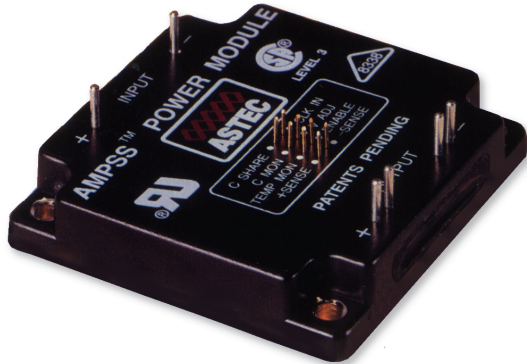


# 120 Watts

## AL60A

**Total Power:** 120 Watts  
**Input Voltages:** 12V, 24V or 48V  
**No. of Outputs:** Single, Dual



### Special Features

- High efficiency - up to 86%
- 500 KHz fixed frequency
- 100°C baseplate operating temperature (with no derating)
- Low output ripple and noise
- Excellent transient response
- Safety isolated low voltage control and monitoring
- High reliability
- Wide input voltage range
- Parallelable with accurate current sharing
- Adjustable output voltage and current limit
- Regulation to zero load
- Temperature monitor output

### Environmental

Storage temperature: -40°C to +105°C  
 Overtemperature shutdown: 90°C typical  
 MTBF: > 1 million hours (50°C baseplate)

### Safety

|     |                            |                        |
|-----|----------------------------|------------------------|
| UL  | UL 1950                    | E182206 & E32002       |
| CSA | CSA22.2-234<br>CSA22.2-950 | LR53982C               |
| VDE | IEC 950                    | 20396-3336-1003 & 1009 |
| EN  | 60950                      |                        |
| CE  | CEMark (LVD)               |                        |

### Electrical Specs

#### Input

Input Range 180 to 400 VDC or 36 to 72 VDC  
 Efficiency 83% typical (5V @ 20A);  
 85% typical (12V @ 9A)

#### Output

Load Regulation 0.2% typical down to no load  
 Line Regulation 0.1% typical  
 Noise/Ripple 75 mV typical (output below 5V)  
 2% typical (output 5V and over)  
 Remote sense Up to 0.5V  
 Output Voltage ±10% of nominal output  
 Adjust Range 4% typical deviation with  
 Transient Response 250µs recovery (25-75% full load)  
 Current Share Accuracy 5% typical  
 Overvoltage Protection 125% nominal Vo  
 Current Limit 110% Io max

#### Control

Voltage Adjust 90 to 110% Vo  
 Enable TTL compatible (low to enable)  
 Clock Input 3.3 to 5.5Vp-p @ 1MHz ± 10%  
 Temperature  
 Monitor Output 10 mV/°K (2.73V = 0°C)  
 Current Monitor Output 0 to 1mA (1mA = 100% Io Rated)

# AMERICAS

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Facsimile: 760-930-0698

# EUROPE

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Facsimile: 44 (1384) 843-355

# ASIA

Units 2111-2116, Level 21  
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223, Hing Fong Road  
Fwai Fong, New Territories  
Hong Kong  
Telephone: 852-2437-9662  
Facsimile: 852-2402-4426



