

## AED/ALD13B50

### 1/16th Brick IBC Series

**Total Power:** 150 Watts  
**Input Voltage:** 38 - 60 Vdc  
**Output Voltage:** 12 Vdc



Rev. 06.15.09\_11  
AED/ALD13B50  
1 of 3



### Special Features

- Intermediate Bus Converter for Front End (DPA) Distributed Power Architecture application
- High efficiency (95% Typical)
- Industry standard package 16th Brick 0.90" x 1.30"
- High capacitive load limit on start-up
- Output Enable Pin
- Undervoltage lockout
- Over Temperature Protection
- Meets Basic Insulation
- EU directive 2002/95/EC compliant for RoHS

### Safety

- UL, cUL: 60950
- TUV: EN60950

## Electrical Specifications

### Input

|                          |                     |
|--------------------------|---------------------|
| Input range:             | 38 V to 60 V        |
| Efficiency:              | 95%@ 12 V (typical) |
| Over Voltage Protection: | 67 V typical        |
| Input UVLO:              | 33 V to 38 V        |

### Output

|                                                 |                               |
|-------------------------------------------------|-------------------------------|
| Output current:                                 | 13 A max                      |
| Output Voltage over line, load and temperature: | 8.7 V to 15 V                 |
| Noise/ripple <sup>1</sup> :                     | 180 mV (typical)              |
| Over current limit:                             | Auto-restart                  |
| Over temperature protection:                    | 110 °C minimum (autorecovery) |
| Switching frequency:                            | 165 kHz                       |

### Control

|                    |                                                    |
|--------------------|----------------------------------------------------|
| Enable:            | TTL compatible (positive or negative enable logic) |
| Isolation Voltage: |                                                    |
| Input to Output:   | 2000 Vdc max                                       |

## Environmental Specifications

|                                      |                          |
|--------------------------------------|--------------------------|
| Operating ambient temperature range: | -40 °C to +85 °C ambient |
| Storage temperature:                 | -55 °C to +125 °C        |
| MTBF:                                | > 1 million hours        |

## Ordering Information

Rev. 06.15.09\_11  
AED/ALD13B50  
2 of 3

| Input Voltage | Output Voltage | Output Current | Efficiency <sup>2</sup> | Model Number         |
|---------------|----------------|----------------|-------------------------|----------------------|
| 38 - 60V      | 12 V           | 13 A           | 95% Typ                 | A(X)D13B50(N)-(6)(L) |

### Options:

- (X) : "L" = Open Frame / Low Profile  
 "E" = Heatplate Construction  
 (N) : "N" = Designates Negative Logic Enable (default is Positive Enable with no suffix "N" required)  
 (6) : "-6" = 3.7 mm nominal pin length (default is 5 mm nominal pin length with no suffix "-6" required)  
 (L) : "L" = RoHS Compliant (RoHS 6)

## Pin Connections

### Single Output

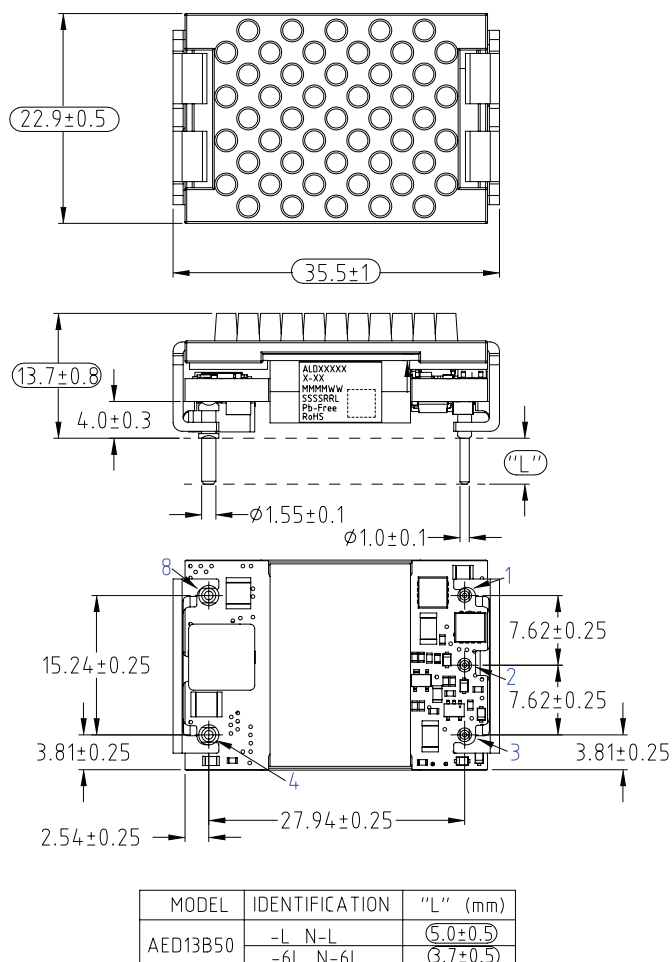
- +Vin
- Enable
- Vin
- Vout
- Blank
- Blank
- Blank
- +Vout

