



**FEATURES:**

- RoHS compliant
- Wide 2:1 Input range
- Very low ripple and noise
- On/Off Control and Trim Function
- Regulated output
- High efficiency
- Operating temperature range: -40 to +85°C
- 1500VDC I/O Isolation

**Models**  
**Single output**

| Model             | Input Voltage (V) | Output Voltage (V) | Output Current max (A) | Input Filter |
|-------------------|-------------------|--------------------|------------------------|--------------|
| AM100HB-2403S-UZ  | 18-36             | 3.3                | 20                     | π type       |
| AM100HB-2405S-UZ  | 18-36             | 5                  | 20                     | π type       |
| AM100HB-2412S-UZ  | 18-36             | 12                 | 8.3                    | L type       |
| AM100HB-2415S-UZ  | 18-36             | 15                 | 6.7                    | L type       |
| AM100HB-2424S-UZ  | 18-36             | 24                 | 4.2                    | L type       |
| AM100HB-2428S-UZ  | 18-36             | 28                 | 3.6                    | L type       |
| AM100HB-2448S-UZ  | 18-36             | 48                 | 2.1                    | L type       |
| AM100HB-4803S-UZ  | 36-72             | 3.3                | 20                     | π type       |
| AM100HB-4805S-UZ  | 36-72             | 5                  | 20                     | π type       |
| AM100HB-4812S-UZ  | 36-72             | 12                 | 8.3                    | L type       |
| AM100HB-4815S-UZ  | 36-72             | 15                 | 6.7                    | L type       |
| AM100HB-4824S-UZ  | 36-72             | 24                 | 4.2                    | L type       |
| AM100HB-4848S-UZ  | 36-72             | 48                 | 2.1                    | L type       |
| AM100HB-11005S-UZ | 66-160            | 5                  | 20                     | π type       |
| AM100HB-11012S-UZ | 66-160            | 12                 | 8.3                    | L type       |
| AM100HB-11015S-UZ | 66-160            | 15                 | 6.7                    | L type       |
| AM100HB-11024S-UZ | 66-160            | 24                 | 4.2                    | L type       |
| AM100HB-11048S-UZ | 66-160            | 48                 | 2.1                    | L type       |

**Input Specifications**

| Parameters          | Nominal  | Typical   | Maximum | Units |
|---------------------|--|-----------|---------|-------|
| Voltage range       | 24   | 18-36     |         | VDC   |
|                     | 48   | 36-72     |         |       |
|                     | 110  | 66-160    |         |       |
| Remote Control      | CNTRL open or connect to +Vin<br>CNTRL connect to -Vin | On<br>Off |         |       |
| Logic Low           |  |           | 0.4     | V     |
| Turn On Time        |  | 10        |         | ms    |
| Start-up Delay Time |  | 150       |         | ms    |

**Isolation Specifications**

| Parameters                      | Conditions | Typical | Maximum | Units |
|---------------------------------|------------|---------|---------|-------|
| I/O Isolation voltage           | Min        | 1500    |         | VDC   |
| Input / Case Isolation voltage  | Min        | 500     |         | VDC   |
| Output / Case Isolation voltage | Min        | 500     |         | VDC   |

**Output Specifications**

| Parameters                      | Conditions         | Typical              | Maximum    | Units        |
|---------------------------------|--------------------|----------------------|------------|--------------|
| Set point accuracy              |                    |                      | ±1         | %            |
| Trim range                      |                    | ±10                  |            | %            |
| Dynamic Response                | 200µs setting time | 50-75% & 50-25% load | 3% of Vout | Pk deviation |
| Short Circuit protection        | Auto recovery      | Continuous           |            |              |
| Over Temperature Protection     | >105               | 110                  | 115        | °C           |
| Total remote sense compensation |                    | 0.5                  |            | V            |
| Line voltage regulation         |                    |                      | ±0.2       | % of Vin     |
| Load voltage regulation         |                    |                      | ±0.5       | %            |

### Output Specifications (continued)

| Parameters              | Conditions | Typical | Maximum | Units     |
|-------------------------|------------|---------|---------|-----------|
| Temperature coefficient |            |         | ±0.02   | %/°C      |
| Ripple & Noise          |            |         | 1       | % of Vout |

