



### FEATURES:

- 6000 VDC Isolation
- Low Profile DIP 16 Package
- Industry Standard Pinout
- MTBF>3,500,000 hours
- Unregulated Single Output Models
- Operating Temperature: -40°C to +105°C
- High Efficiency up to 81%
- RoHS Compliant

### Models Single output



| Model             | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Efficiency (%) |
|-------------------|-------------------|--------------------|-------------------------|-----------------|----------------|
| AM2B-0505SH60-NZ  | 4.5-5.5           | 5                  | 400                     | 6000            | 77             |
| AM2B-0512SH60-NZ  | 4.5-5.5           | 12                 | 167                     | 6000            | 81             |
| AM2B-0515SH60-NZ  | 4.5-5.5           | 15                 | 133                     | 6000            | 80             |
| AM2B-1205SH60-NZ  | 10.8-13.2         | 5                  | 400                     | 6000            | 77             |
| *AM2B-1215SH60-NZ | 10.8-13.2         | 15                 | 133                     | 6000            | 81             |
| AM2B-2405SH60-NZ  | 21.6-26.4         | 5                  | 400                     | 6000            | 78             |
| AM2B-2415SH60-NZ  | 21.6-26.4         | 15                 | 133                     | 6000            | 80             |

\*Not recommended for new design

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 |         |       |

### Isolation Specifications

| Parameters         | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec     |         | 6000  | VDC   |
| Capacitance        | 500VDC     | 10      |       | pF    |
| Resistance         |            | >1000   |       | MOhm  |

### Output Specifications

| Parameters               | Conditions                 | Typical       | Maximum | Units    |
|--------------------------|----------------------------|---------------|---------|----------|
| Voltage accuracy         | See Tolerance Graph        | ±5            |         | %        |
| Short circuit protection |                            | Continuous    |         |          |
| Short Circuit restart    |                            | Auto Recovery |         |          |
| Line voltage regulation  | For a 1% change of Vin     | ±1.2          |         | %        |
| Load voltage regulation  | From 10% load to 100% load | 12            |         | %        |
| Temperature coefficient  | At 100% load               | ±0.03         |         | %/°C     |
| Ripple & Noise*          | 20MHz Bandwidth            | 150           |         | mV p-p   |
| Minimum load current**   |                            | 10            |         | % of Max |

\* Test ripple & noise by "Parallel Cable Method" as described in Application Note "Ripple and Noise Measurement of Brick & POL DC-DC Converters" available at [www.aimtec.com](http://www.aimtec.com)

\*\* 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, nominal input       | 50 ‡   |                        | KHz   |
| Operating temperature         |                                | -40 to + 85 ‡  |                        | °C    |
| Storage temperature           |                                | -55 to + 125   |                        | °C    |
| Maximum case temperature      |                                |  | 100                    | °C    |
| Cooling                       |                                | Free Air Convection  |                        |       |
| Humidity                      |                                |  | 95                     | % RH  |
| Case material                 |                                | Plastic(UL94-V0)   |                        |       |
| Weight                        |                                | 3.8  |                        | g     |
| Dimensions (L x W x H)        |                                | 0.94 x 0.60 x 0.32 inches                                  | 23.86 x 15.24 x 8.00mm |       |
| MTBF                          |                                | > 3,500,000 hours (MIL-HDBK -217F, Ground Benign, t=+25°C) |                        |       |
| Maximum soldering temperature | 1.5mm from case for 10 seconds |  | 300                    | °C    |

