

# 300 Watts

## ALQ25B50

Total Power: 300W (12V @ 25A)  
 Input Voltages: 48V  
 No. of Outputs: Single

### DC Transformer



### Special Features

- High efficiency (96% Typical)
- -40°C to +100°C Ambient Air Operation
- Industry standard package Qtr Brick  
1.48" x 2.30" x 0.40"
- High capacitive load limit on start-up
- 12V @ 25A Intermediate Bus Voltage for DPA application
- Regulation to zero load
- Output Enable Pin
- Meets Basic Insulation
- Input UVLO and Overvoltage Protection
- Over Temperature Protection

### Environmental

Ambient air operating temperature range:  
-40°C to +100°C

Storage temperature: -55°C to +125°C

Overtemperature protection: 115°C typical

MTBF: > 1 million hours

### Safety

UL, cUL 60950

TUV EN60950

### Electrical Specs

#### Input

Input Range <sup>1</sup>	42 to 53 VDC
Efficiency	96%@12V (Typ)
Over Voltage Protection	60V
Input UVLO <sup>1</sup>	39V to 42V

#### Output

Output Current	0A to 25A max (300W output power)
Line Regulation	10.25V to 13.60V 8.50V to 13.60V (for "-AL" option)
Load Regulation	±3% Vo (Typical)
Noise/Ripple <sup>2</sup>	100mV (Typical)
Transient Response	200mV typical deviation 50% to 75% Load Change 100µs max recovery time
Over Current Limit <sup>1</sup>	115% I <sub>O,MAX</sub> typical (latching)
Switching Frequency	800kHz

#### Control

Enable	TTL compatible (Positive or Negative Enable Logic)
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#### Isolation Voltage

Input to Output	2000Vdc max
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\* Specifications are subject to change without notice.

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ALQ25B50

## Ordering Information

Input Voltage	Output Voltage	Output Current	Efficiency	Model Number
42V to 53V	12.0V	25A*	96% Typ	ALQ25B50
42V to 53V	12.0V	25A*	96% Typ	ALQ25B50-6
42V to 53V	12.0V	25A*	96% Typ	ALQ25B50N
42V to 53V	12.0V	25A*	96% Typ	ALQ25B50N-6
36V to 53V	12.0V	25A*	96% Typ	ALQ25B50N-AL

OPTIONS:

Enable Function "N" = negative logic enable  
without "N" = positive logic enable (default)

Pin Length Option "-6" = 3.7mm (nominal)  
Standard pin length is 5mm nominal

Others "-AL" = Autorecovery mode and lower UVLO range (34V to 36Vdc)

\* Derating / airflow required at elevated ambient operating temperature, consult the Technical Reference Notes

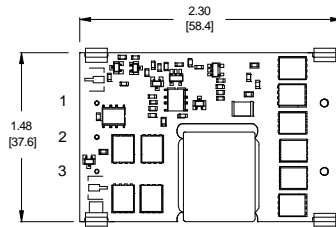
## Pin Assignments

### Single Output

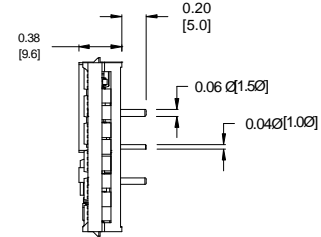
1. + Vin
2. Enable
3. - Vin
4. - Vout
5. + Vout

Notes:

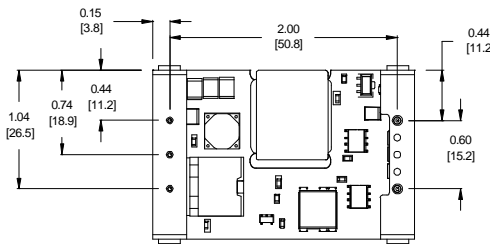
1. Part number suffix "-AL" designates:
  - 36V to 53V Input voltage range
  - lower UVLO range (34V to 36V)
  - Autorecovery mode after fault protection
2. 20MHz BW limited with external 10uF tantalum cap. + 0.1uF ceramic cap across the output. 220uF low ESR cap required across the input pins.
3. Output may need to be derated and airflow added when operating at elevated ambient temperature.
4. All specifications are typical at nominal line, full load and 25°C ambient temp unless otherwise noted.
5. Technical Reference Notes should be consulted for detailed information when available.
6. Warranty: 1yr



PIN SIDE DOWN



SIDE VIEW



PIN SIDE UP

NOTES.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)  
PIN PLACEMENT TOLERANCE: ± 0.005(0.127)  
MECHANICAL TOLERANCE ± .002(0.5)

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Astec Industry Standard