

# POWER

## ADO300 Series

300 Watt 1/8 Brick DC-DC Converter

### Data Sheet

**Total Power:** 300 Watts  
 (11.77 V @ 26 A)  
 (5 V @ 60 A)  
 (3.3 V @ 60 A)

**Input Voltage:** 36 - 75 Vdc

**Single Output:** 12 V, 5 V, 3.3 V



### SPECIAL FEATURES

- 300 W continuous power
- Ultra high efficiency
- 36 - 75 Vdc Telecom input range
- Baseplate version for contact cooling or heatsink mounting
- Parallel and Droop current sharing
- Remote output sense
- Fully regulated output voltage
- No minimum load requirement
- Remote control function
- Low ripple and noise
- Fixed switching frequency
- High capacitive load capability
- Pre-bias start-up capability
- Excellent thermal performance
- High reliability
- RoHS 6 compliant
- UL94 V-0 materials
- Two-year warranty (consult factory for extended terms)

### SAFETY

- EN62368
- CSA
- CE
- UL



### Electrical Specifications

| Input   | 12 V   | 5 V              | 3.3 V            |
|---|--|------------------|------------------|
| Input voltage                                 | 36 - 75 Vdc  |                  |                  |
| Input surge                                   | 95 V / 100 mSec  |                  |                  |
| Input UVLO (typical)                          | Turn-on: 34 Vdc<br>Turn-off: 32 Vdc<br>Hysteresis: 2 Vdc   |                  |                  |
| Efficiency                                    | 95.5% (60% load)   | 95.2% (50% load) | 93.7% (50% load) |
| I/O insulation                                | Basic insulation   |                  |                  |
| I/O isolation                                 | 1500 Vdc   |                  |                  |
| Output  | 12 V   | 5 V              | 3.3 V            |
| Output voltage (Vin = 48 V)                   | 11.82 V  | 5 V              | 3.3 V            |
| Output current maximum                        | 26 A   | 60 A             | 60A              |
| Noise & ripple                                | 70 mV pk-pk typ.   | 50 mV pk-pk typ. | 20 mV pk-pk typ. |
| Overtemperature protection                    | Baseplate: 110 °C typ.<br>Open frame: 125 °C hot spot typ. |                  |                  |
| Overvoltage protection method / OCP operation | 115%-150% rated output voltage/hiccup and auto restart     |                  |                  |
| Overcurrent protection method / OCP operation | 110%-150% rated output current /hiccup and auto restart    |                  |                  |
| Control                                       | 12 V   | 5 V              | 3.3 V            |
| Enable  | TTL compatible (negative logic)                            |                  |                  |
| Switching frequency                           | 150 KHz fixed frequency                                    |                  |                  |
| Pre-bias start-up                             | 0% - 90% Vout  |                  |                  |
| Parallel connection & droop share             | Droop share  |                  |                  |

### Pin Assignments

| Pin # | Name          | Function                 | Optional |
|-------|---------------|--------------------------|----------|
| 1     | +Vin          | Positive input voltage   |          |
| 2     | Remote On/Off | Remote control           |          |
| 3     | -Vin          | Negative input voltage   |          |
| 4     | -Vo           | Negative output voltage  |          |
| 5     | -Sense        | Remote sense negative    | Yes      |
| 6     | Trim/C1       | Voltage adjustment       | Yes      |
| 7     | +Sense        | Remote sense positive    | Yes      |
| 8     | +Vo           | Positive output voltages |          |
| 9     | C2            | Digital                  | Yes      |
| 10    | Sig_Gnd       | Digital                  | Yes      |
| 11    | Data          | Digital                  | Yes      |
| 12    | SMBAlert      | Digital                  | Yes      |
| 13    | Clock         | Digital                  | Yes      |
| 14    | Addr1         | Digital                  | Yes      |
| 15    | Addr0         | Digital                  | Yes      |

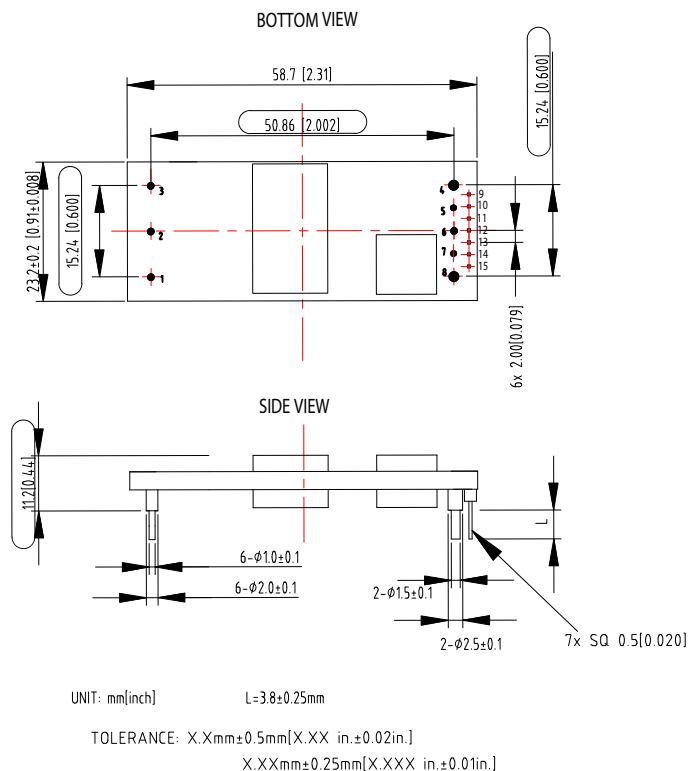
### Pin Length Options

| Device code suffix | Pin Length       |
|--------------------|------------------|
| -4                 | 4.6 mm ± 0.25 mm |
| -6                 | 3.8 mm ± 0.25 mm |
| -8                 | 2.8 mm ± 0.25 mm |
| None               | 5.8 mm ± 0.25 mm |

