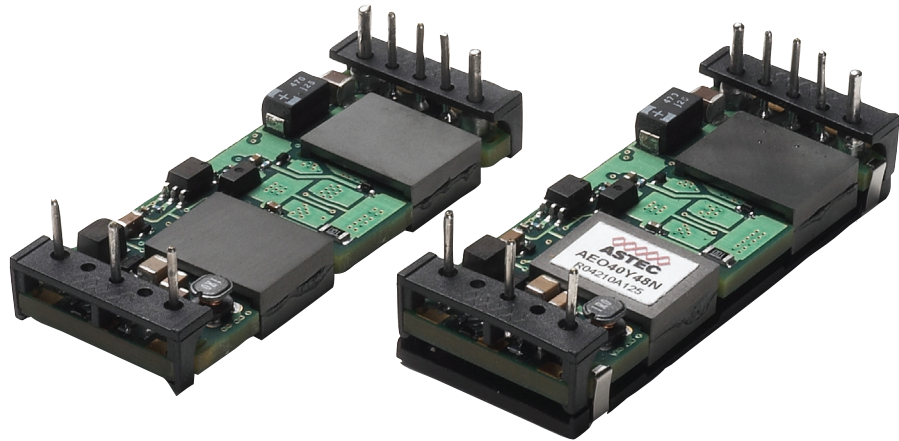


## AEO/ALO Series

66/120 Watts

**Total Power:** Up to 120 Watts  
**Input Voltage:** 48V  
**# of Outputs:** Single



### Special Features

- 2.3" x 0.9" Industry Standard 8th brick outline
- Baseplate or Openframe construction
- Low Ripple and Noise
- Regulation to zero load
- High Capacitive load start-up
- Fixed Frequency Switching for EMI predictability
- Industry Standard features: Input UVLO with hysteresis, Enable, OVP, OCP, OTP, Output, VoltageTrim, Differential Remote Sense
- Meets Basic Insulation
- EU Directive 2002/95/EC compliant for RoHS

### Electrical Specifications

| Input                         |                                                                           |
|-------------------------------|---------------------------------------------------------------------------|
| Input range:                  | 36 - 75VDC                                                                |
| Input surge:                  | 100V / 100ms                                                              |
| Input UVLO:                   | 33-36 V (UVLO ON)<br>31-31 V (UVLO OFF)                                   |
| Efficiency <sup>2</sup> :     | 93% @ 5V (typical)                                                        |
| Output                        |                                                                           |
| Line / Load Regulation:       | <0.1% $v_o$ (typical)                                                     |
| Load Current:                 | Up to 25A for $V_o \leq 1.8V$                                             |
| Noise / Ripple <sup>1</sup> : | 20mV <sub>PK-PK</sub> (typical for $V_o \leq 2.5V$ )                      |
| Transient Response:           | 2% typical deviation (50% to 75% Step Load)<br><100us settling time (typ) |
| Over Voltage Protection:      | 130% $V_o$ typ (autorecovery)                                             |
| Over Current Protection:      | 130% $I_{o,max}$ typ (autorecovery)                                       |
| Over Temperature Protection:  | 115°C average PCB temperature (autorecovery)                              |
| Switching Frequency:          | Fixed Frequency                                                           |
| Isolation Voltage:            | 1500Vdc                                                                   |
| Control                       |                                                                           |
| Output Voltage Trim:          | $\pm 10\% V_{o,NOM}$                                                      |
| Enable:                       | TTL compatible (Positive or Negative logic)                               |

### Safety

UL, cUL 60950-1 Recognized  
TUV EN60950-1 Licensed



## Environmental Specifications

|                               |                          |
|-------------------------------|--------------------------|
| Operating ambient temperature |                          |
| Openframe:                    | -40 °C to +85 °C Ambient |
| Baseplate:                    | -40 °C to +100 °C Case   |
| Storage temperature:          | -55 °C to +125 °C        |
| MTBF:                         | >1 Million hours         |

