



## FEATURES:

- SMD Package
- Efficiency up to 86%
- Unregulated
- Industry Standard Pinout
- Single Output Models
- Operating temperature -40°C to +105°C
- Input / Output Isolation 1500 & 3000 VDC
- Continuous Short Circuit Protection for 1500VDC models only


**Models**  
**Single output**

| Model             | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Max Capacitive Load(μF) | Efficiency (%) |
|-------------------|-------------------|--------------------|-------------------------|-----------------|-------------------------|----------------|
| AM2LS-0503S-NZ    | 4.5-5.5           | 3.3                | 400                     | 1500            | 220                     | 71             |
| AM2LS-0505S-NZ    | 4.5-5.5           | 5                  | 400                     | 1500            | 220                     | 79             |
| AM2LS-0509S-NZ    | 4.5-5.5           | 9                  | 222                     | 1500            | 220                     | 82             |
| AM2LS-0512S-NZ    | 4.5-5.5           | 12                 | 167                     | 1500            | 220                     | 82             |
| AM2LS-0515S-NZ    | 4.5-5.5           | 15                 | 133                     | 1500            | 220                     | 83             |
| AM2LS-1205S-NZ    | 10.8-13.2         | 5                  | 400                     | 1500            | 220                     | 79             |
| AM2LS-1209S-NZ    | 10.8-13.2         | 9                  | 222                     | 1500            | 220                     | 82             |
| AM2LS-1212S-NZ    | 10.8-13.2         | 12                 | 167                     | 1500            | 220                     | 82             |
| AM2LS-1215S-NZ    | 10.8-13.2         | 15                 | 133                     | 1500            | 220                     | 83             |
| AM2LS-1224S-NZ    | 10.8-13.2         | 24                 | 83                      | 1500            | 220                     | 84             |
| AM2LS-1515S-NZ    | 13.5-16.5         | 15                 | 133                     | 1500            | 220                     | 83             |
| AM2LS-2405S-NZ    | 21.6-26.4         | 5                  | 400                     | 1500            | 220                     | 79             |
| AM2LS-2409S-NZ    | 21.6-26.4         | 9                  | 222                     | 1500            | 220                     | 82             |
| AM2LS-2412S-NZ    | 21.6-26.4         | 12                 | 167                     | 1500            | 220                     | 82             |
| AM2LS-2415S-NZ    | 21.6-26.4         | 15                 | 133                     | 1500            | 220                     | 83             |
| AM2LS-2424S-NZ    | 21.6-26.4         | 24                 | 83                      | 1500            | 220                     | 86             |
| AM2LS-0505SH30-NZ | 4.5-5.5           | 5                  | 400                     | 3000            | 220                     | 79             |
| AM2LS-0509SH30-NZ | 4.5-5.5           | 9                  | 222                     | 3000            | 220                     | 82             |
| AM2LS-0512SH30-NZ | 4.5-5.5           | 12                 | 167                     | 3000            | 220                     | 82             |
| AM2LS-0515SH30-NZ | 4.5-5.5           | 15                 | 133                     | 3000            | 220                     | 83             |
| AM2LS-1205SH30-NZ | 10.8-13.2         | 5                  | 400                     | 3000            | 220                     | 79             |
| AM2LS-1212SH30-NZ | 10.8-13.2         | 12                 | 167                     | 3000            | 220                     | 82             |
| AM2LS-1215SH30-NZ | 10.8-13.2         | 15                 | 133                     | 3000            | 220                     | 83             |
| AM2LS-1224SH30-NZ | 10.8-13.2         | 24                 | 83                      | 3000            | 220                     | 84             |
| AM2LS-1515SH30-NZ | 13.5-16.5         | 15                 | 133                     | 3000            | 220                     | 83             |
| AM2LS-2405SH30-NZ | 21.6-26.4         | 5                  | 400                     | 3000            | 220                     | 79             |
| AM2LS-2412SH30-NZ | 21.6-26.4         | 12                 | 167                     | 3000            | 220                     | 82             |
| AM2LS-2415SH30-NZ | 21.6-26.4         | 15                 | 133                     | 3000            | 220                     | 83             |
| AM2LS-2424SH30-NZ | 21.6-26.4         | 24                 | 83                      | 3000            | 220                     | 84             |

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 |         |       |
|                                | 15      | 13.5-16.5 |         |       |
|                                | 24      | 21.6-26.4 |         |       |
| Quiescent Current              | 5       | 30        |         | mA    |
|                                | 12      | 25        |         |       |
|                                | 15      | 18        |         |       |
|                                | 24      | 15        |         |       |
| Reflected Input Ripple Current |         | 15        |         | mA    |
| Absolute Max Input (1sec max)  | 5 Vin   | 9         |         | VDC   |
|                                | 12 Vin  | 18        |         |       |
|                                | 15 Vin  | 21        |         |       |
|                                | 24 Vin  | 30        |         |       |
| Filter                         |         | Capacitor |         |       |

## Isolation Specifications

| Parameters         | Conditions | Typical     | Maximum | Units |
|--------------------|------------|-------------|---------|-------|
| Tested I/O voltage | 60 sec     | 1500 & 3000 |         | VDC   |
| Resistance         | 500VDC     | >1000       |         | MOhm  |
| Capacitance        |            | 20          |         | pF    |

## Output Specifications

| Parameters                                   | Conditions                                   | Typical                     | Maximum | Units    |
|--|--|-----------------------------|---------|----------|
| Voltage accuracy                             | 100% load (see tolerance chart)              | ±2.5                        |         | %        |
| Short Circuit protection                     | 12 & 15 VDC input models 1500VDC models only | Continuous<br>Auto Recovery |         |          |
|  | 5 & 24 VDC Input models & 3000VDC models     |                             | 1       | Sec      |
| Line voltage regulation                      | For ±1% of Vin                               | ±1.5                        |         | % of Vin |
|  | 3.3V models only                             | ±1.2                        |         |          |
| Load voltage regulation<br>(10% - 100% load) | 3.3V   | 18                          |         | %        |
|  | 5 V  | 12                          |         |          |
|  | 9 V  | 9                           |         |          |
|  | 12 V   | 8                           |         |          |
|  | 15 V   | 7                           |         |          |
|  | 24 V   | 6                           |         |          |
| Temperature coefficient                      | 100% load                                    | ±0.03                       |         | %/°C     |
| Ripple & Noise                               | At 20 MHz Bandwidth                          | 150                         |         | mV p-p   |

\* Products with 5Vdc and 24Vdc input voltage; the supply voltage must be discontinued at the end of short circuit duration.

## General Specifications

| Parameters                    | Conditions                          | Typical   | Maximum                 | Units |
|-------------------------------|-------------------------------------|---|-------------------------|-------|
| Switching frequency           | 100% load                           | 100   | 300                     | KHz   |
| Operating temperature         | With derating                       |   | -40 to +105             | °C    |
|                               | 3.3V & 5V above +71C<br>Others +85C |   |                         |       |
| Storage temperature           |                                     |   | -55 to +125             | °C    |
| Cooling                       |                                     |   | Free air convection     |       |
| Storage Humidity              | Non Condensing                      |   | 95                      | % RH  |
| Case material                 |                                     |   | Epoxy resin (UL94-V0)   |       |
| Weight                        | 1500VDC models                      |   | 1.4                     | g     |
|                               | 3000VDC models                      |   | 1.6                     |       |
| Dimensions (L x W x H)        |                                     | 0.50 x 0.44 x 0.28 inches                               | 12.70 x 11.20 x 7.25 mm |       |
| MTBF                          |                                     | >3,500,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) |                         |       |
| Maximum soldering temperature | 1.5mm from case for 10 sec          |   | 300                     | °C    |
| Maximum case temperature      |                                     |   | 105                     | °C    |

