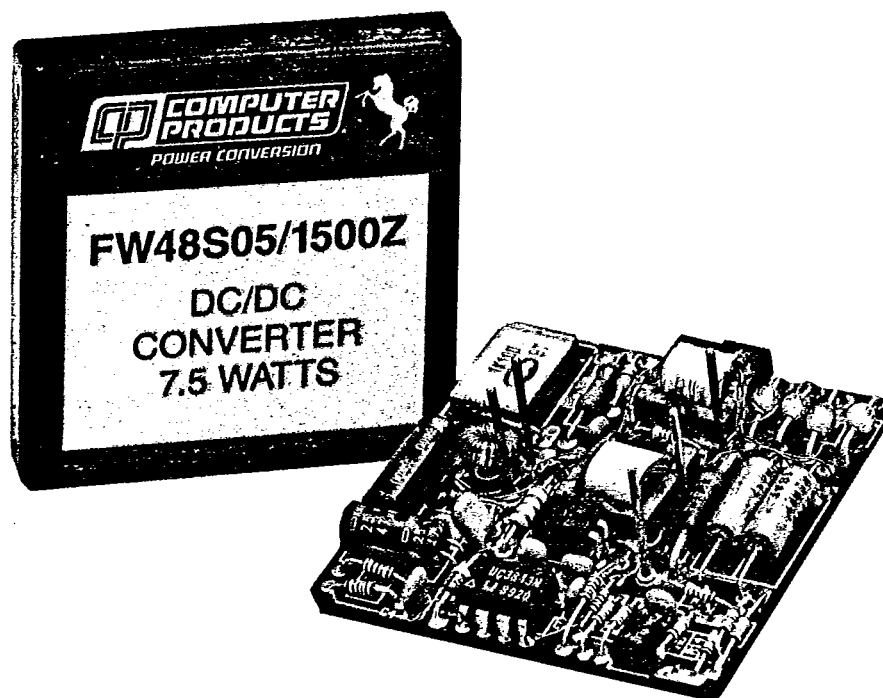


T-57-11

FW SERIES

WIDE INPUT DC/DC CONVERTERS



INTRODUCTION

The FW series are 7.5 watt, high efficiency DC/DC converters that accept input voltages ranging from 36VDC to 72VDC. They provide full output power without derating up to 50°C without the need for additional heatsinking. The isolated floating output can be referenced as either positive or negative, or "stacked" in series for higher output voltages.

The FW series meets the UL 94V-0 specification. Its small 2" X 2" size is pin-for-pin compatible with the older Computer Products "F" series. This product is ideal for applications such as telecommunications, data communications, distributed power networks, field test and battery powered systems, and space-critical equipment.

STANDARD FEATURES

- Wide 2:1 input range
- High efficiency
- 600,000 hour MTBF
- Low profile case
- Overvoltage protection
- Overcurrent protection
- Two year warranty

OUTPUT CHARACTERISTICS

Model Number	Output Voltage	Output Currents		Ripple⁽¹⁾ P-P Max	Error Band Max⁽²⁾
		Minimum	Maximum		
FW48S05/1500Z	5.0V	0.375A	1.5A	100 mV	±3%
FW48S12/625Z	12.0V	0.156A	0.625A	100 mV	±3%
FW48D12/315Z	+12V	0.079A	0.315A	100 mV	±3%
	-12V	0.079A	0.315A	100 mV	±5%
FW48D15/250Z	+15V	0.063A	0.25A	100 mV	±3%
	-15V	0.063A	0.25A	100 mV	±5%

⁽¹⁾ This parameter is measured with 0.1 μ F capacitor across the output pins.

⁽²⁾ Error band is defined as the static output regulation at 25°C, including initial setting accuracy, input voltage within stated limits and output current within stated limits. On dual output converters, error band limits assume equal output loads. Zero output load operation will not damage the converter, but the output voltage will rise to the OVP threshold.

ELECTRICAL CHARACTERISTICS⁽³⁾

Parameter	Conditions	Limits
Input Voltage		36 VDC to 72 VDC
Input Filter		LC type
Reflected Ripple Current	0 to 20 MHz, 0.1 ohm input impedance	15 mA P-P
Input Current	No output load	20 mA
	25% load	54 mA
	Full load	200 mA
Setting Accuracy		±1%
Line Regulation	Low line to high line, full load	±1.0% maximum
Load Regulation	25% load to full load	±0.5% typical
Output PARD⁽⁴⁾		100 mV P-P maximum 10 mV RMS typical
Overshoot	Turn-on	10% typical
Transient Response	25% load step	100 mV peak transient, settling within 1% in 500 μ S
Temperature Coefficient		±0.02%/C
Overvoltage Protection Threshold	5V output	6.8V
	12V output	15V
	15V output	18V
Short Circuit Protection Threshold	Automatic recovery	Current limit at 120% of rated output, foldback at short circuit
Total Output Power	50°C ambient temperature	7.5 watts maximum
Isolation Voltage	Input to output	500 VDC
Isolation Resistance	Input to output	10 ⁹ ohms minimum
Switching Frequency		160 KHz

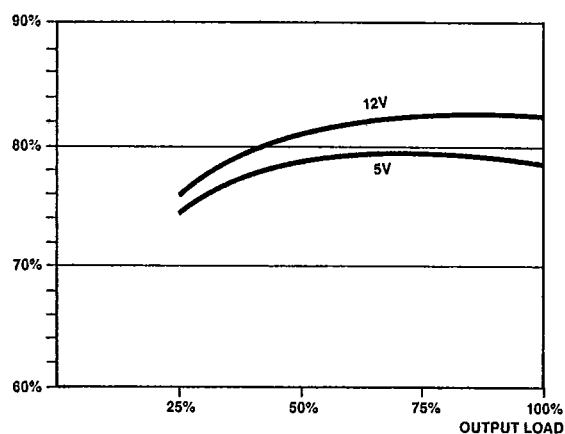
⁽³⁾ All specifications typical at 48VDC input, full output load, 25°C ambient temperature unless otherwise noted.