| Ordering Information |                |            |              |                                                 |
|----------------------|----------------|------------|--------------|-------------------------------------------------|
| <b>120W Series</b>   |                |            |              |                                                 |
| Output Voltage       | Output Voltage | Efficiency | Model Number |                                                 |
| 12.0 V               | 10.0 A         | 93.0%      | ALO10B48N-L  |                                                 |
| 5.0 V                | 20.0 A         | 92.0%      | ALO20A48N-L  |                                                 |
| 3.3 V                | 30.0 A         | 91.0%      | ALO30F48N-L  |                                                 |
| 2.5 V                | 35.0 A         | 89.5%      | ALO35G48N-L  | Not for New Designs - Please check LES A Series |
| 1.8 V                | 40.0 A         | 88.0%      | ALO40Y48N-L  |                                                 |
| 1.5 V                | 40.0 A         | 86.0%      | ALO40M48N-L  |                                                 |
| 1.2 V                | 40.0 A         | 85.0%      | ALO40K48N-L  | Not for New Designs - Please check LES A Series |
| <b>66W Series</b>    |                |            |              |                                                 |
| Output Voltage       | Output Voltage | Efficiency | Model Number |                                                 |
| 12.0 V               | 4.0 A          | 93.0%      | ALO4B48N-L   | Not for New Designs - Please check LES B Series |
| 5.0 V                | 12.0 A         | 92.0%      | ALO12A48N-L  | Not for New Designs - Please check LES B Series |
| 3.3 V                | 20.0 A         | 91.0%      | ALO20F48N-L  | Not for New Designs - Please check LES B Series |
| 2.5 V                | 20.0 A         | 90.0%      | ALO20G48N-L  | Not for New Designs - Please check LES B Series |
| 1.8 V                | 25.0 A         | 88.5%      | ALO25Y48N-L  | Not for New Designs - Please check LES B Series |
| 1.5 V                | 25.0 A         | 86.5%      | ALO25M48N-L  | Not for New Designs - Please check LES B Series |
| 1.2 V                | 25.0 A         | 85.5%      | ALO25K48N-L  | Not for New Designs - Please check LES B Series |

## Options

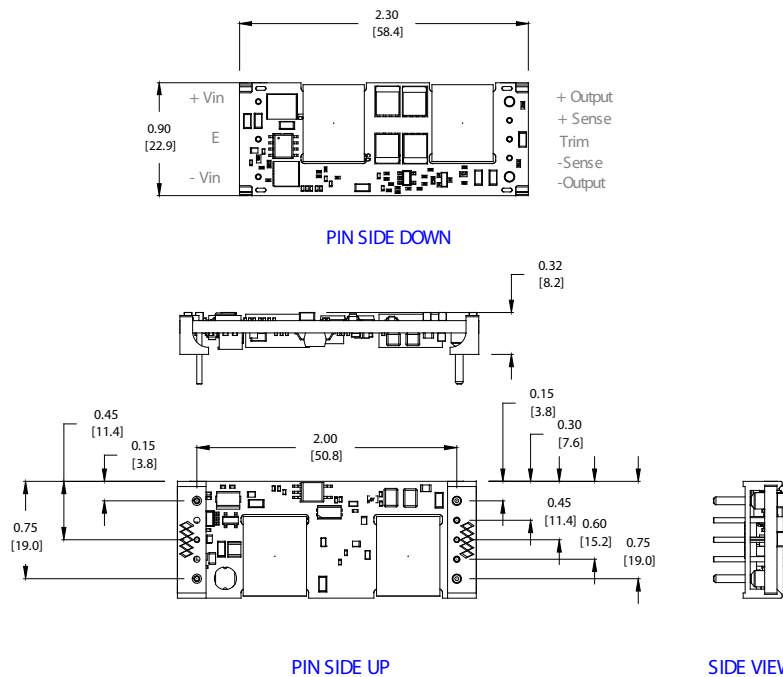
|          | Construction                                   | Size          | Output Current                                                               | Output Voltage                                                                    | Input Voltage               | Remote ON/OFF Logic              |          | PIN Length O/P Termination                                                                                                            | RoHS Designation                 |
|----------|------------------------------------------------|---------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------|----------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| <b>A</b> | <b>L</b>                                       | <b>O</b>      | <b>10</b>                                                                    | <b>B</b>                                                                          | <b>48</b>                   | <b>N</b>                         | <b>-</b> | <b>6</b>                                                                                                                              | <b>L</b>                         |
|          | L = Low Profile;<br>Openframe<br>E = Baseplate | O = 8th Brick | 10 = 10 Amps<br>20 = 20 Amps<br>30 = 30 Amps<br>35 = 35 Amps<br>40 = 40 Amps | B = 12.0V<br>A = 5.0V<br>F = 3.3V<br>G = 2.5V<br>Y = 1.8V<br>M = 1.5V<br>K = 1.2V | 48 = 48V<br>(36-75 V Range) | N = Negative<br>Blank = Positive |          | Through Hole:<br>6 = 3.6mm<br>Blank = 5mm<br><br>S = Surface Mount*<br>*Available for Low<br>Profile; Openframe<br>(ALO) Version only | L = RoHS 6/6<br>Blank = RoHS 5/6 |

## Mechanical Drawing

### OPEN FRAME THROUGH HOLE

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#### ALO SERIES THRU HOLE PIN