### General Specifications

| Parameters             | Conditions               | Typical                                  | Maximum             | Units |
|------------------------|--------------------------|--|---------------------|-------|
| Switching frequency    | 100% load                | 330                                      |                     | KHz   |
| Efficiency             | At full load             | 88-90                                    |                     | %     |
| Pin Solder Temperature | Wave solder <10s         |  | 250                 | °C    |
| Hand Soldering time    | Iron Temperature: 425 °C |  | 5                   | sec   |
| Operating temperature  |                          | -40 to +85                               |                     | °C    |
| Storage temperature    |                          | -55 to +125                              |                     | °C    |
| Case temperature       |                          | 100                                      |                     |       |
| Cooling                | Free air convection      |  |                     |       |
| Humidity               |                          | 10 to 90                                 |                     | %     |
| Weight                 | Without sink             | 75                                       |                     | g     |
| Dimensions             |                          | 2.28 x 2.4 x 0.5 inches                  | 57.9 x 61 x 12.7 mm |       |
| MTBF                   |                          | >1,500,000 hrs (Bellcore TR332, t=+25°C) |                     |       |

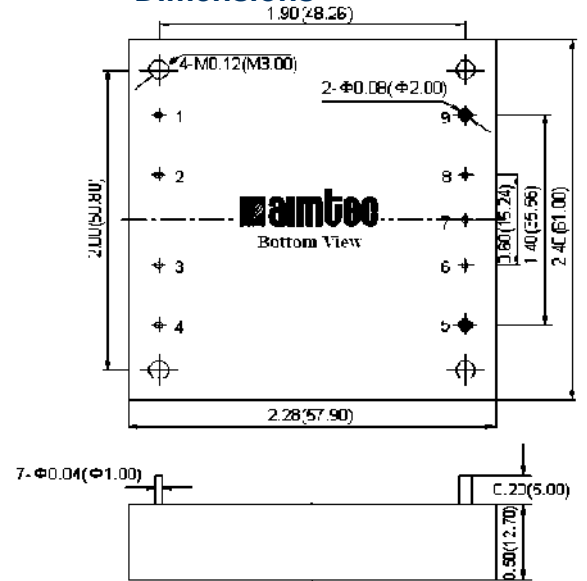
### Safety Specifications

| Standards |         |
|-----------|---------|
| Safety    | EN60950 |

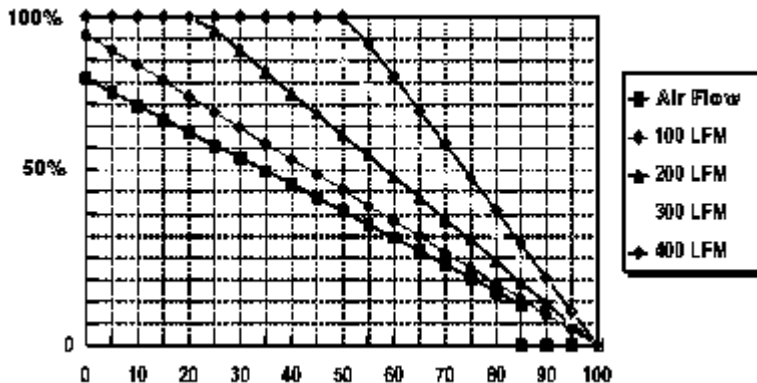
### Pin Out Specifications

| Pin | Single         |
|-----|----------------|
| 1   | -V Input       |
| 2   | Case           |
| 3   | On/Off Control |
| 4   | +V Input       |
| 5   | +V Output      |
| 6   | +Sense         |
| 7   | Trim           |
| 8   | -Sense         |
| 9   | -V Output      |
| 10  | Omitted        |

