

## A and F SERIES

Single and dual output

Recommended for new design-ins



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

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  $\pm 0.1\%$  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  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$  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.

[ 2 YEAR WARRANTY ]

### SPECIFICATION All specifications are typical at nominal input, full load at $25^{\circ}\text{C}$ unless otherwise stated

OUTPUT SPECIFICATIONS		
Line regulation	HL to LL, A series FL to NL, F series	$\pm 0.07\%$ , max. $\pm 0.1\%$ , max
Load regulation	A series, FL-NL, all outputs F series, FL-NL, dual output	$\pm 0.07\%$ $\pm 0.1\%$
Cross regulation	Voltage balance, duals	$\pm 1.0\%$ , max
Ripple and noise	5Hz to 20MHz	40mV pk-pk, max. 1mV rms, max.
Transient response	A series: FL to NL	$\pm 0.1\%$ max. dev., 50 $\mu\text{s}$ recovery
	F series: FL to NL	$\pm 0.5\%$ max. dev., 75 $\mu\text{s}$ recovery
	F series:	$\pm 0.5\%$ max. dev.,
	FL to 50% FL	25 $\mu\text{s}$ recovery
Temperature coefficient		$\pm 0.01\%/^{\circ}\text{C}$ , 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	$-25^{\circ}\text{C}$ to $+71^{\circ}\text{C}$
	Non-operating	$-55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$
	Case	$+95^{\circ}\text{C}$ , max.
	Derating	None required
Cooling	Free-air convection	
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating	10,000 feet max.
	Non-operating	40,000 feet max.

INPUT VOLTAGE RANGES <sup>(6)</sup>		
NOMINAL INPUT	A SERIES	F SERIES
5VDC	4.75 to 5.25V	4.75 to 5.5V
48VDC	42.0 to 56.0V	

# 5 Watt Nominal input DC/DC converters

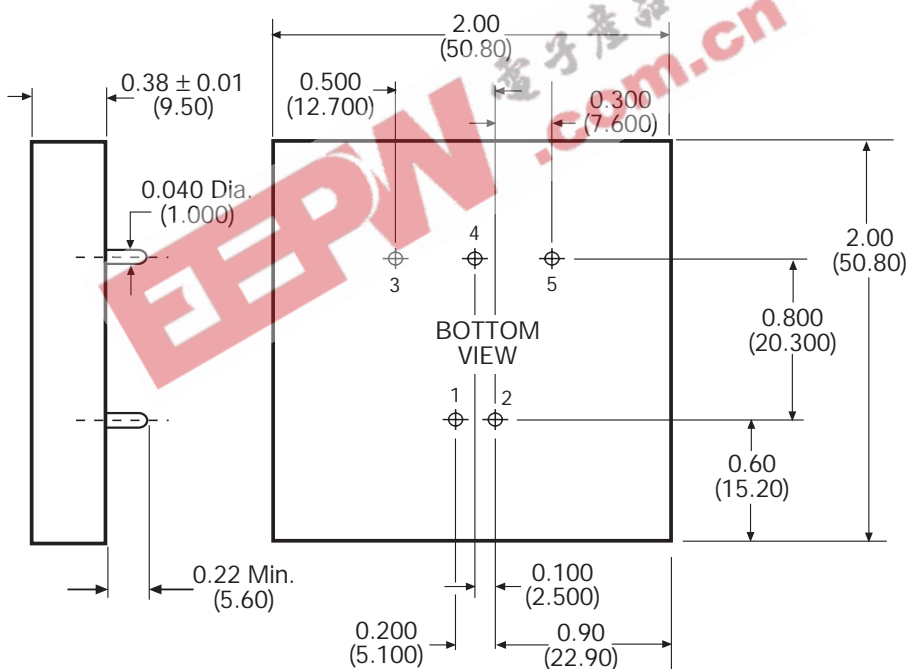
INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT		REGULATION (1)		EFFICIENCY	MODEL NUMBER
			NO LOAD	FULL LOAD	LINE (MAX.) (2)	LOAD (MAX.) (3)		
5VDC	±12VDC	±150mA	150mA	1150mA	±0.07%	±0.07%	63%	A05D12/150Z
48VDC	±15VDC	±150mA	20mA	135mA	±0.07%	±0.07%	69%	A48D15/150Z
5VDC	5VDC	1000mA	130mA	1500mA	±0.1%	±0.1%	67%	F05S05/1000Z

**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.

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

**CASE**



Tolerance .xx = ±0.04  
 .xxx = ±0.005