

**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
AM50HB-2403S-UZ	18-36	3.3	10	π type
AM50HB-2405S-UZ	18-36	5	10	π type
AM50HB-2412S-UZ	18-36	12	4.2	L type
AM50HB-2415S-UZ	18-36	15	3.2	L type
AM50HB-2424S-UZ	18-36	24	2.1	L type
AM50HB-2428S-UZ	18-36	28	1.8	L type
AM50HB-2448S-UZ	18-36	48	1.1	L type
AM50HB-4803S-UZ	36-72	3.3	10	π type
AM50HB-4805S-UZ	36-72	5	10	π type
AM50HB-4812S-UZ	36-72	12	4.2	L type
AM50HB-4815S-UZ	36-72	15	3.2	L type
AM50HB-4824S-UZ	36-72	24	2.1	L type
AM50HB-4828S-UZ	36-72	28	1.8	L type
AM50HB-4848S-UZ	36-72	48	1.1	L type
AM50HB-11005S-UZ	66-160	5	10	π type
AM50HB-11012S-UZ	66-160	12	4.2	L type
AM50HB-11015S-UZ	66-160	15	3.2	L type
AM50HB-11024S-UZ	66-160	24	2.1	L type
AM50HB-11048S-UZ	66-160	48	1.1	L type

NOTE: All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

**Input Specifications**

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24	18-36		VDC
	48	36-72		
	110	66-160		
Remote Control	CNTRL open CNTRL connect to -Vin	On Off	-0.7 ~ 0.4	V
Turn on time		10		ms
Start-up Delay Time		150		ms

**Isolation Specifications**

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	1 Min	1500		VDC
Tested Input / Case voltage	1 Min	500		VDC
Tested Output / Case voltage	1 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		Continuous		

### Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Short Circuit restart		Auto recovery		
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		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	1		% of Vout

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Efficiency	At full load	87-90		%
Pin Solder Temperature	Wave solder <10s		250	°C
Hand Soldering time	Iron Temperature: 425 °C		5	sec
Operating temperature		-40 to +85		
Storage temperature		-55 to +125		
Max Case temperature			100	°C
Cooling		See derating graph		
Humidity		10 to 90		%
Weight	Without Heatsink	75		g
Dimensions (L x W x H)		2.28 x 2.40 x 0.50 inches 57.9 x 61.0 x 12.7 mm		
MTBF		>1,500,000 hrs (Bellcore TR332, t=+25°C)		