### Dimensions

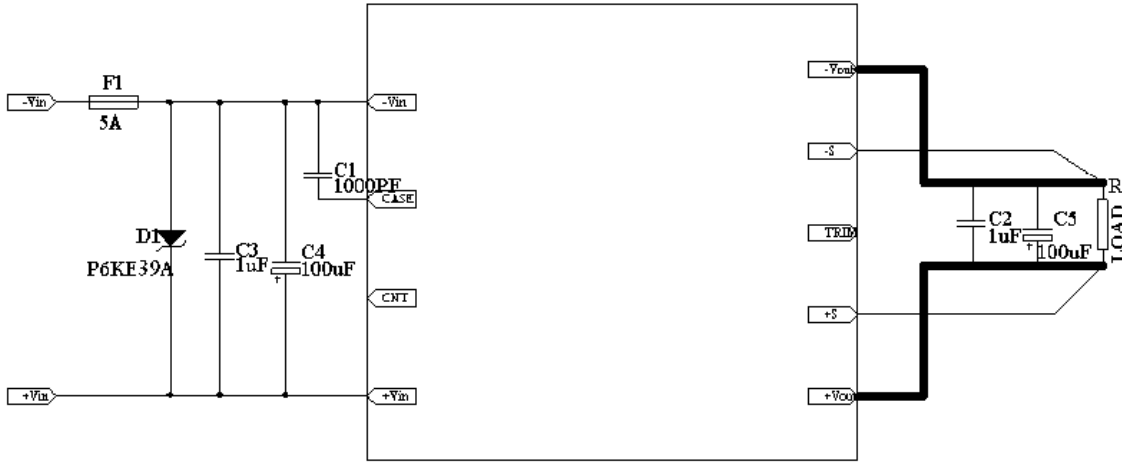


### Derating:



**Typical Application:**

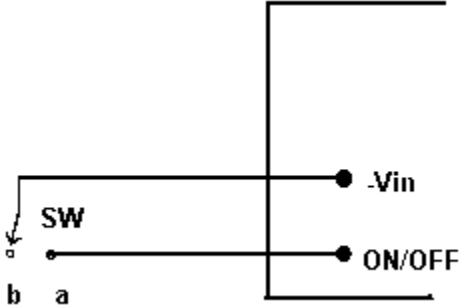
Aimtec’s half brick models can operate independently. However, to enhance their performance and to ensure precision of the output signal parameters the following connections are recommended:



**Output Ripple and Noise Measurement test setup:**

Please refer to our Application note: **Ripple and Noise Measurement of Brick & POL DC-DC Converters.**

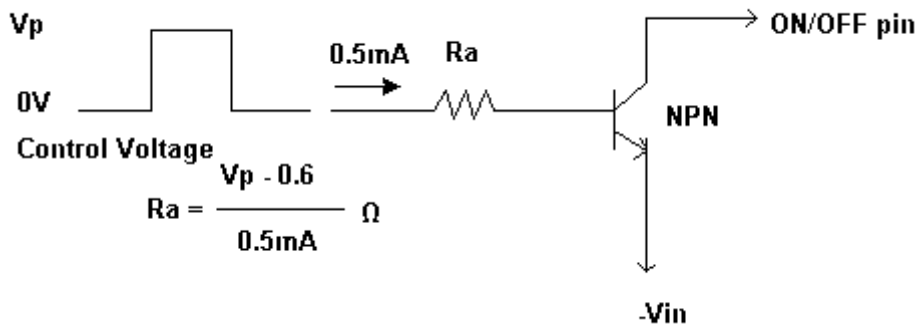
**ON/OFF Control:**



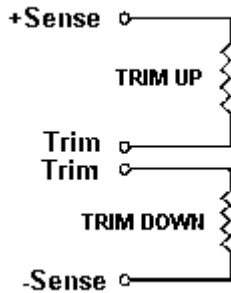
The converter output can be disabled by moving SW to position “a” – connected to –Vin with voltage level between -0.7 and 0.4V.

When SW is open “in position b”, the converter is ON and operates normally.

The SW can be replaced by a NPN transistor with connection as follows:



**Output Voltage Trim connection:**



The output voltage can be adjusted by connecting trim resistors as shown.

The values can be determined according to the following formulas where  $\Delta\%$  is the desirable voltage adjustment in percentage and  $V_o$  is the Nominal value of the Output Voltage:

$$R_{up} = \left[ \frac{V_o(100+\Delta\%) - (100+2\Delta\%)}{1.225\Delta\%} - \frac{(100+2\Delta\%)}{\Delta\%} \right] K\Omega$$

$$R_{down} = \left[ \frac{100 - 2}{\Delta\%} \right] K\Omega$$

The calculated Resistor values are in K $\Omega$ .

**NOTE:** 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 5. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet.