CFB600

S E R I E S

600-700 WATT
2 : 1 INPUT
DC-DC CONVERTERS

E176177
E252331

Features

- 600-700W Isolated Output
- Efficiency to 92%
- Fixed Switching Frequency
- Input under-voltage Protection
- Over Temperature Protection
- Over Voltage/Current Protection
- Remote ON/OFF
- Industry Full-Brick Package
- Fully Isolated 1500VDC
- Safety Meets UL60950-1
- UL60950-1 Approval

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	Capacitor Load max.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CFB600-24S12	18-36 VDC	12 VDC	0 mA	50 A	150 mA	28.09 A	89	10000μF[2]
CFB600-24S28	18-36 VDC	28 VDC	0 mA	21.5 A	150 mA	27.87 A	90	5000μF[2]
CFB600-24S32	18-36 VDC	32 VDC	0 mA	19 A	150 mA	27.84 A	91	5000μF[2]
CFB600-48S12	36-75 VDC	12 VDC	0 mA	50 A	90 mA	13.89 A	90	10000μF[2]
CFB700-48S28	36-75 VDC	28 VDC	0 mA	25 A	105 mA	16.03 A	91	5000μF[2]
CFB600-48S32	36-75 VDC	32 VDC	0 mA	19 A	90 mA	13.77 A	92	5000μF[2]

NOTE: 1. Nominal Input Voltage 24,48 VDC

2. The output terminal of all models required a minimum capacitor 470uF to maintain specified regulation.

Specifications

INPUT SPECIFICATIONS:

Input Voltage Range.....24V.....18-36V
48V.....36-75V
Input Surge Voltage (100ms max.) ..... 24V ..... 50Vdc max.
48V .....100Vdc max.
Undervoltage lockout .....24Vin power up..... 17V
24Vinpower down 16V
48Vin power up..... 35V
48Vinpower down 33V
Input over voltage protection .... 24Vin Turn off ..... 40V, Turn on 38V
48Vin Turn off ..... 80V, Turn on 77V
Opto isolated Remote ON/OFF
Input Filter ..... PI Type

OUTPUT SPECIFICATIONS:

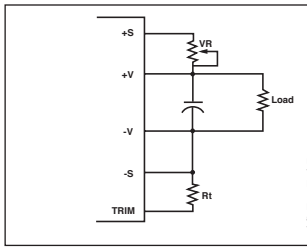
Voltage Accuracy.....±1.5% max
Transient Response: 25% Step Load Change.....< 500μs
External Trim Adj. Range.....60-110%
Load share Accuracy ..... ±10% at 50% to 100% Full Load
Auxiliary output voltage/current ..... 10±3Vdc/20mA max.
Ripple & Noise, 20MHz BW
12V ..... 60mV RMS max, 120mV pk-pk max.
24V ..... 100mV RMS max, 240mV pk-pk max.
28V ..... 100mV RMS max, 280mV pk-pk max.
32V ..... 120mV RMS max, 320mV pk-pk max.
48V ..... 200mV RMS max, 480mV pk-pk max.
Temperature Coefficient.....±0.03%/˚C max.
Short Circuit Protection..... Continuous
Line Regulation[1] ..... ±0.2% max.
Load Regulation[2]..... ±0.5% max.
Over Voltage Protection Trip Range, % Vo nom..... 115-140%
Current Limit.....105-140% Nominal Output
Start up time .....160ms 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 .....48S12&48S28&48S32..... 300KHz typ.
Others.....250KHz typ.
Operating Case Temperature.....-40˚C to +100˚C
Storage Temperature .....-55˚C to +105˚C
Thermal Shutdown, Case Temp.....110˚C typ.
Humidity ..... 95% RH max. Non condensing
MTBF ..... MIL-STD-217F, GB, 25˚C, Full Load ..... T.B.D. hrs.
Dimensions .....4.60x2.40x0.50 inches (116.8x61.0x12.7 mm)
Case Material ..... Aluminum Baseplate with Plastic Case
Weight 220g

PIN CONNECTION

Pin	Function
1	-V Input
2	+V Input
3	-ON/OFF
4	+ON/OFF
5~7	+V Output
8~10	-V Output
11	-Sense
12	+Sense
13	Trim
14	PC/NC
15	IOC
16	AUX



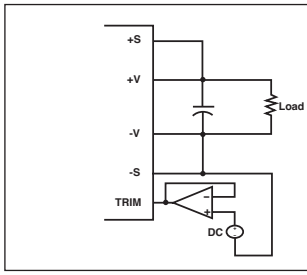
The output voltage can be determined by below equations:

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

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

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.

NOTE:

1. Measured From High Line to Low Line.
2. Measured From Full Load to Zero Load.
3. Output Ripple and Noise measured with 10μF tantalum and 1μF Ceramic capac tor across output.
4. The output adjustment circuit and trim equations show as figure1 and figure2.
5. An extermal input capacitor 220μF for all models are recommended to Reduce input ripple voltage.
6. Refer App;ication Note Item 5.5.

CASE FB

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