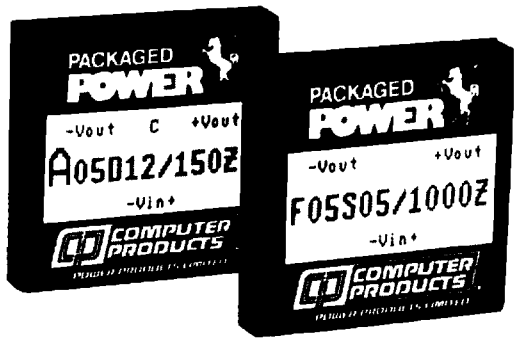
A and F SERIES

Single and dual outputs

For new design-ins see the AFC5 and PM900 Series instead

- **Low noise**
- **Linear regulation**
- **Six sided shield**
- **Pi input filter**
- **Short circuit protected**
- **High Isolation**
- **Meets EN55022 and VDE0871 level B conducted noise**



2 YEAR WARRANTY

The A and F Series offer high input/output isolation of 500VDC with only 1mV rms (40mV pk-pk) output ripple and noise. Other premium performance features include line and load regulation of less than ±0.1% and efficiencies of up to 69%. The converters are encapsulated in a 2 x 2 inch industry standard package with a 0.38 inch profile. The six sided copper case allows optimum thermal conductivity and provides shielding for EMI/RFI suppression. A Pi input filter reduces reflected ripple.

Reliable operation is assured through the use of efficient, design-derated components and by heatsinking all dissipating elements directly to the metal case. This permits operation from -25°C to +71°C with no derating or additional heatsinking required. A and F Series DC/DC converter are suitable for a wide range of general industrial applications, especially where low noise levels are required.

SPECIFICATION

ALL SPECIFICATIONS ARE TYPICAL AT NOMINAL INPUT, FULL LOAD AND 25°C UNLESS OTHERWISE STATED

OUTPUT SPECIFICATIONS		
Line regulation	HL to LL, A series FL to NL, F series	±0.07%, max. ±0.1%, max
Load regulation	A series, FL-NL, all outputs F series, FL-NL, dual output	±0.07% ±0.1%
Cross regulation	Voltage balance, duals	±1.0%, max
Ripple and noise	5Hz to 20MHz	40mV pk-pk, max. 1mV rms, max.
Transient response	A series: FL to NL F series: FL to NL F series: FL to 50% FL	±0.1% max. dev., 50µs recovery ±0.5% max. dev., 75µs recovery ±0.5% max. dev., 25µs recovery
Temperature coefficient		±0.01%/°C, max.
Overvoltage protection	F series, 5 Volt output models only	6.8VDC
Short circuit protection	A series, output to common F series, output to common	150% Iout 160% Iout
INPUT SPECIFICATIONS		
Input voltage range		See table on facing page
Input filter	See Note 5	Pi network

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS		
Conducted noise	EN55022, EN55011, FCC	Class B
GENERAL SPECIFICATIONS		
Efficiency		63% min.
Isolation Voltage	Input/Output	500VDC
Switching frequency	Fixed	20kHz
Case Material		Black coated copper with non-conductive base
Weight		50g (1.77oz)
MTBF	MIL-HDBK-217E	680,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Temperature	Operating ambient Non-operating Case Derating Cooling	-25°C to +71°C -55°C to +85°C +95°C, max. None required Free-air convection
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non-operating	10,000 feet max. 40,000 feet max.

5 Watt
Nominal input DC/DC converters

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		REGULATION (1)		% EFF	CASE	MODEL NUMBER
			NO LOAD	FULL LOAD	LINE (MAX.) (2)	LOAD (MAX.) (3)			
5VDC	15VDC	350mA	157mA	1520mA	±0.1%	±0.1%	69	Z	F05S15/350Z
48VDC	6VDC	1000mA	15mA	200mA	±0.1%	±0.1%	63	Z	F48S06/1000Z
48VDC	12VDC	500mA	15mA	205mA	±0.1%	±0.1%	61	Z	F48S12/500Z
5VDC	±15VDC	±150mA	150mA	1350mA	±0.07%	±0.07%	67	Z	A05D15/150Z
12VDC	±12VDC	±150mA	50mA	460mA	±0.07%	±0.07%	65	Z	A12D12/150Z
12VDC	±15VDC	±150mA	50mA	540mA	±0.07%	±0.07%	69	Z	A12D15/150Z

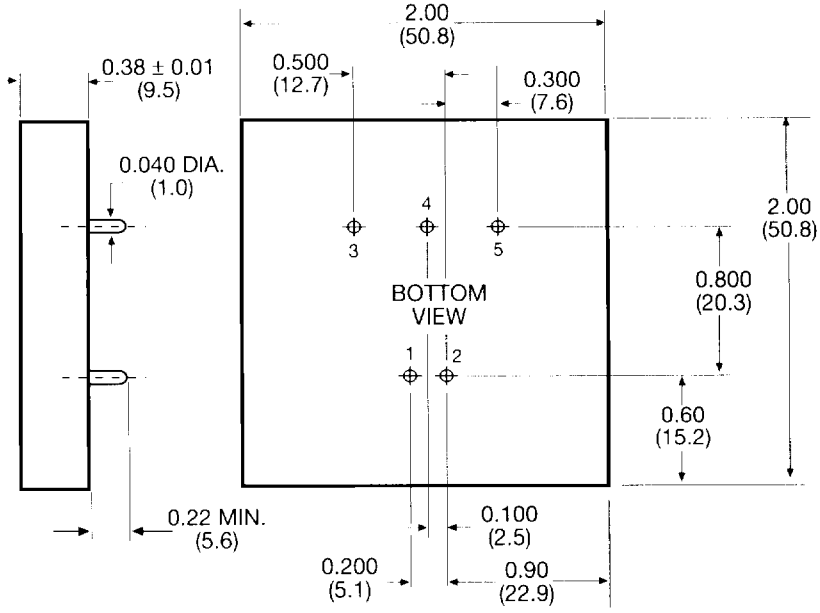
Notes
1. Maximum.
2. Measured from high line to low line.
3. Measured from full load to no load.
4. The A series case is connected to output common for all input voltages except 48V when it is connected to + input.
5. Fixed frequency design provides for easier input filtering and better noise performance.
6. The input voltage range can be increased to 10% under reduced loads. Please contact the factory for details.

INPUT VOLTAGE RANGES (6)		
NOMINAL INPUT	A SERIES	F SERIES
5VDC	4.75 to 5.25V	4.75 to 5.5V
48VDC		42.0 to 56.0V
12VDC	11.0 to 13.0V	

PIN CONNECTIONS		
PIN	A SERIES (4)	F SERIES
1	+ Input	+ Input
2	– Input	– Input
3	+ Output	+ Output
4	Common	No Pin
5	– Output	– Output

Tolerance .xx = ±0.04
.xxx = ±0.005

CASE Z



ALL DIMENSIONS IN INCHES (mm)