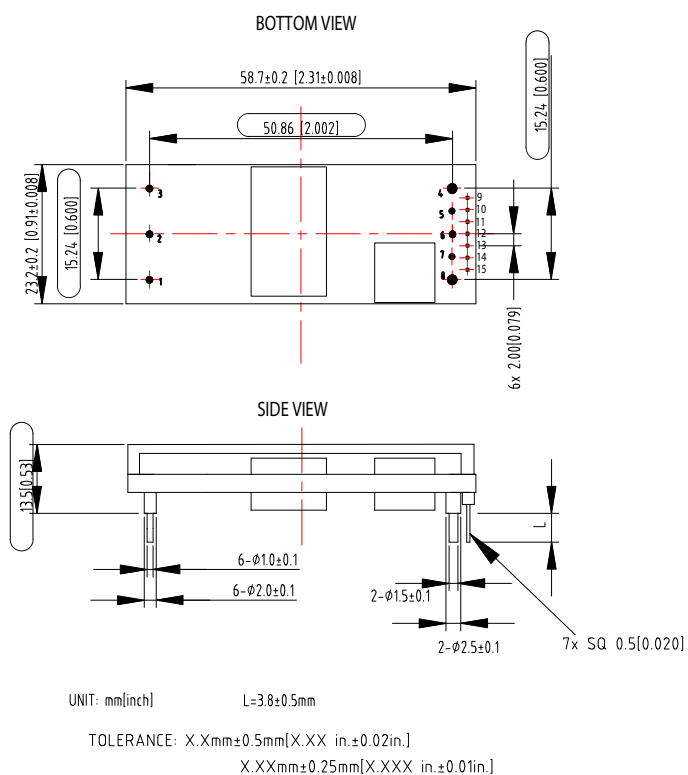
### Environmental Specifications

|                       |                   |
|-----------------------|-------------------|
| Operating temperature | -40 to +85 °C     |
| Storage temperature   | -55 to +125 °C    |
| MTBF                  | 1.5 million hours |

### ADO300-48S12-6LI Mechanical Drawing - Open Frame Module



### ADO300-48S12B-6LI Mechanical Drawing - Baseplate



Notes:

1. Dimensions within the box are critical dimensions.
2. No pin 9-15 for ADO300-48S12B-6LI; ADO300-48S12-6LI with pin 9-15.
3. Different output voltage ADO300 products have slight differences in the mechanical drawing. Please check the specified product's Technical Reference Note for more details.
4. All specifications are subject to change without notice. Mechanical drawings are for reference only.

## Ordering Information

| Model number       | Input voltage | Output voltage set point | Output current | Efficiency        |
|--------------------|---------------|--------------------------|----------------|-------------------|
| ADO300-48S12-6L    | 36 - 75 Vdc   | 11.77 Vdc                | 26 A           | 95.2% (full load) |
| ADO300-48S12B-6L   | 36 - 75 Vdc   | 11.77 Vdc                | 26 A           | 95.2% (full load) |
| ADO300-48S12-6LI   | 36 - 75 Vdc   | 11.77 Vdc                | 26 A           | 95.2% (full load) |
| ADO300-48S12B-6LI  | 36 - 75 Vdc   | 11.77 Vdc                | 26 A           | 95.2% (full load) |
| ADO300-48S05-6L    | 36 - 75 Vdc   | 5.0 Vdc                  | 60 A           | 94.6% (full load) |
| ADO300-48S05-6LI   | 36 - 75 Vdc   | 5.0 Vdc                  | 60 A           | 94.6% (full load) |
| ADO300-48S05B-6L   | 36 - 75 Vdc   | 5.0 Vdc                  | 60 A           | 94.6% (full load) |
| ADO300-48S05B-6LI  | 36 - 75 Vdc   | 5.0 Vdc                  | 60 A           | 94.6% (full load) |
| ADO300-48S05PB-6L  | 36 - 75 Vdc   | 5.0 Vdc                  | 60 A           | 94.6% (full load) |
| ADO300-48S3V3-6L   | 36 - 75 Vdc   | 3.3 Vdc                  | 60 A           | 93% (full load)   |
| ADO300-48S3V3-6LI  | 36 - 75 Vdc   | 3.3 Vdc                  | 60 A           | 93% (full load)   |
| ADO300-48S3V3B-6L  | 36 - 75 Vdc   | 3.3 Vdc                  | 60 A           | 93% (full load)   |
| ADO300-48S3V3B-6LI | 36 - 75 Vdc   | 3.3 Vdc                  | 60 A           | 93% (full load)   |

Default = Negative remote control

P = Positive remote control

B = Baseplate

-6 = 3.8 mm pin length

I = PMBus interface version

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