### Notes:

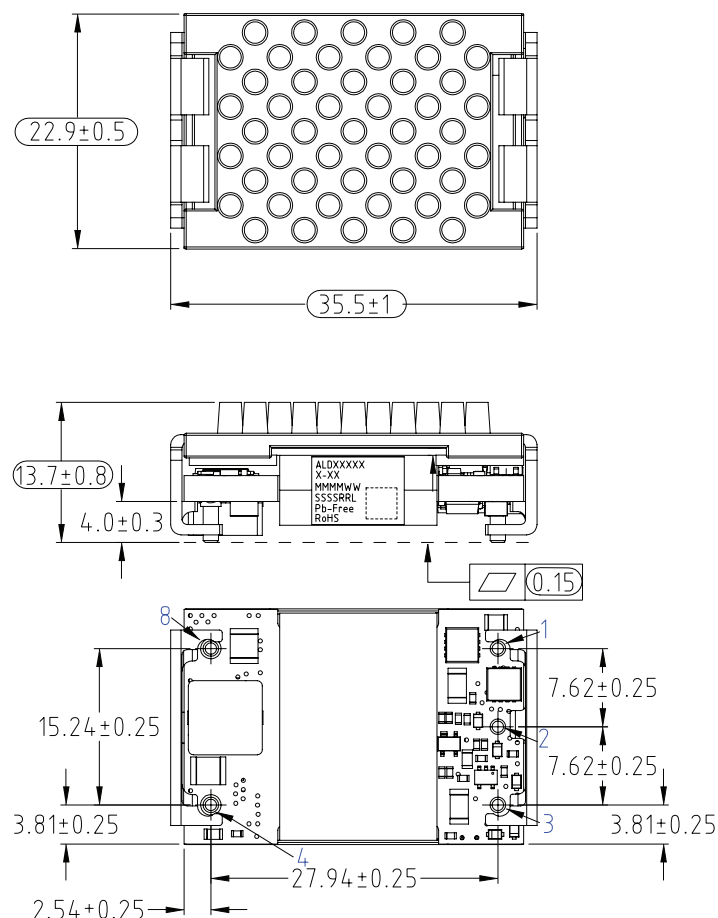
- 20 MHz bandwidth. External 10 uF tant. capacitor in parallel with 1 uF ceramic capacitor placed across the output and secondary return ground.
- Efficiency measurements are typical values taken at 48 V input, nominal output, full load and  $T_A = 25^\circ\text{C}$ .
- All specifications are typical at nominal line, full load and  $T_A = 25^\circ\text{C}$  unless otherwise noted.
- All specifications subject to change without notice.
- Mechanical drawings are for reference only. Dimensions are in inches [millimeters]. Pin placement tolerance  $\pm 0.005$  [0.127]. Mechanical Tolerance  $\pm 0.02$  [0.5]. Pin diameter,  $\varnothing = 0.06$ " for Pin 4 (-Vout) and Pin 8 (+Vout), the rest of the pins are  $\varnothing = 0.04$ ".
- Technical Reference Notes should be consulted for detailed information when available.
- Warranty 1yr.

