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**30-50W Module DC to DC power supply < CQB50W12**



**FEATURES**

- \* 30-50W Isolated Output
- \* Efficiency to 89%
- \* Fixed Switching Frequency
- \* 12:1 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
- \* CE Mark Meets 2014/30/EU
- \* UL60950-1 2<sup>nd</sup> (Basic Insulation) Approval
- \* Meet EN50155 with External Circuits
- \* Shock & Vibration Meets EN50155 (EN61373)
- \* Fire & Smoke Meet EN45545-2
- \* 5000m Operating Altitude



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(1)	(2)	
CQB50W12-72S05	14-160 VDC	5 VDC	0 mA	6.0 A	5 mA	530 mA	83	81	10000uF
CQB50W12-72S12	14-160 VDC	12 VDC	0 mA	4.2 A	5 mA	810 mA	87	86	6800µF
CQB50W12-72S24	14-160 VDC	24 VDC	0 mA	2.1 A	5 mA	810 mA	89	87	3300µF
CQB50W12-72S48	14-160 VDC	48 VDC	0 mA	1.05 A	8 mA	810 mA	88	85	680µF

NOTE:

1. Nominal Input Voltage 72 VDC
2. Measured at 110Vin



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**SPECIFICATIONS**

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

**INPUT SPECIFICATIONS:**

Operating Input Voltage Range ..... 72V ..... 14V-160V  
 Input Surge Voltage (100ms max.) ..... 200Vdc max.  
 Under Voltage Lockout ..... Power up ..... 13.6V  
 ..... Power down ..... 12.2V  
 Positive Logic Remote On/Off (note 4&5)  
 Input Filter ..... PI Type

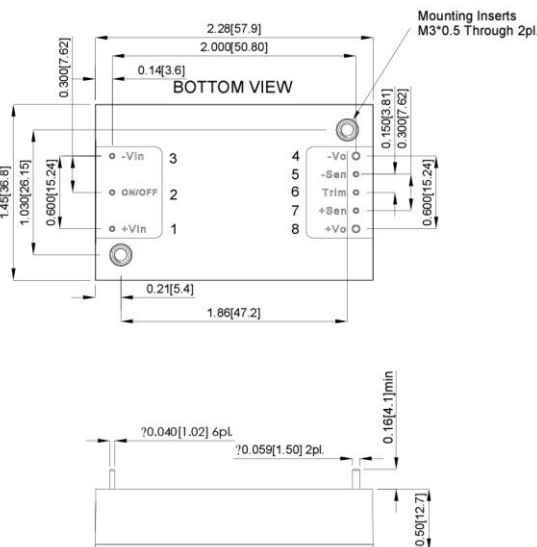
**OUTPUT SPECIFICATIONS:**

Voltage Accuracy ..... ±1.0% max.  
 Transient Response (25% Step Load Change) ..... <250µs  
 External Trim Adj. Range ..... -20%, +10%  
 Ripple & Noise, 20MHz BW (note3) ..... 40mV RMS, 100mV 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% - 220% Nominal Output  
 Start up time ..... 30ms typ.

**NOTE:**

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 22µF aluminum solid capacitor and 1µF ceramic capacitor across output.
4. Logic compatibility ..... open collector ref to -Input  
 Module on ..... > 3.5VDC to 160VDC or open circuit  
 Module off ..... 0 to <1.2 VDC
5. Suffix "N" to the model number with negative logic remote on/off  
 Module on ..... 0 to <1.2 VDC  
 Module off ..... >4.0VDC to 160VDC or open circuit
6. Suffix "-C" to the model number with clear mounting insert (3.2mm DIA.)
7. An external input capacitor 68µF for all models are recommended to reduce input ripple voltage
8. For information about EN50155 and RIA12, refer to application note.

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

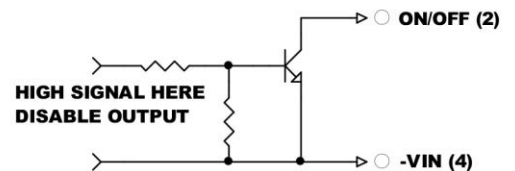


PIN CONNECTION	
PIN	Function
1	+V Input
2	On/Off
3	-V Input
4	-V Output
5	-Sense
6	Trim
7	+Sense
8	+V Output

**GENERAL SPECIFICATIONS:**

Efficiency ..... See Table  
 Isolation Voltage ..... Input/Output ..... 3000VDC min.  
 ..... Input/Case ..... 2500VDC min.  
 ..... Output/Case ..... 500VAC min.  
 Isolation Resistance ..... 10<sup>8</sup> ohm min.  
 Isolation Capacitance ..... 1000pF typ.  
 Switching Frequency ..... 240KHz typ.  
 Operating Case Temperature ..... -40°C to +100°C  
 Storage Temperature ..... -55°C to +125°C  
 Thermal Shutdown, Case Temp. .... 110°C typ.  
 Humidity ..... 95% RH max. Non condensing  
 Operating Altitude ..... 5000m  
 MTBF ..... MIL-HDBK-217F, GB, 25°C, Full Load ..... 780Khrs typ.  
 Safety ..... UL60950-1 2<sup>nd</sup> (Basic insulation)  
 EMC (note8) ..... EN50155 (EN50121-3-2) with external filter  
 Shock/Vibration ..... EN50155 (EN61373)  
 Environmental ..... EN50155(EN60068-2-1)  
 Fire & Smoke ..... EN45545-2  
 Dimensions ..... 2.28×1.45×0.50 inches (57.9×36.8×12.7 mm)  
 Case Material ..... Aluminum Baseplate with Plastic Case  
 Weight ..... 61.5 g

**REMOTE ON/OFF CONTROL**



**EXTERNAL OUTPUT TRIM**

