



FEATURES:

- SMD Package
- Single Output Models
- Low Ripple and Noise
- High efficiency up to 81%
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1000 VDC
- Pin compatible with multiple manufacturers
- RoHS compliant



Models

Single output

| Model | Input Voltage(V) | Output Voltage (V) | Output Current max(mA) | Isolation (VDC) | Efficiency (%) |
|----------------|------------------|--------------------|------------------------|-----------------|----------------|
| AM2LP-0505S-NZ | 4.5-5.5 | 5 | 400 | 1000 | 78 |
| AM2LP-0512S-NZ | 4.5-5.5 | 12 | 167 | 1000 | 79 |
| AM2LP-0515S-NZ | 4.5-5.5 | 15 | 133 | 1000 | 80 |
| AM2LP-1205S-NZ | 10.8-13.2 | 5 | 400 | 1000 | 78 |
| AM2LP-1212S-NZ | 10.8-13.2 | 12 | 167 | 1000 | 80 |
| AM2LP-1215S-NZ | 10.8-13.2 | 15 | 133 | 1000 | 81 |
| AM2LP-2405S-NZ | 21.6-26.4 | 5 | 400 | 1000 | 78 |
| AM2LP-2412S-NZ | 21.6-26.4 | 12 | 167 | 1000 | 80 |
| AM2LP-2415S-NZ | 21.6-26.4 | 15 | 133 | 1000 | 81 |
| AM2LP-2424S-NZ | 21.6-26.4 | 24 | 84 | 1000 | 80 |

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.

Input Specifications

| Parameters | Nominal | Typical | Maximum | Units |
|---------------|-----------|-----------|---------|-------|
| Voltage range | 5 | 4.5-5.5 | | VDC |
| | 12 | 10.8-13.2 | | |
| | 24 | 21.6-26.4 | | |
| Filter | Capacitor | | | |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec | | 1000 | VDC |
| Resistance | 500Vdc | >1000 | | MOhm |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|-------------------------|------------------|---------|----------|
| Voltage accuracy | See the tolerance graph | ±5 | | % |
| Short Circuit protection | | Momentary (1sec) | | |
| Line voltage regulation | For 1.0% of Vin | 1.2 | | % of Vin |
| Load voltage regulation | Load 10 – 100% | 10 | | % |
| Temperature coefficient | | ±0.03 | | %/°C |
| Ripple & Noise | 20MHz Bandwidth | 150 | | mVp-p |
| Minimum Load Current | | 10 | | % of Max |

If the operating output current is less than 10% of maximum it is recommended to install a load resistor in parallel with the load to ensure the actual load current meets the minimum load current requirement.

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|---------------------|-------------|---------|-------|
| Switching frequency | 100% load | 500 | | KHz |
| Operating temperature | Without derating | -40 to +85 | | °C |
| Storage temperature | | -55 to +125 | | °C |
| Maximum case temperature | | | +95 | °C |
| Cooling | Free air convection | | | |

General Specifications (continued)

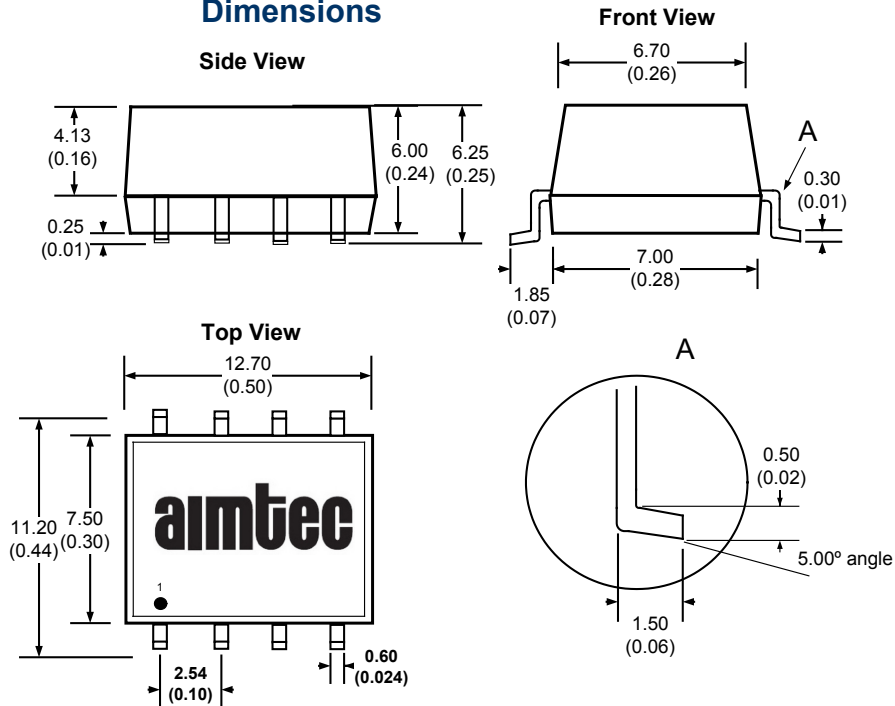
| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------------|----------------------------|---|---------|-------|
| Humidity | | | 95 | % RH |
| Case material | | Plastic UL94-VO | | |
| Weight | | 1.41 | | g |
| Dimensions (L x W x H) | | 0.50 x 0.30 x 0.24 inches 12.70 x 11.20 x 6.50 mm | | |
| MTBF | | > 3,500,000 hours(MIL-HDBK -217F, Ground Benign, t=+25°C) | | |
| Maximum soldering temperature | 1.5mm from case for 10 sec | | 260 | °C |