AL60A

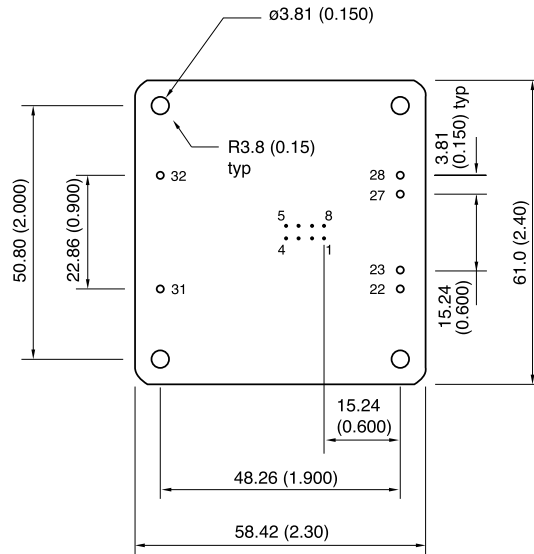
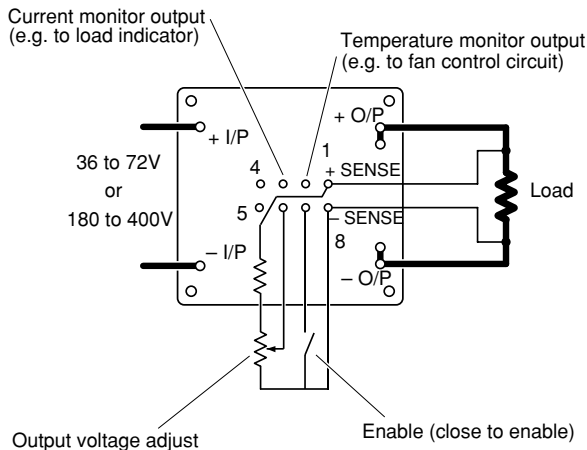
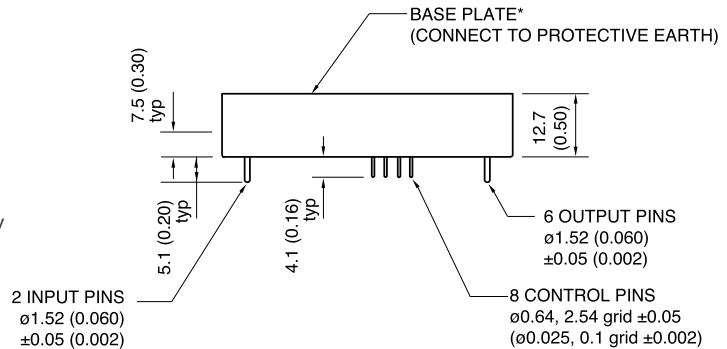
## Ordering Information

| Input Voltage | Output Voltage | Output Current | Model Number      | Input Voltage | Output Voltage | Output Current | Model Number      |
|---------------|----------------|----------------|-------------------|---------------|----------------|----------------|-------------------|
| 300V          | 2.0V           | 20A            | AL60A-300L-020F20 | 48V           | 2.2V           | 30A            | AL60A-048L-022F30 |
| 300V          | 3.3V           | 25A            | AL60A-300L-033F25 | 48V           | 3.3V           | 25A            | AL60A-048L-033F25 |
| 300V          | 5V             | 20A            | AL60A-300L-050F20 | 48V           | 5V             | 10A            | AL60A-048L-050F10 |
| 300V          | 12V            | 9A             | AL60A-300L-120F09 | 48V           | 5V             | 20A            | AL60A-048L-050F20 |
| 300V          | 15V            | 8A             | AL60A-300L-150F08 | 48V           | 12V            | 6A             | AL60A-048L-120F06 |
| 300V          | 24V            | 3A             | AL60A-300L-240F03 | 48V           | 12V            | 9A             | AL60A-048L-120F09 |
|               |                |                |                   | 48V           | 15V            | 8A             | AL60A-048L-150F08 |

Please contact Astec for information on other output voltages, power ranges and configurations.

## Pin Assignments

| Input   | Output  | Control Pins |                         |
|---------|---------|--------------|-------------------------|
| 31. +ve | 22. +ve | 1. +SENSE    | Secondary side controls |
| 32. -ve | 23. +ve | 2. TEMP MON  |                         |
|         | 27. -ve | 3. C MON     |                         |
|         | 28. -ve | 4. C SHARE   |                         |
|         |         | 5. CLK IN    |                         |
|         |         | 6. V ADJ     |                         |
|         |         | 7. ENABLE    |                         |
|         |         | 8. -SENSE    |                         |



### Notes:

- All dimensions in mm and (inches)
- Baseplate must be connected to protective earth
- General tolerance: .X ±0.5 (0.02)  
.XX ±0.25 (0.010)
- Surface Flatness: Concave 0.12mm max  
Convex 0.38mm max