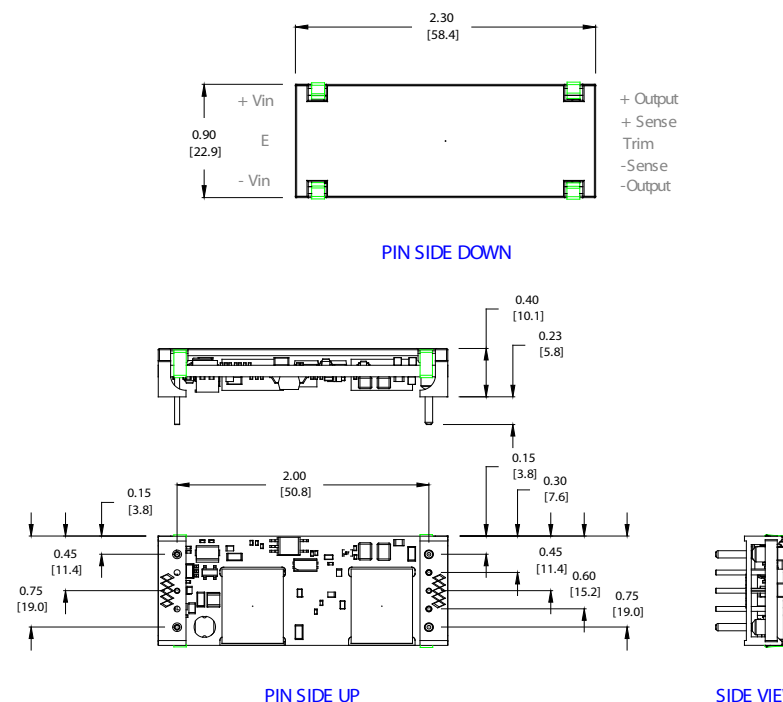
PIN SIDE DOWN

PIN SIDE UP

SIDE VIEW

### BASEPLATE THROUGH HOLE

#### AEO SERIES THRU HOLE PIN



PIN SIDE DOWN

PIN SIDE UP

SIDE VIEW

## Pin Assignments

### Single Output

1. +Vin
2. Enable (On/off)
3. -Vin
4. -VOUT
5. -Sense
6. Trim
7. +Sense
8. +VOUT

### Notes:

1. Measured at 20 MHz bandwidth with external 10  $\mu$ F tant. capacitor in parallel with 0.1  $\mu$ F ceramic capacitor connected across +Vout and -Vout; 220  $\mu$ F e-cap or equivalent connected across +Vin and -Vin.
2. Efficiency measurements are typical values taken at full load, nominal line and  $T_A = 25^\circ\text{C}$ .
3. All specifications are typical at nominal line, full load and  $T_A = 25^\circ\text{C}$  unless otherwise noted.
4. All specifications subject to change without notice.
5. Mechanical drawings are for reference only. Dimensions are in inches [mm]. Pin placement tolerance  $\pm 0.005$  [0.127]. Mechanical Tolerance  $\pm 0.02$  [0.5], recommended surface mount pads (min: 0.080 x 0.112 [2.03 x 2.84] / max: 0.092 x 0.124 [2.34 x 3.15]); through hole pin diameter (Pins 4 & 8)  $\phi = 0.062$  [1.57], others  $\phi = 0.04$  [1.0] (6X).
6. Technical Reference Notes should be consulted for detailed information when available.
8. Warranty 2yrs.

| PIN LENGTH      | A                                  |
|-----------------|------------------------------------|
| Std Pin Length: | 0.189 [4.8] MIN<br>0.205 [5.2] MAX |
| "-6" Option:    | 0.137 [3.5] MIN<br>0.152 [3.9] MAX |

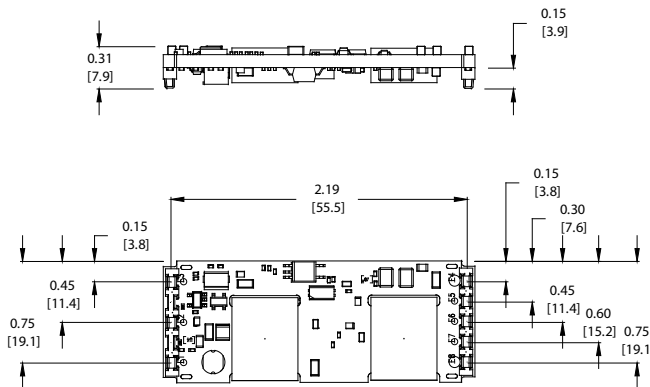
## Mechanical Drawing

### OPEN FRAME SURFACE MOUNT

#### ALO OPEN FRAME SMT PIN



#### PIN SIDE DOWN



#### PIN SIDE UP

#### SIDE VIEW



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