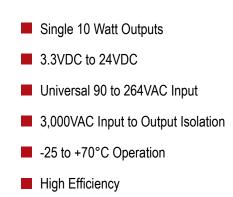


## PowerBlock Micro-Miniature Modular Switching Power Supplies

# AFC series



2"L x 1"w x 0.9"H



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Model Number	Output Voltage	Output Amps	Output Watts	Size (inches)	Fully Approved
AFC-3.3S	3.3 VDC	2.5	8W	1 x 2 x 0.9	IEC60950 EN60950 UL60950-1 CSA22.2-60950-1
AFC-5S	5 VDC	2	10W	1 x 2 x 0.9	
AFC-12S	12 VDC	0.83	10W	1 x 2 x 0.9	
AFC-15S	15 VDC	0.66	10W	1 x 2 x 0.9	
AFC-24S	24 VDC	0.42	10W	1 x 2 x 0.9	

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## PowerBlock Micro-Miniature Modular Switching Power Supplies

### INPUT SPECIFICATIONS

Input Voltage, Nominal	90-264VAC	
	Nominal: 100-240VAC	
Input Frequency	47-63 Hz, 50-60Hz Nom.	
Inrush Current	20A @ 100VAC, typ	
	40A @ 200VAC, typ	

#### **OUTPUT SPECIFICATIONS**

Output Voltage/Current	See Specific Model
Initial Accuracy	+/-1%, typ
Load Regulation	3.3V & 5V:+/-1%, typ
20%-FL	12V, 15V, & 24V:+/-0.5%, typ
Line Regulation	3.3V & 5V:+/-1%, typ
	12V, 15V, & 24V:+/-0.5%, typ
Temperature Coefficient	+/-0.03%/°C
Ripple/Noise(20Mhz BW)	200-250mV Pk-Pk, typ
Overvoltage Protection	Clamp, 130-150% *
Hold Up Time	30mS, typ
Short Circuit Protection	Continuous *
OverTemp Protection	Latching, Recovering
Current Limit	130% typ,Self-Reset Foldback

### **GENERAL SPECIFICATIONS**

Input-Out Isolation	3000VAC	
Output-Ground Isolation	1000VAC	
Input-Ground Isolation	2500VAC	
Operating Frequency	100 Khz, fixed, typ	
Efficiency (@ Full Load)	75 - 80%, typ	
Safety	EN60950, TUV File# B050122749064	
	IEC60950, CB File# DE 3-51024	
	UL60950-1, UL File# E167432	

AFC series

## **ENVIRONMENTAL SPECIFICATIONS**

Oper. Temperature	-25 to +50°C FL
	Derate Linearly to 25%L @ 70°C
Relative Humidity	0-95%, Non-Condensing
Storage Temperature	-25 to +71°C *
MTBF	466,553 Hrs
	MIL-HDBK 217, Parts Count Method,
	25°C, Ground Benign

#### PHYSICAL SPECIFICATIONS

Case Material	Rynite, 94V-0 Rated
Construction	Encapsulated, Soft Pot
Weight	1.5 oz (42g)

\* These are stress ratings. Exposure of the devices to any of these conditions may adversely affect long term reliability. Proper operation under conditions other than the standard operating conditions is neither warranteed nor implied.

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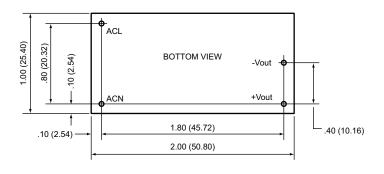
ASTRODYNE USA: 1-800-823-8082 ASTRODYNE PACIFIC: 886-2-26983458

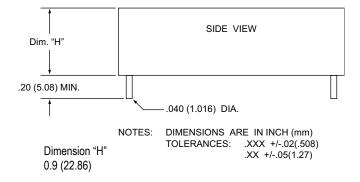


## PowerBlock Micro-Miniature Modular Switching Power Supplies

AFC series

## MECHANICAL SPECIFICATIONS

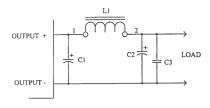




## POWER BLOCK APPLICATION NOTES

#### **Output Noise**

The figure below ia a sample diagram to reduce Output Ripple and Noise.



C1 = Electrolytic Capacitor Capacitance = 22uF - 220uF Voltage = Two times rated output voltage

L1 = 3uH - 10uH

- C2 = Electrolytic Capacitor Capacitance = 22uF - 47uF Voltage = Two times rated output voltage
- C3 = Ceramic Capacitor Capacitance = 0.01uF - 0.1uF Voltage = 50 volt

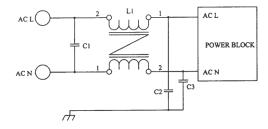
## Notes:

- 1. The use of C1 alone may reduce noise to desired levels, if not use L1, C2 and C3 in addition to C1.
- 2. The figure above is a suggested circuit. Only by trying true application can levels be tested.

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## EMI

The figure below ia a suggested diagram to reduce Electromagnetic Interference (EMI).



C1 = 0.22uF X Capacitor

L1 = 10mH - 30mH Common Mode, Choke

C2, C3 = 220pF Y Capacitors

### Notes:

The diagram above is a recommended circuit, only by trying true application can levels be measured.

## Inrush Current

If desired, the use of a Choke, NTC or Inrush Current Limiter may be used to reduce the Inrush Current