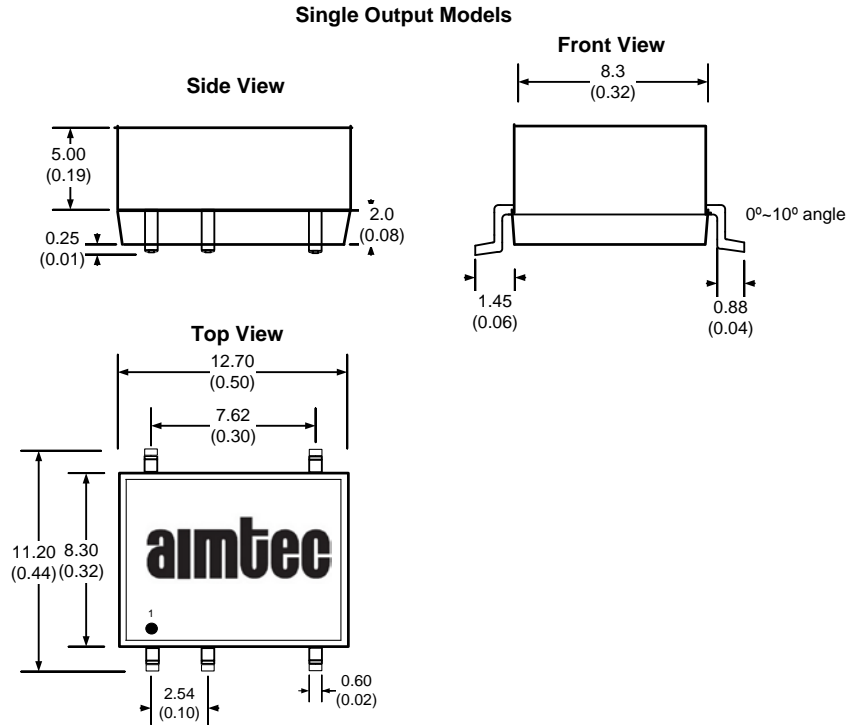
## Safety Specifications

| Parameters |  |
|------------|--|
| Standards  | EN 55022, Class B, with external filter<br>IEC 61000-4-2, Contact ±8KV, Criteria B |

### Pin Out Specifications

| Pin | Single Output |
|-----|---------------|
| 1   | - V Input     |
| 2   | + V Input     |
| 3   | No Pin        |
| 4   | .-V Output    |
| 5   | +V Output     |
| 6   | No Pin        |
| 7   | No Pin        |
| 8   | N.C.          |