⁽⁴⁾ Periodic And Random Deviation. This parameter is measured with 0.1 μ F capacitor across the output pins.

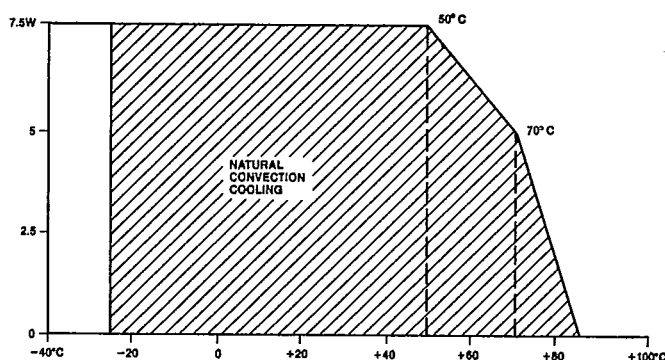
ENVIRONMENTAL SPECIFICATIONS

Altitude	Operating	10,000 feet maximum
	Non-operating	40,000 feet maximum
Temperature	Operating	-25°C to +71°C
	Non-operating	-40°C to +100°C
Cooling		Free air convection
Relative Humidity	Non-condensing	5% to 95%
Vibration	Three orthogonal axes, random vibration	2.4G RMS (approximately)
	10 minute test for each axes	5 Hz to 500 Hz
MTBF	MIL-HDBK 217E	600,000 hours minimum
Weight		3.5 oz. (98 grams)
Case Material		Black anodized aluminum with non-conductive base
Flammability Rating		Meets 94V-0

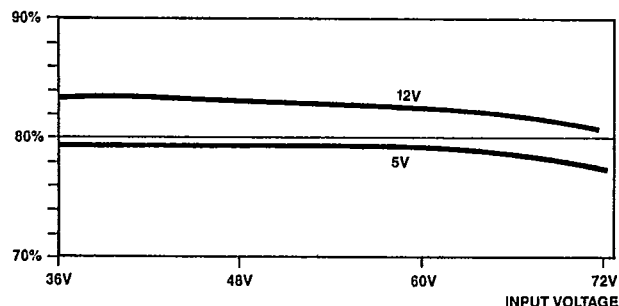
TYPICAL EFFICIENCY VS. OUTPUT LOAD (48VDC INPUT)



OPERATING LIMITS AND OUTPUT POWER RANGE



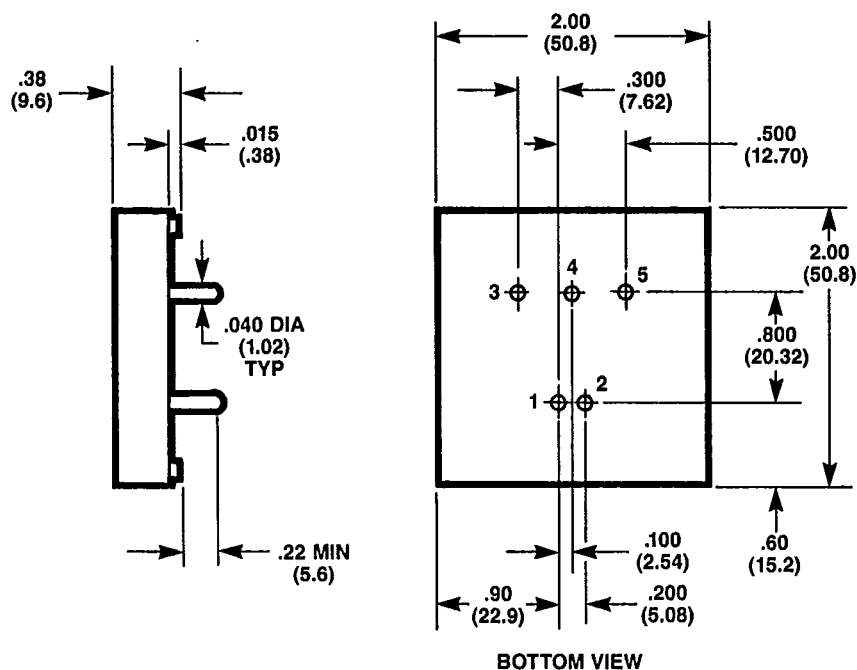
TYPICAL EFFICIENCY VS. INPUT VOLTAGE (FULL OUTPUT LOAD)



MECHANICAL SPECIFICATIONS

PIN CHART

	FW48S05/1500Z	FW48S12/625Z	FW48D12/315Z	FW48D15/250Z
Pin 1	Input (+)	Input (+)	Input (+)	Input (+)
Pin 2	Input (-)	Input (-)	Input (-)	Input (-)
Pin 3	+5V	+12V	+12V	+15V
Pin 4	(no pin)	(no pin)	Output Return	Output Return
Pin 5	Output Return	Output Return	-12V	-15V



COMPUTER PRODUCTS/POWER CONVERSION
3797 Spinnaker Court • Fremont, CA 94538
Phone: 415-657-6700 • Fax: 415-683-6400