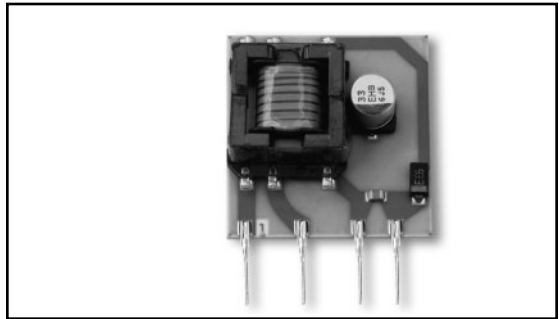


# MODEL 830-004

## Power Supply Module



### DESCRIPTION

The 830-004 is a single output isolated DC/DC converter with an input range of 110 to 375 Vdc. This allows the module to operate from any rectified 80 to 265 Vac line, corresponding to line voltages found worldwide. Fixed output voltages between 5 to 18 Vdc

are available to suit a variety of applications. Low cost, high reliability and small dimensions are the main characteristics of this design. The use of an advanced PWM provides for stable and efficient operation over a wide load range.

### FEATURES

- Continuous 6 watts of output power without use of a heat sink
- Wide input voltage range from 110 Vdc to 375 Vdc
- Single fixed regulated output, voltages available from 5 Vdc to 18 Vdc
- Sustains continuous short circuit
- Two sided layout design and SIP package minimized board space requirement
- Efficient circuit design constructed on a thermally conductive ceramic substrate
- UL recognition pending

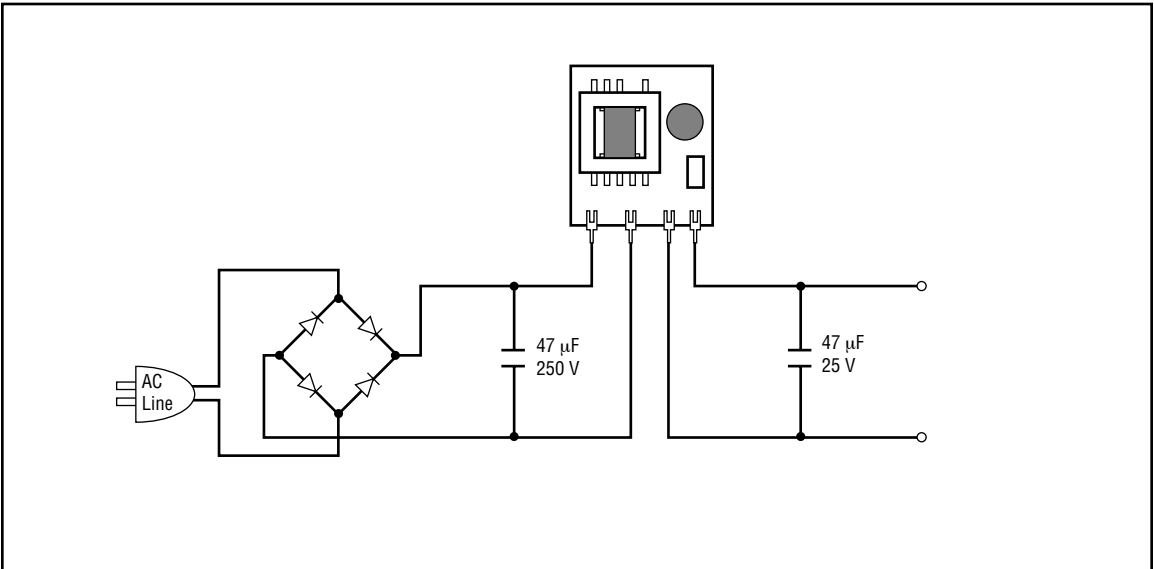
### APPLICATIONS

- Provides DC power for PWM and control circuitry for off-line switching power suppliers
- Provides isolated low DC voltages from AC line voltage levels (rectifier external)
- Battery chargers for portable personal electronics
- Industrial controls and line monitoring
- Stand-alone power supply for small electronics and  $\mu$ P controlled appliances
- Replacement for wall mount transformers and linear regulators

Specifications subject to change without notice.

Last update: 06/06/02.

## TYPICAL CONFIGURATION



## APPLICATION NOTES

Model 830-004 is a complete DC/DC module based on a flyback circuit topology.

Most applications require the addition of output capacitance. The capacitor's voltage rating should be selected in correlation to the output voltage of the 830-004. Choose sufficient capacitance to reduce the output ripple to an acceptable level for the application.