## Mechanical Drawings

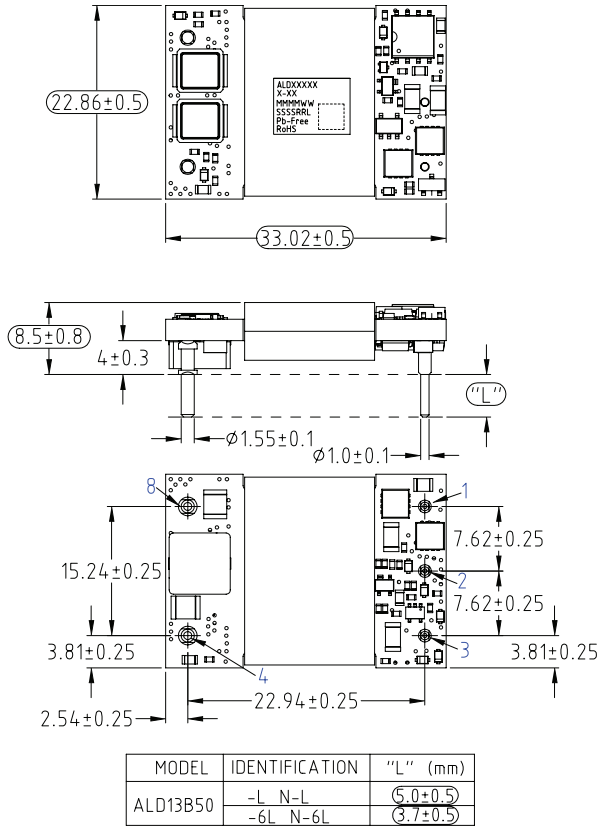
### AED13B50-L



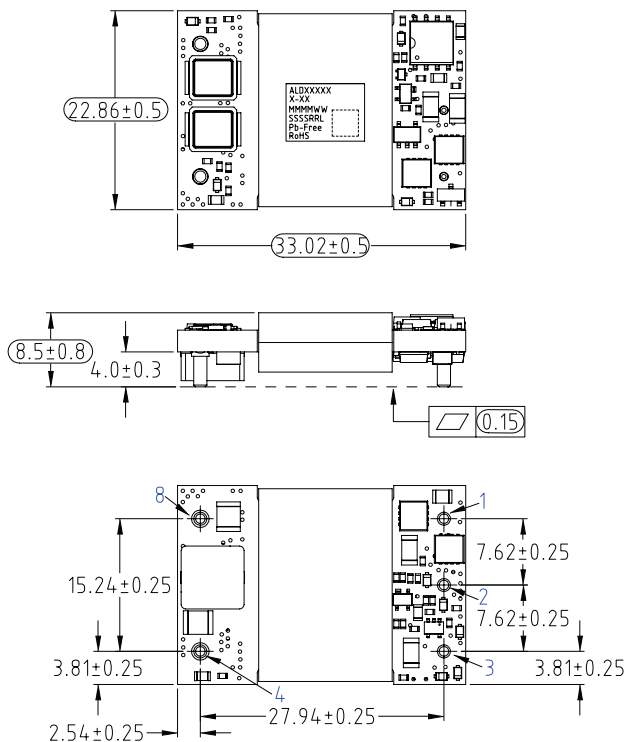
### AED13B50-SL



## ALD13B50-L



## ALD13B50-SL



### Americas

5810 Van Allen Way  
Carlsbad, CA 92008  
USA  
Telephone: +1 760 930 4600  
Facsimile: +1 760 930 0698

### Europe (UK)

Waterfront Business Park  
Merry Hill, Dudley  
West Midlands, DY5 1LX  
United Kingdom  
Telephone: +44 (0) 1384 842 211  
Facsimile: +44 (0) 1384 843 355

### Asia (HK)

14/F, Lu Plaza  
2 Wing Yip Street  
Kwun Tong, Kowloon  
Hong Kong  
Telephone: +852 2176 3333  
Facsimile: +852 2176 3888

For global contact, visit:

[www.PowerConversion.com](http://www.PowerConversion.com)

[techsupport.embeddedpower@emerson.com](mailto:techsupport.embeddedpower@emerson.com)

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

### Emerson Network Power.

The global leader in enabling business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power**
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

### EmersonNetworkPower.com

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.  
©2009 Emerson Electric Co.