### Safety Specifications

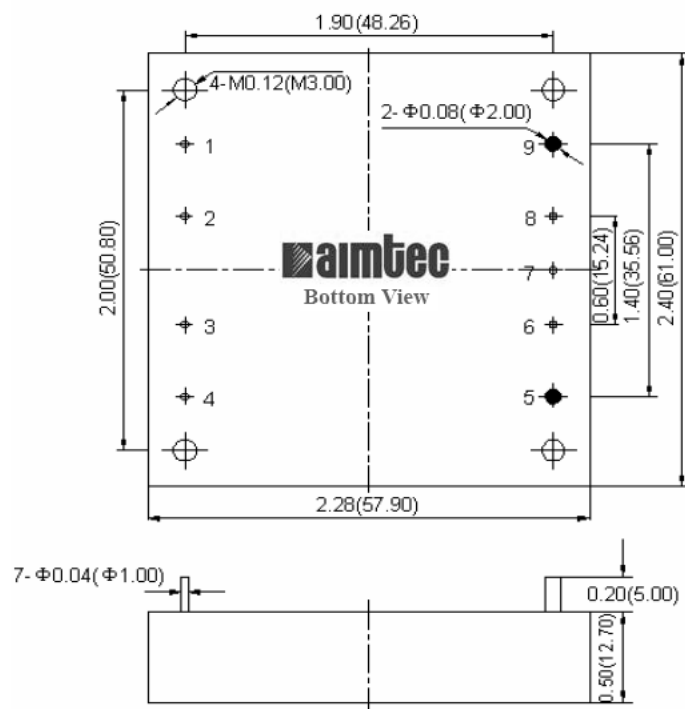
#### Standards

Safety	Meets EN60950
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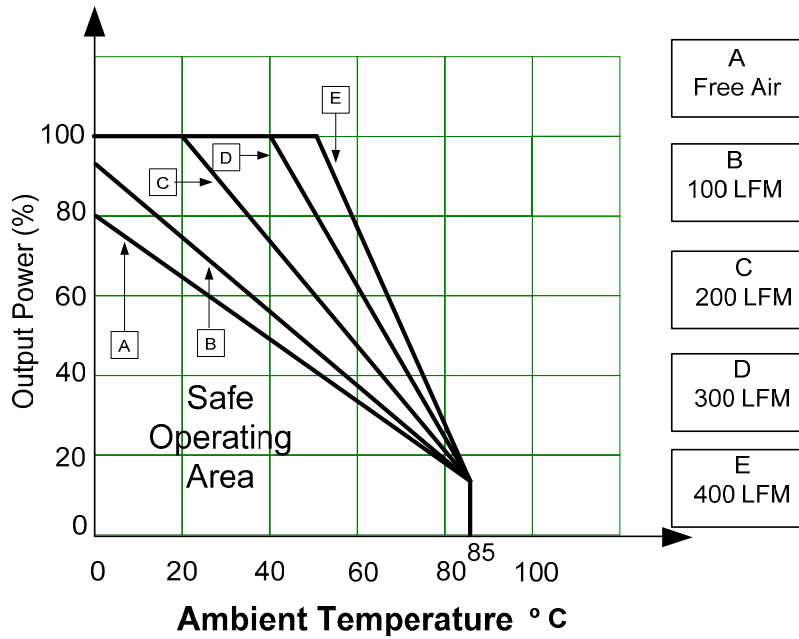
### Pin Out Specifications

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

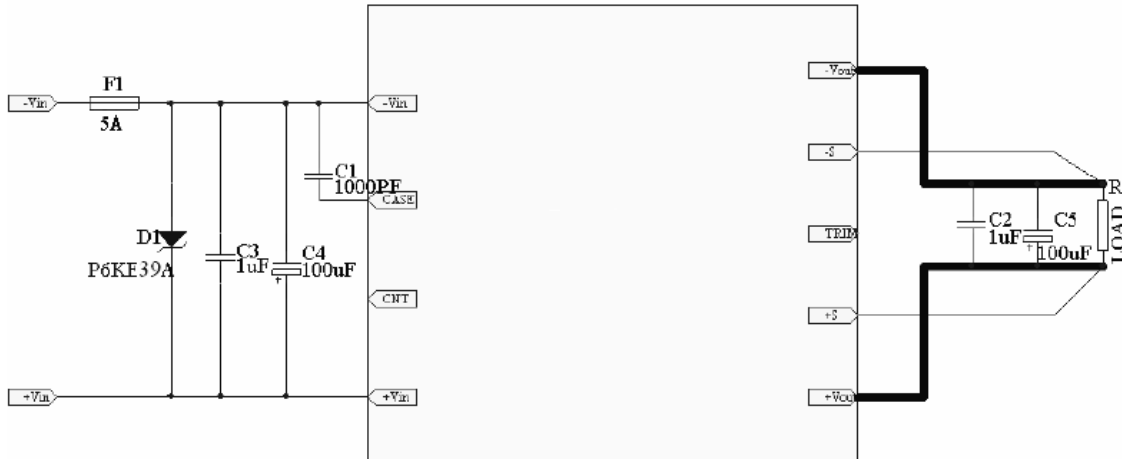


**Derating:**



**Typical Application:**

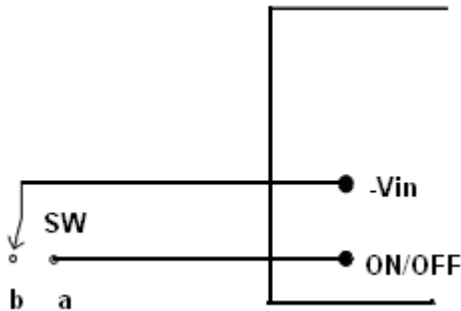
Aimtec's half brick models can operate independently. However, to enhance their performance and to ensure precision of the output signal parameters the following connections are recommended:



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

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

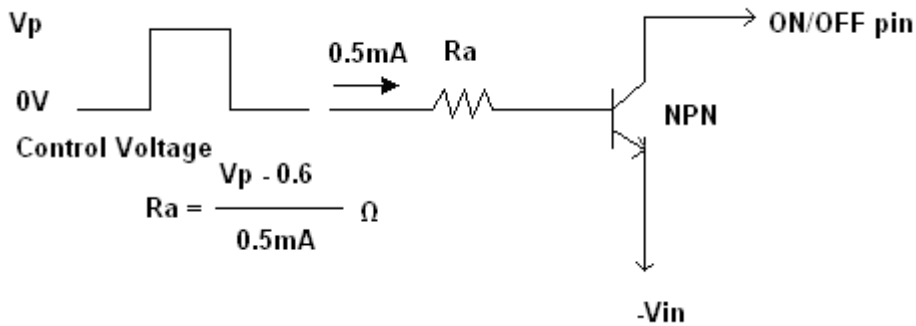
**ON/OFF Control:**



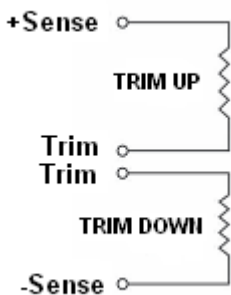
The converter output can be disabled by moving SW to position “a” – connected to -Vin with voltage level between -0.7 and 0.4V.

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:

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

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

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.