### Safety Specifications

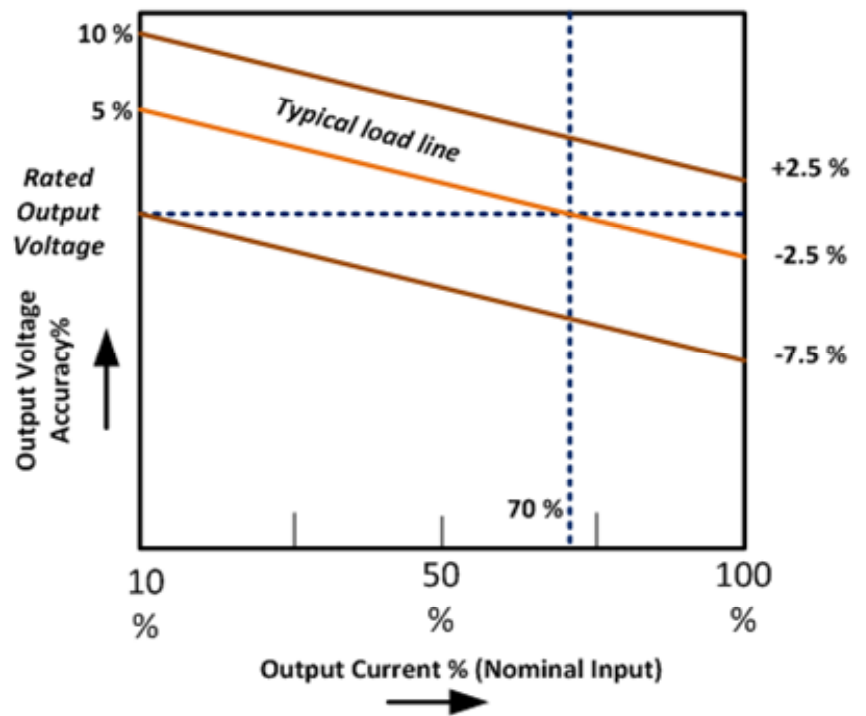
| Parameters       |                            |
|------------------|----------------------------|
| Agency approvals | CE                         |
| Standards        | EN 60601-1-1; EN 60601-1-2 |

### Pin Out Specifications

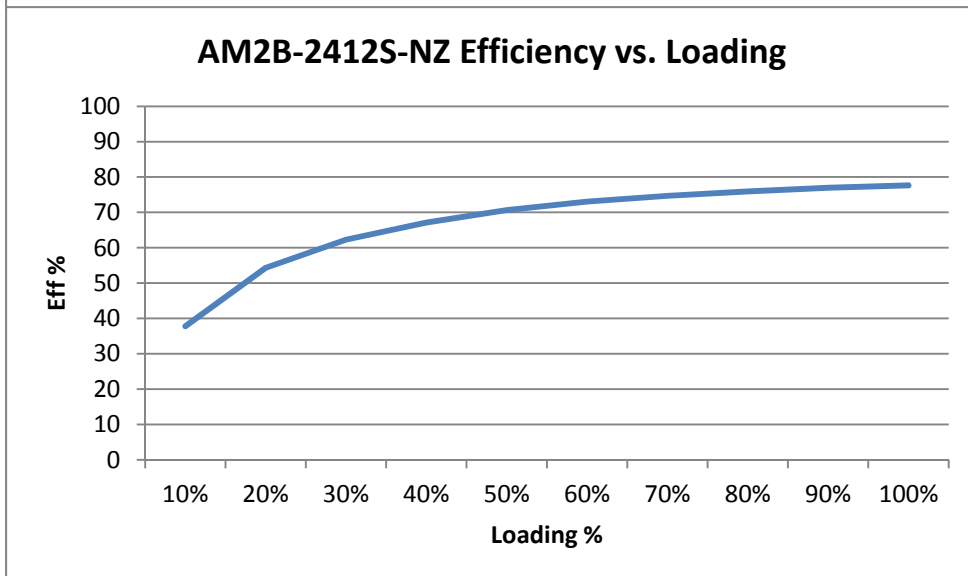
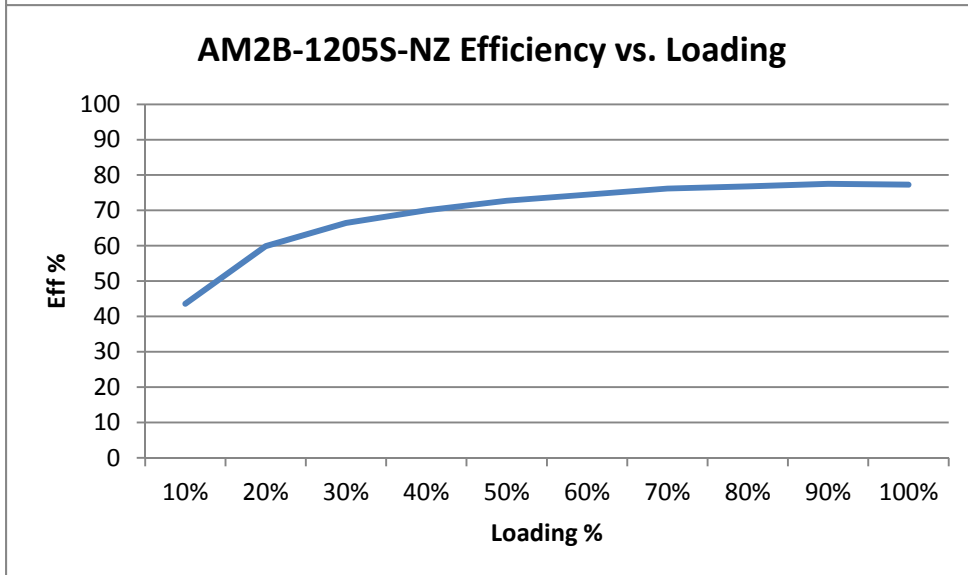
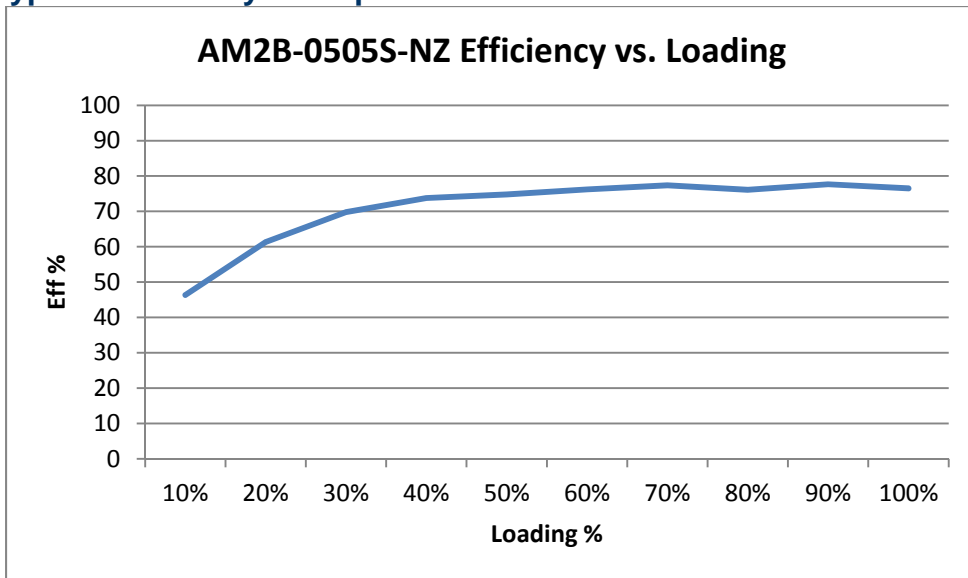
| Pin | Single |
|-----|--------|
| 1   | - V in |
| 2   | No Pin |
| 3   | No Pin |
| 4   | No Pin |
| 5   | No Pin |
| 6   | No Pin |
| 7   | NC     |
| 8   | NC     |
| 9   | +V out |
| 10  | -V out |
| 11  | No Pin |
| 12  | No Pin |
| 13  | No Pin |
| 14  | No Pin |
| 15  | No Pin |
| 16  | +V in  |

