

Embedded Power for  
Business-Critical Continuity

## AIH Series

250 Watts

**Total Power:** 250 Watts  
(12V @ 20.8A)  
**Input Voltage:** 300V  
**# of Outputs:** Single



Rev. 07.25.05  
AIH Series  
1 of 2

## Special Features

- 250W Continuous power at 100°C baseplate temperature
- High efficiency - up to 88%
- Low output ripple and noise
- Positive and Negative enable function
- Excellent transient response
- Safety isolated low voltage control and monitoring
- High reliability
- Wide input voltage range
- Paralleable with accurate current sharing
- Adjustable output voltage
- Regulation to zero load
- Temperature monitor output
- EU Directive 2002/95/EC compliant for RoHS

## Electrical Specifications

### Input

|             |                      |
|-------------|----------------------|
| Input range | 250 - 420 VDC        |
| Input surge | 450V / 100ms         |
| Efficiency  | 88% @ 5.0V (typical) |

### Output

|                             |                                                                                                          |
|-----------------------------|----------------------------------------------------------------------------------------------------------|
| Load Regulation             | 0.2% typical (5V and above); 10mV for below 5V                                                           |
| Line Regulation             | 0.2% typical (5V and above); 10mV for below 5V                                                           |
| Noise / ripple              | 100mV typical (below 5V); 2% typical (5V and above)                                                      |
| Output voltage adjust range | +/-20% for 5V and above; +10%/-50% for below 5V                                                          |
| Transient response          | 5% max for 3.3V and above 150mV for 1.8V, deviation with 25% to 75% full load 250 $\mu$ S (max) recovery |
| Current share accuracy      | 3% typical                                                                                               |
| Overvoltage protection      | 130% Vo (3.3 Vo and 5 Vo); 125% Vo (other Vo)                                                            |
| Current limit               | 120% Io maximum                                                                                          |

### Control

|                             |                                                     |
|-----------------------------|-----------------------------------------------------|
| Voltage adjust              | 80 to 120% for 5V and above; +10%/-50% for below 5V |
| Enable                      | TTL compatible (positive & negative enable options) |
| Clock input (external sync) | 3.3 to 5.5Vp-p @800 MHz $\pm$ 5%                    |
| Temperature monitor output  | 10mV/ $^{\circ}$ K (2.73 = 0 $^{\circ}$ C)          |
| Current monitor output      | 0 to 1mA (1mA = 100% Io rated)                      |

### Notes

Nominal values apply with sense pins disconnected and other control pin unconnected.

## Safety

UL 60950 Recognized  
UL 60950 Recognized  
EN60950 Licensed



## Environmental Specifications

|                            |                                    |
|----------------------------|------------------------------------|
| Operating temperature      | -40°C to +100°C (Case Temperature) |
| Storage temperature        | -40°C to +85°C                     |
| Overtemperature protection | 120°C max                          |
| MTBF                       | 1M hours (Demonstrated)            |

## Ordering Information

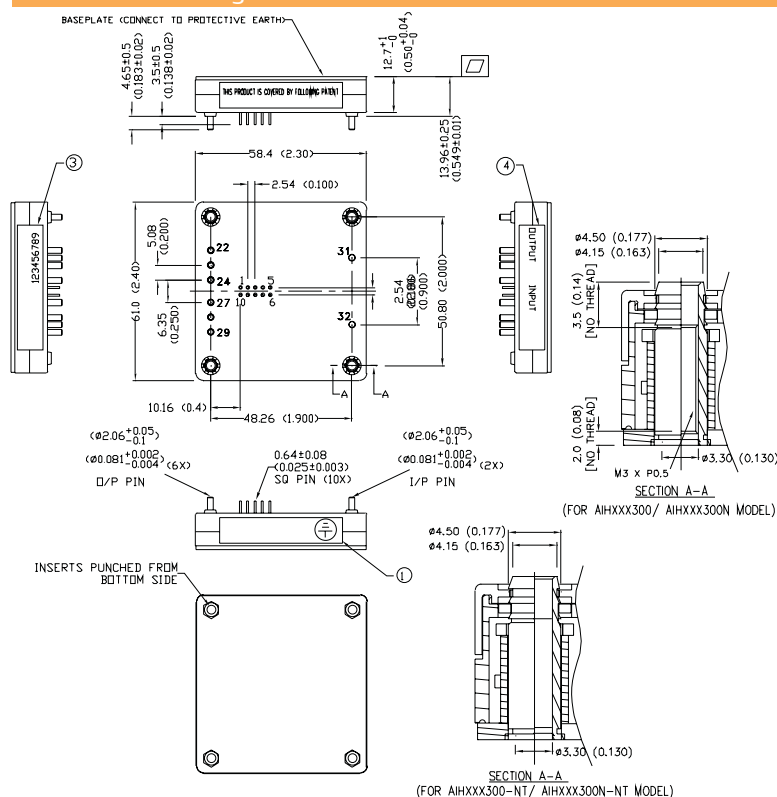
| Input Voltage | Output Voltage | Efficiency | Model Number |
|---------------|----------------|------------|--------------|
| 300V          | 1.8V @ 50A     | 80% (Typ)  | AIH50Y300    |
| 300V          | 3.3V @ 50A     | 82% (Typ)  | AIH50F300    |
| 300V          | 5.0V @ 40A     | 88% (Typ)  | AIH40A300    |
| 300V          | 12V @ 20.8A    | 86% (Typ)  | AIH20B300    |
| 300V          | 15V @ 16.6A    | 90% (Typ)  | AIH16C300    |
| 300V          | 24V @ 10.4A    | 90% (Typ)  | AIH10H300    |

1. For Negative enable add suffix "N".
2. For Non-thread hole, add suffix "-NT".
3. For RoHS 6, add suffix "-I". Default is RoHS 5.

## Pin Assignments

| Input        | Output       | Control Pins |
|--------------|--------------|--------------|
| 31. Positive | 22. Positive | 1. +Sense    |
| 32. Negative | 23. Positive | 2. Temp Mon  |
|              | 24. Positive | 3. C Mon     |
|              | 27. Negative | 4. C Share   |
|              | 28. Negative | 5. SDA       |
|              | 29. Negative | 6. SCL       |
|              |              | 7. CLK IN    |
|              |              | 8. V Adj     |
|              |              | 9. Enable    |
|              |              | 10. -Sense   |

## Mechanical Drawing



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