CFB400W Series

Features:

- 400W Isolated output
- Efficiency to 90%
- 4:1 input, single output
- Fixed switching frequency
- Input under-voltage protection
- Over temperature protection
- Over voltage/current protection
- Remote ON/OFF
- Full-Brick size meets industry standard
- Fullt isolated 1500VDC
- Without tantalum capacitor inside
- CE meets 2004/108/EC

CFB400W Specifications

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		(%) EFF		CAPACITIVE LOAD MAX.
			MN.	MAX.	NO LOAD	FULL LOAD	(3)	(4)	
CFB400W-24S05	9-36VDC	5VDC	0mA	80A	600mA	19.05A	86.5	87.5	10000uF
CFB400W-24S12	9-36VDC	12VDC	0mA	33.3A	120mA	19.36A	85	86	10000uF
CFB400W-24S24	9-36VDC	24VDC	0mA	16.7A	120mA	19.19A	88	87	4700uF
CFB400W-24S28	9-36VDC	28VDC	0mA	14.3A	120mA	19.18A	86.5	87	4700uF
CFB400W-24S48	9-36VDC	48VDC	0mA	8.3A	120mA	19.19A	85.5	86.5	2200uF
CFB400W-48S05	18-75VDC	5VDC	0mA	80A	300mA	9.36A	88.5	89	10000uF
CFB400W-48S12	18-75VDC	12VDC	0mA	33.3A	60mA	9.41A	88.5	88.5	10000uF
CFB400W-48S24	18-75VDC	24VDC	0mA	16.7A	60mA	9.28A	90	90	4700uF
CFB400W-48S28	18-75VDC	28VDC	0mA	14.3A	60mA	9.27A	90.5	90	4700uF
CFB400W-48S48	18-75VDC	48VDC	0mA	8.3A	60mA	9.27A	88	89.5	2200uF

Note:
1. Nominal input voltage 24, 48 VDC
2. The output terminal of 12V, 24V, 28V & 48Vout models require a minimum capacitor 330uF to maintain specific regulation. The output terminal of 5Vout models requires a minimum capaci tor 680uF to maintain specific regulation.
3. Measured at 12VDC for 24Vin, 24VDC for 48Vin
4. Measured at nominal input voltage

SPECIFICATIONS

INPUT SPECIFICATIONS:

Input Voltage Range ..... 24V 9-36V
48V 18-75V
Under voltage lockout ..... 24Vin power up 8.5V
24Vin power down 7.5V
48Vin power up 17V
48Vin power down 15V
Input over voltage protection ..... 24Vin Turn off ... 42V, Turn on 40V
48Vin Turn off ... 83V, Turn on ... 80V
Opto isolated Remote ON/OFF (Note 6)
Input Filter ..... PI Type

OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.5% max.
Transient Response: 25% Step Load Change ..... <500us
External Trim Adj. Range 80-110%
Load share Accuracy ..... ±10% at 50% to 100%Full Load
Auxiliary Output Voltage/Current ..... 10±3Vdc/20mA max.
Ripple & Noise, 20MHz BW
5V ..... 40mV RMS max., 100mV pk-pk max.
12V ..... 60mV RMS max., 120mV pk-pk max.
24V ..... 100mV RMS max., 240mV pk-pk max.
28V ..... 100mV RMS max., 280mV pk-pk max.
48V ..... 120mV RMS max., 480mV pk-pk max.
Temperature Coefficient ..... ±0.03%/°C
Short Circuit Protection ..... Continuous
Line Regulation (Note1) ..... ±0.2% max.
Load Regulation (Note2) ..... ±0.5% max.
Over Voltage Protection trip Range, % Vo nom. 115-140%
Current Limit ..... 110% ~150% Nominal Output
Start up time ..... 120ms typ.

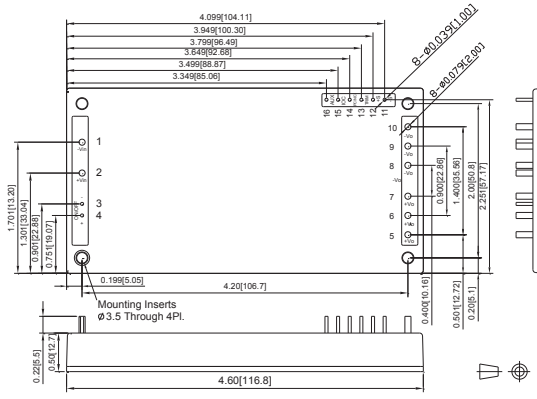
GENERAL SPECIFICATIONS:

Efficiency ..... See Table
Isolation Voltage ..... Input/Output ..... 1500VDC min.
Input/Case ..... 1500VDC min.
Output/Case ..... 1500VDC min.
Isolation Resistance ..... 10^7 ohm min.
Isolation Capacitance ..... 4000pF typ.
Switching Frequency ..... 230KHz typ.
Operating Case Temperature ..... -40ºC to 100ºC
Storage Temperature ..... -55ºC to +110ºC
Thermal Shutdown Case Temp. ..... 110ºC typ.
Humidity ..... 95% RH max. Non condensing
MTBF ..... MIL-HDBK-217F, GB, 25ºC, Full Load ..... TBD hrs
Dimensions ..... 4.60×2.40x0.50 inches (116.8x61.0×12.7 mm)
Case Material ..... Aluminum Baseplate with Plastic Case
Weight 220g

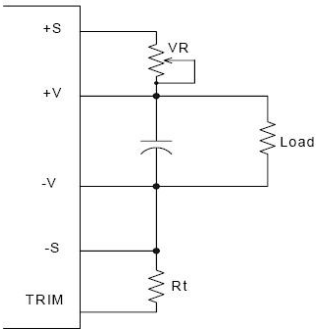
NOTE :

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output.
4. The output adjustment circuit and trim equations show as figure1 and figure2.
5. An external input capacitor 1000uF for 24Vin or 330uF for 48Vin models are recommended to reduce input ripple voltage.
6. Refer application note.
7. If the remote sense feature is not to be used, the +sense pin should be connected to the +Vout pin and the –sense pin should be connected to the -Vout pin. (refer application note)

CFB400W SERIES



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	-Vin
2	+Vin
3	-ON/OFF
4	+ON/OFF
5 - 7	+Vo
8 - 10	-Vo
11	-S
12	+S
13	TRIM
14	PC/NC
15	IOC
16	AUX



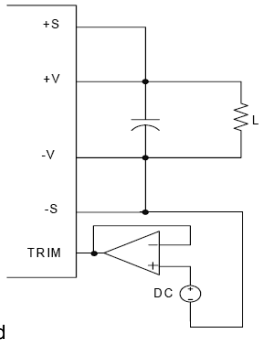
The output voltage can be determined by below equations:

$$Vf = \frac{1.24 \times (\frac{Rt \times 33}{Rt + 33})}{7.68 + \frac{Rt \times 33}{Rt + 33}}$$

$$Vout = (Vo + VR) \times Vf$$

Unit: KΩ
Vo: Nominal Output Voltage
Rt=6.8KΩ

Fig.1 The schematic of output voltage adjusted by using external resistor and/or variable resistor.



Output Voltage = TRIM Terminal Voltage * Nominal Output Voltage

Fig.2 The schematic of output voltage adjusted by using external DC voltage.