% max.
Transient Response : 75% to 100% Step Load Change	
Error Band.....	3.3V±7% Vout, Otherst±5% Vout
Recover Time.....	< 500µs
External Trim Adj. Range <sup>6</sup> .....	±10%
Ripple & Noise, 20MHz BW <sup>3</sup>	
3.3V & 5V .....	40mV RMS max.
	100mV pk-pk max.
12V & 15V .....	60mV RMS max.
	150mV pk-pk max.
24V .....	100mV RMS max.
	240mV pk-pk max
Temperature Coefficient.....	±0.03%/°C max.
Short Circuit Protection.....	Continuous
Line Regulation <sup>1</sup> .....	±0.2% max.
Load Regulation <sup>2</sup> .....	±0.2% max.
Over Voltage Protection trip Range,% Vo nom. ....	115-140%
Current Limit .....	110% -160% Nominal Output
Start up time .....	120ms typ.

### GENERAL SPECIFICATIONS:

Efficiency.....	See Table
Isolation Voltage .....	Input/Output..... 1500VDC min.
	Input/Case..... 1500VDC min.
	Output/Case..... 1500VDC min.
Isolation Resistance .....	10 <sup>7</sup> ohm min.
Isolation Capacitance .....	1000pF typ.
Switching Frequency .....	24Vin..... 220KHz
	48Vin..... 250KHz
Power De-rating Curve.....	refer to Application Note
Operating Case Temperature .....	-40°C to 100°C
Storage Temperature Range.....	-40°C to +105°C
Thermal Shutdown, Case Temp. ....	110°C typ.
Dimensions.....	1.45x2.28x0.50 inches (36.8x57.9x12.7 mm)
Humidity .....	95% RH max. Non condensing
MTBF .....	MIL-STD-217F, GB, 25°C, Full Load ..... 600Khrs typ.
Case Material .....	Aluminum Base-plate with Plastic Case
Weight.....	66g

### External Output Trim



### PIN CONNECTION

Pin	Function
1	+V Input
2	ON/OFF
3	-V Input
4	-V Output
5	-Sense
6	Trim
7	+Sense
8	+V Output

### NOTE:

1. Measured From High Line to Low Line
2. Measured From Full Load to min. Load
3. The output noise is measured with 10µF tantalum capacitor and 1µF ceramic capacitor across output
4. Logic Compatibility ..... Open Collector ref to -Input  
 Module ON ..... >3.5Vdc to 75Vdc or Open Circuit  
 Module OFF ..... < 1.2Vdc
5. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF  
 Module ON ..... < 1.2Vdc  
 Module OFF ..... >3.5Vdc to 75Vdc or Open Circuit
6. Trim-up.....connect a resistor between the trim pin and +Sense  
 Trim-down.....connect a resistor between the trim pin and -Sense
7. Suffix "-C" to the Model Number with Clear Mounting Insert(3.2mm DIA.)
8. An external input capacitor 47µF for 48Vin models are recommended to reduce input ripple voltage.

## SIZE QB

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