A 47µF electrolytic should generally be suitable and should be located close to the output pins.

To operate from an AC line, a bridge rectifier must be added. A DB104 bridge rectifier or four IN4005 configured as pictured.

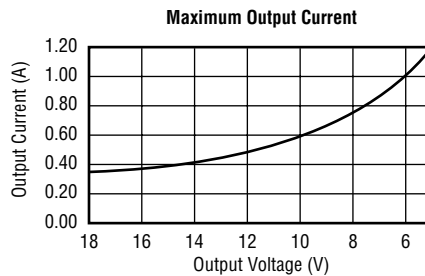
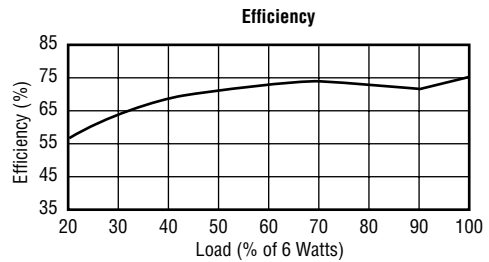
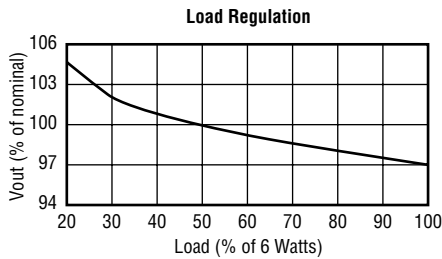
Diodes should be 600 volts, 1 amp and should be used in conjunction with a 47µF input capacitor. Choose the capacitor voltage rating appropriately. For example, 117 Vac generates 165 volts peak. At a 1.5 x derating, use a 250 volt capacitor.

## ELECTRICAL

PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Input Voltage		110		375	Vdc
Output Voltage, Nom.*	50% Rated Output Power	-5%	*	+5%	Vdc
Load Regulation	20%-80% Rated Output Power	-8%		+8%	% chg. from Nom.
Line Regulation	Vin min. to max. 50% Rated Output Power			50	$\Delta$ mV
Output Ripple	See Typical Configuration			250	mVpp
Efficiency	20% Rated Power		55		%
	50% Rated Power		70		%
	100% Rated Power		75		%
Operating Frequency			500		KHz
Output Power		6			W
Operating Temperature		0		70	$^{\circ}$ C

\* Standards available: 5, 6, 9, 12, 15 and 18 Volts.

## ELECTRICAL CURVES



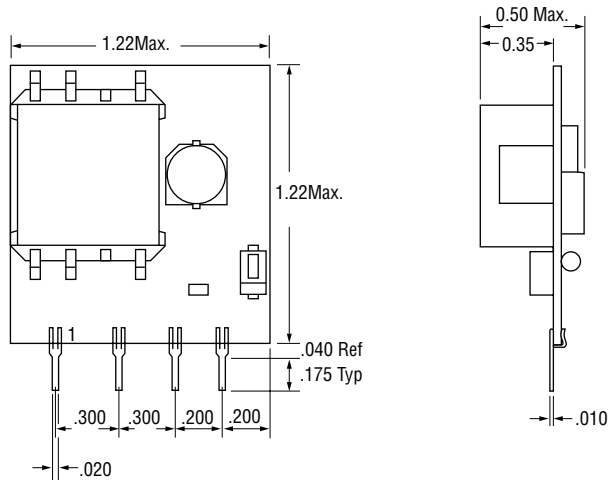
## OUTLINE DIMENSIONS (Inch)

### Vertical Mounting, Through-Hole, SIP

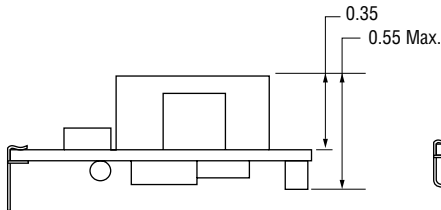
This module is produced in a 4 lead SIP package to achieve a maximum reduction of required board space.

Leads:

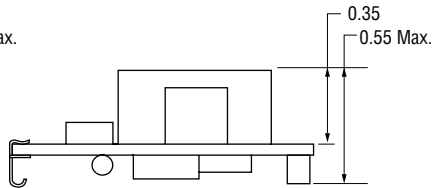
1: Vin+            3: Vout-  
2: Vin-            4: Vout+



### Horizontal Mounting, Through-Hole, SIP



### Horizontal Mounting, Surface Mount, SIP



## ORDERING INFORMATION

