

## Series AM1P-NZ

### 1 Watt | DC-DC Converter



#### FEATURES:

- RoHS compliant
- 8 Pin DIP Package
- Low ripple and noise
- High efficiency up to 79%
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1000 VDC
- Pin computable with multiple manufacturers
- UL94-VO Package



#### Models

##### Single output

| Model         | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Efficiency (%) |
|---------------|-------------------|--------------------|-------------------------|-----------------|----------------|
| AM1P-0505S-NZ | 4.5-5.5           | 5                  | 200                     | 1000            | 78             |
| AM1P-1215S-NZ | 10.8-13.2         | 15                 | 67                      | 1000            | 79             |

#### Input Specifications

| Parameters    | Nominal   | Typical   | Maximum | Units |
|---------------|-----------|-----------|---------|-------|
| Voltage range | 5         | 4.5-5.5   |         | VDC   |
|               | 12        | 10.8-13.2 |         |       |
| Filter        | Capacitor |           |         |       |

#### Isolation Specifications

| Parameters         | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec     |         | 1000  | VDC   |
| Resistance         |            | > 1000  |       | MOhm  |
| Capacitance        |            | 60      |       | pF    |

#### Output Specifications

| Parameters               | Conditions          | Typical | Maximum | Units    |
|--------------------------|---------------------|---------|---------|----------|
| Voltage accuracy         | See tolerance graph |         |         |          |
| Short Circuit protection | Momentary (1 sec)   |         |         |          |
| Line voltage regulation  | For 1.0% Vin        | ±1.2    |         | % of Vin |
| Load voltage regulation  | Load 10 – 100%      | 10      |         | %        |
| Temperature coefficient  |                     | ±0.03   |         | %/°C     |
| Ripple & Noise           | At 20 MHz Bandwidth | 75      |         | m Vp-p   |

#### General Specifications

| Parameters             | Conditions                                             | Typical                   | Maximum                | Units |
|------------------------|--------------------------------------------------------|---------------------------|------------------------|-------|
| Switching frequency    | 100% load                                              | 150                       |                        | KHz   |
| Operating temperature  | Without derating                                       | -40 to +85                |                        | °C    |
| Storage temperature    |                                                        | -55 to +125               |                        | °C    |
| Case temperature       |                                                        |                           | 90                     | °C    |
| Cooling                | Free air convection                                    |                           |                        |       |
| Humidity               |                                                        |                           | 90                     | %     |
| Case material          | Plastic UL94-VO                                        |                           |                        |       |
| Weight                 |                                                        | 1.8                       |                        | g     |
| Dimensions (L x W x H) |                                                        | 0.46 x 0.39 x 0.30 inches | 11.70 x 9.80 x 7.70 mm |       |
| MTBF                   | >1 000 000 hrs(MIL-HDBK -217F, Ground Benign, t=+25°C) |                           |                        |       |

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

#### Safety Specifications

| Parameters       |                  |
|------------------|------------------|
| Agency approvals | CE               |
| Standards        | IEC60950-1 :2001 |

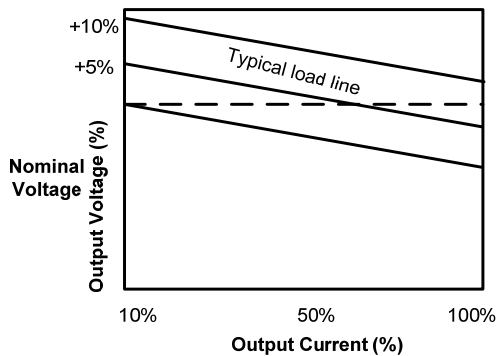
## Pin Out Specifications

| Pin | Single    |
|-----|-----------|
| 1   | - V Input |
| 4   | +V Input  |
| 5   | +V Output |
| 6   | No pin    |
| 7   | -V Output |
| 8   | No pin    |

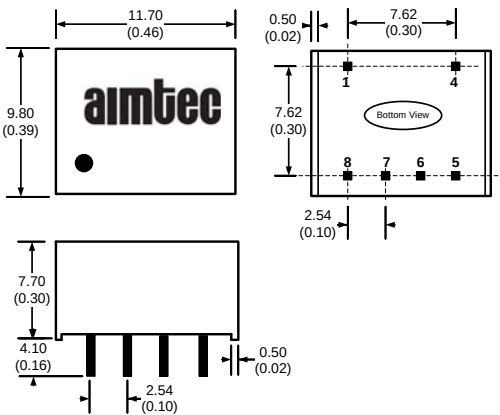
## External capacitor

| Vin (VDC) | External capacitor (uF) | Vout (VDC) | External capacitor (uF) |
|-----------|-------------------------|------------|-------------------------|
| 5         | 4.7                     | 5          | 10                      |
| 12        | 2.2                     | 9          | 4.7                     |
| 24        | 1                       | 12         | 2.2                     |
| -         | -                       | 15         | 1                       |

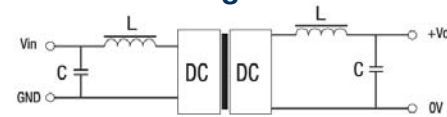
**Tolerance Envelope Graph**



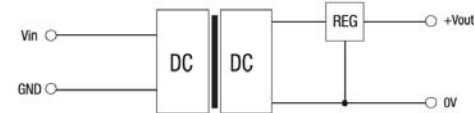
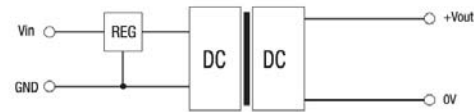
## Dimensions



## Filtering



<Figure 1>



<Figure 2>

**NOTE:** 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to [www.aimtec.com](http://www.aimtec.com) for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity < 75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).