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## Contact us

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# AEO|ALO Series <br> 66/120 Watts 

Total Power: Up to 120 Watts Input Voltage: 48 V
\# 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


## Safety

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


## 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 ${ }^{2}$ : | 93\% @ 5V (typical) |
| Output |  |
| Line / Load Regulation: | $<0.1 \% \mathrm{v}_{\mathrm{O}}$ (typical) |
| Load Current: | Up to 25A for Vo $\leq 1.8 \mathrm{~V}$ |
| Noise / Ripple': | $20 \mathrm{mV} \mathrm{V}_{\text {PK-PK }}$ (typical for $\mathrm{Vo} \leq 2.5 \mathrm{~V}$ ) |
| Transient Response: | $2 \%$ typical deviation ( $50 \%$ to $75 \%$ Step Load) <br> <100us settling time (typ) |
| Over Voltage Protection: | $130 \% \mathrm{~V}_{\text {o }}$ typ (autorecovery) |
| Over Current Protection: | $130 \% \mathrm{I}_{\text {omax }}$ typ (autorecovery) |
| Over Temperature Protection: $115^{\circ} \mathrm{C}$ average PCB temperature (autorecovery) |  |
| Switching Frequency: | Fixed Frequency |
| Isolation Voltage: | 1500 Vdc |
| Control |  |
| Output Voltage Trim: | $\pm 10 \% \mathrm{~V}_{\text {O, یом }}$ |
| Enable: | TTL compatible (Positive or Negative logic) |

## Environmental Specifications

| $\quad$Operating ambient temperature <br> $\quad$ Openframe: <br> Baseplate: | $-40^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ Ambient |
| :--- | :--- |
|  | $-40^{\circ} \mathrm{C}$ to $+100^{\circ} \mathrm{C}$ Case |
| Storage temperature: | $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$ |
| MTBF: | $>1$ Million hours |


| Ordering Information |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 120W Series |  |  |  |  |
| 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 |
| 66W Series |  |  |  |  |
| Output Voltage | Output Voltage | Efficiency | Model Number | Not for New Designs - Please check LES B Series |
| 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

A \begin{tabular}{|c}

| Construction |
| :---: |
| L $=$ Low Profile; |
| Openframe |
| E Baseplate | <br>

\hline
\end{tabular}

Size
$\mathbf{O}$
$0=8$ th Brick

| Output Current |
| :---: |
| $\mathbf{1 0}$ |
| $10=10 \mathrm{Amps}$ |
| $20=20 \mathrm{Amps}$ |
| $30=30 \mathrm{Amps}$ |
| $35=35 \mathrm{Amps}$ |
| $40=40 \mathrm{Amps}$ |


| Output Voltage <br> B | Input Voltage <br> B $=12.0 \mathrm{~V}$ <br> $\mathrm{~A}=5.0 \mathrm{~V}$ <br> $\mathrm{~F}=3.3 \mathrm{~V}$ <br> $\mathrm{G}=2.5 \mathrm{~V}$ <br> $\mathrm{Y}=1.8 \mathrm{~V}$ <br> $\mathrm{M}=1.5 \mathrm{~V}$ <br> $\mathrm{~K}=1.2 \mathrm{~V}$ | Remote ON/OFF <br> Logic |
| :---: | :---: | :---: |
| $\mathbf{N}$ |  |  |


$-$| PIN Length O/P <br> Termination |
| :--- |
| $\mathbf{6}$ |
| Through Hole: |
| $6=3.6 \mathrm{~mm}$ |
| Blank $=5 \mathrm{~mm}$ |
| $\mathrm{~S}=$ Surface Mount |
| *Available for Low |
| Profile; Openframe |
| (ALO) Version only |

> | $\begin{array}{c}\text { RoHS } \\ \text { Designation }\end{array}$ |
| :---: |
| $\mathbf{L}$ |
| $\mathrm{L}=$ RoHS $6 / 6$ |
| Blank $=$ RoHS $5 / 6$ |

## Mechanical Drawing

OPEN FRAME THROUGH HOLE


PIN SIDE DOWN


PIN SIDE UP
BASEPLATE THROUGH HOLE
AEO SERIES THRU HOLE PIN


PIN SIDE DOWN


PIN SIDE UP

Rev. 09.30.08_100
AEO/ALO25 Series

## Pin Assicnments

## 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 $10 \mu \mathrm{~F}$ tant capacitor in parallel with $0.1 \mu \mathrm{~F}$ ceramic capacitor connected across
+Vout and -Vout; $220 \mu \mathrm{Fe}$ e-cap or equivalent connected across +Vin and -Vin.
2. Efficiency measurements are typical values taken at full load, nominal line and $T_{A}=25^{\circ} \mathrm{C}$
3. All specifications are typical at nominal line, full load and $T_{A}=$ $25^{\circ} \mathrm{C}$ 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: $0.080 \times 0.112$ [ $2.03 \times 2.84] /$ max: $0092 \times 0.124$ [ $2.34 \times 3.15$ ]); 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 $2 y r s$.

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

## Mechanical Drawing

OPEN FRAME SURFACE MOUNT
ALO OPEN FRAME SMT PIN


PIN SIDE DOWN


PIN SIDE UP

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