Pin Out Specifications

| Pin | Single |
|-----|------------|
| 1 | - V Input |
| 2 | + V Input |
| 3 | N. C. |
| 4 | - V Output |
| 5 | +V Output |
| 6 | N.C. |
| 7 | N.C. |
| 8 | N.C. |

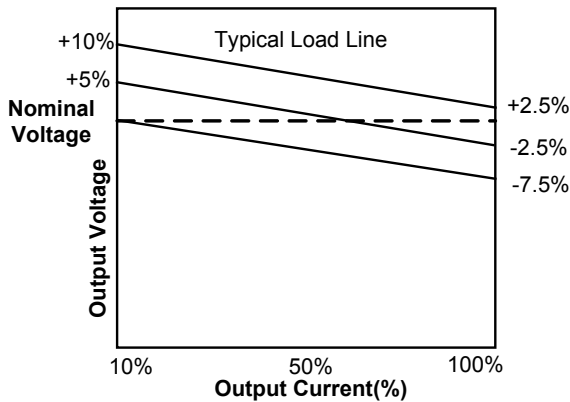
N.C: Not Connected

Dimensions

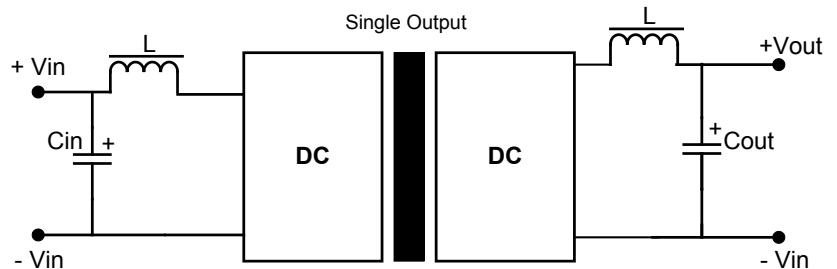


All dimensions are in mm (inch)
All Pins are on a 2.54mm (0.10inch) pitch with tolerance of ±0.25mm (0.01inch)

Tolerance Graph



Recommended Filter Circuit



- If it is required to decrease the input/output ripple, an “LC” filter network can be installed on the input and output of the converter (see above).
- It should be noted that the inductance and the resonant frequency of the “LC” filtering network should differ from the DC/DC converter switching frequency to avoid mutual interference.
- The capacitance of the output filter capacitor must not exceed the values in the Table below to avoid startup problems and ensure safe and reliable operation.
- It's not recommended to connect any external capacitor in the application field when output loading is less than 0.5 watt.

External Capacitor Tables

Input Capacitor (Cin)

| Vin (VDC) | Cin (uF) |
|-----------|----------|
| 5 | 4.7 |
| 12 | 2.2 |
| 24 | 0.47 |

Output Capacitor (Cout)

| SingleVout (VDC) | Cout (uF) |
|------------------|-----------|
| 5 | 10 |
| 12 | 2.2 |
| 15 | 1 |
| 24 | 0.47 |

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 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.