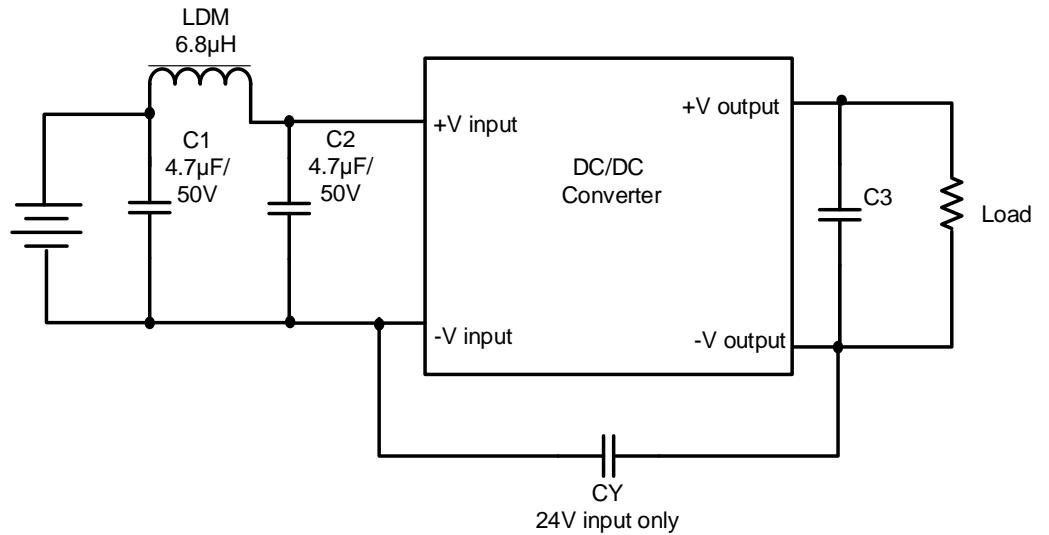
### Dimensions



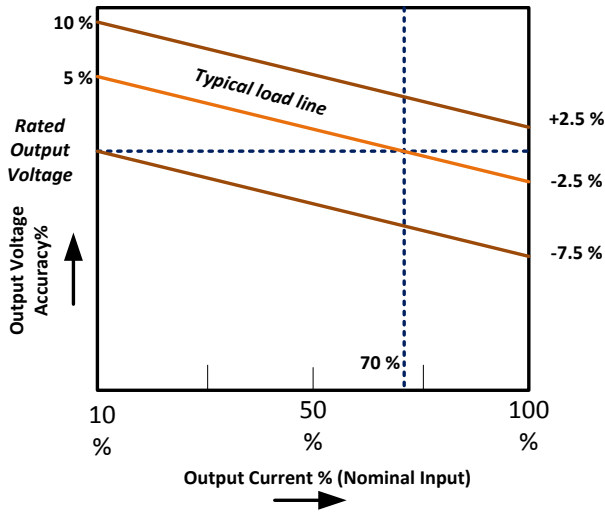
### Recommended Circuits (EMI Class B)

Capacitor selection Table

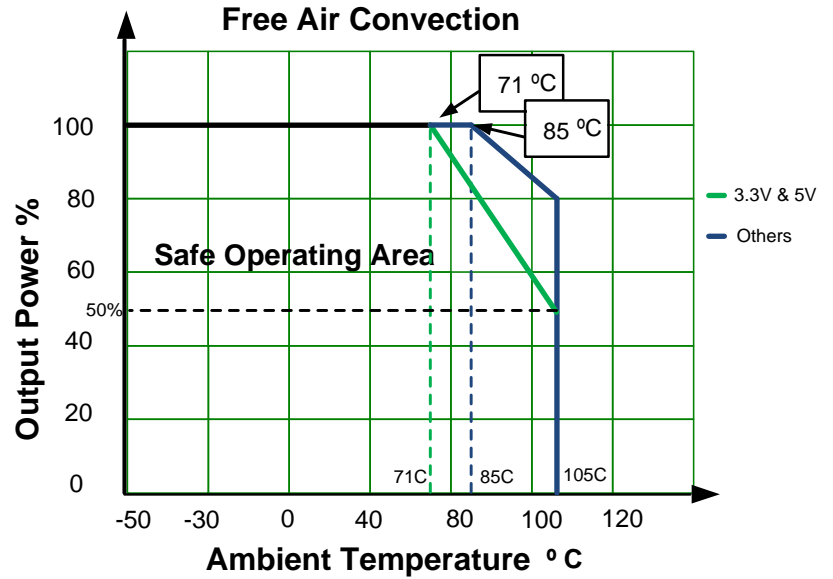
| Vout  | C3           |
|-------|--------------|
| 3.3 V | 10 $\mu$ F   |
| 5 V   | 10 $\mu$ F   |
| 9 V   | 4.7 $\mu$ F  |
| 12 V  | 2.2 $\mu$ F  |
| 15 V  | 1 $\mu$ F    |
| 24V   | 0.47 $\mu$ F |



**Load Accuracy Tolerance Graph**



**Derating**



**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 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).