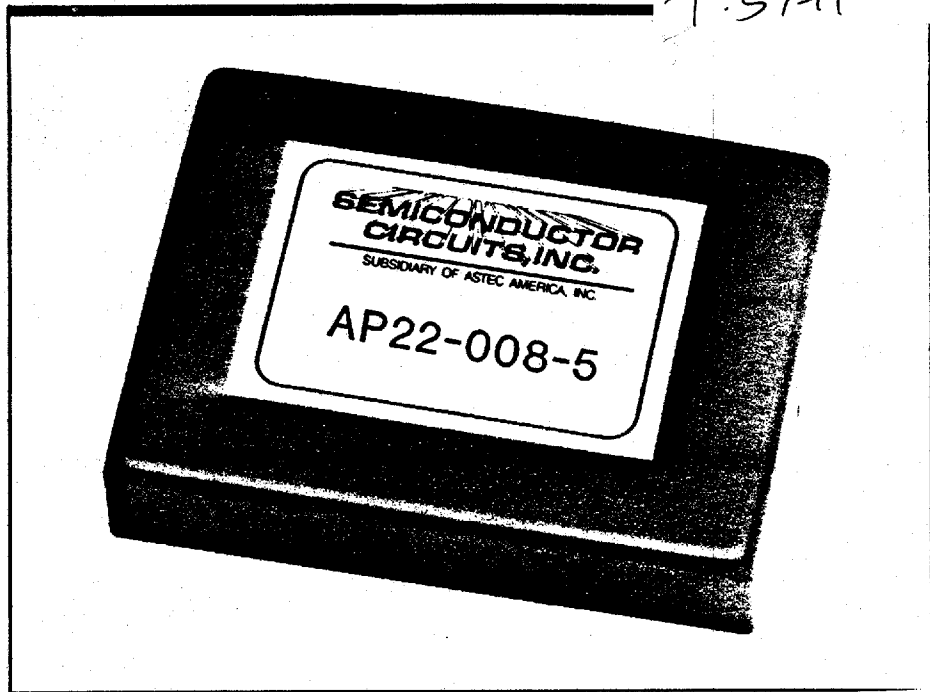


T.57-11

# DC/DC Converters Single/Dual Outputs A Series

- LOW COST
- SMALL CASE
- NON-ISOLATED
- INTERNAL FILTER CAPACITOR
- 1 WATT OUTPUT POWER



The A Series are economically priced, single and dual output DC/DC converters. Providing high reliability and either single positive, single negative, or dual outputs, the A Series are designed for low power, PCB applications. Packaged in a small case measuring 1.34" x 1.02" x 0.39", the A Series also feature efficiencies to 75% and good regulation with regard to input and load variation.

## Applications

The A Series is ideally suited for all space-critical PCB applications requiring low-cost, high reliability power conversion. Applications include telecommunications, process control, automatic test equipment, etc.

## Specifications

### INPUT

Vin-Nominal 5 Vdc  
Voltage Range +20%

### OUTPUT

Voltage Tolerance +3% (single output)  
+4% (dual output)  
Ripple & Noise 500 mV p-p  
Temperature Coefficient 0.05 %/°C (+Vdc singles)  
0.08 %/°C (-Vdc singles & duals)

### GENERAL

Regulation: Line/Load  
Single Output 0.8%/1.0%  
Dual Output 0.8%/1.5%  
Efficiency to 75%  
I/O Isolation Not Galvanically Isolated

### ENVIRONMENTAL

Operating Temperature 0°C to +50°C (No Derating)  
Storage Temperature -25°C to +71°C  
Cooling Free-air Convection

**SEMICONDUCTOR  
CIRCUITS, INC.**

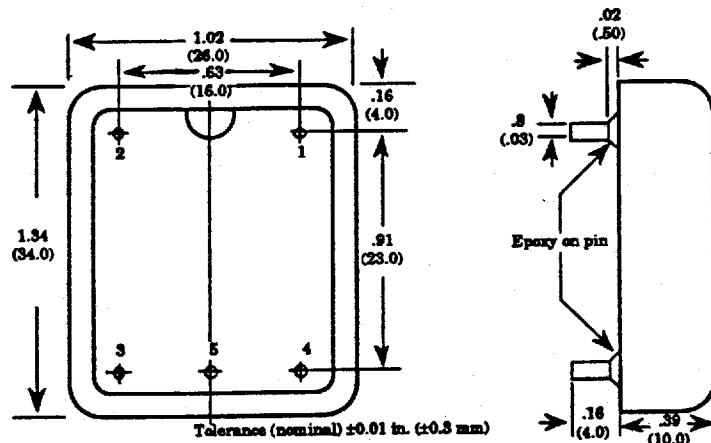
SUBSIDIARY OF ASTEC AMERICA, INC.

All specifications are typical at nominal line and full load at 25°C unless otherwise noted. Specifications Subject To Change Without Notice

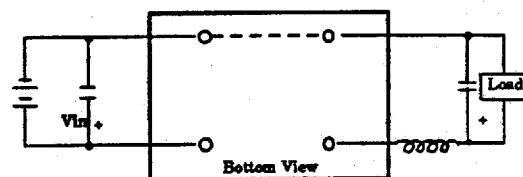
# Ordering Information

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	PINOUT ASSIGNMENT	MODEL NUMBER
4.0-6.0 Vdc	-5 Vdc	200 mA	1	AN11-020-5
4.0-6.0 Vdc	-12 Vdc	84 mA	1	AN12-008-5
4.0-6.0 Vdc	-15 Vdc	68 mA	1	AN13-006-5
4.0-6.0 Vdc	+12 Vdc	84 mA	2	AP12-008-5
4.0-6.0 Vdc	+15 Vdc	68 mA	2	AP13-006-5
4.0-6.0 Vdc	±12 Vdc	84 mA	3	AP22-008-5
4.0-6.0 Vdc	±15 Vdc	68 mA	3	AP23-006-5

## Dimensions and Connections



### CONNECTION WITH CHOKE COIL



### NOTES

1. Capacitor voltage rating and polarity to match converter output.
2. Schematic shown for single output. For dual output, same circuit connected to each output.
3. With a 33  $\mu$ F or 47  $\mu$ F filter capacitor, a guide to the choke inductance may be found from the empirical formula

$$L(\mu H) = 0.85 \left( \frac{500}{V_{rp}} - 1 \right)$$

Where  $V_{rp}$  = desired max. ripple voltage in mVp-p. Choke resistance is sized for load current.

PINOUT #1	PINOUT #2	PINOUT #3
1 -Vdc in	1 -Vdc in	1 -Vdc in
2 +Vdc in	2 +Vdc in	2 +Vdc in
3 -Vdc out	3 +Vdc out	3 -Vdc out
4 +Vdc out	4 -Vdc out	4 Common
5 No pin	5 No pin	5 +Vdc out

### NOTES:

1. All output voltages are measured with respect to -  $V_{in}$  (common).
2. Regulation: Line ( $V_{in}$  min. to  $V_{in}$  max.) and Load (to max.).
3. Conversion Efficiency is determined at maximum load with +5V input.
4. Operating Temperature : 0°C to +50°C.
5. Additional external filter chokes and capacitors will significantly improve ripple and noise spikes. (See "Connection with Choke Coil").
6. For a proper regulation on Dual supply, a minimum load must be applied to each output.