NC: not connected

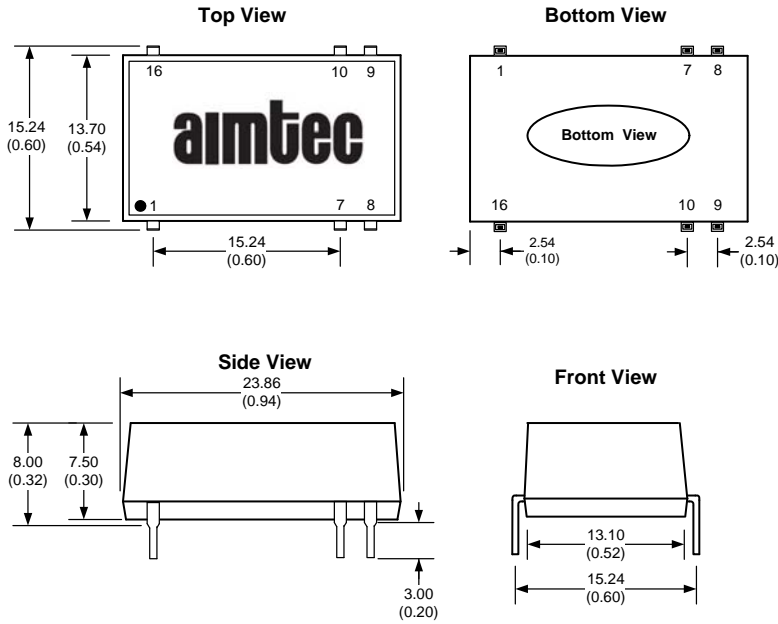
### Load Accuracy Tolerance Graph



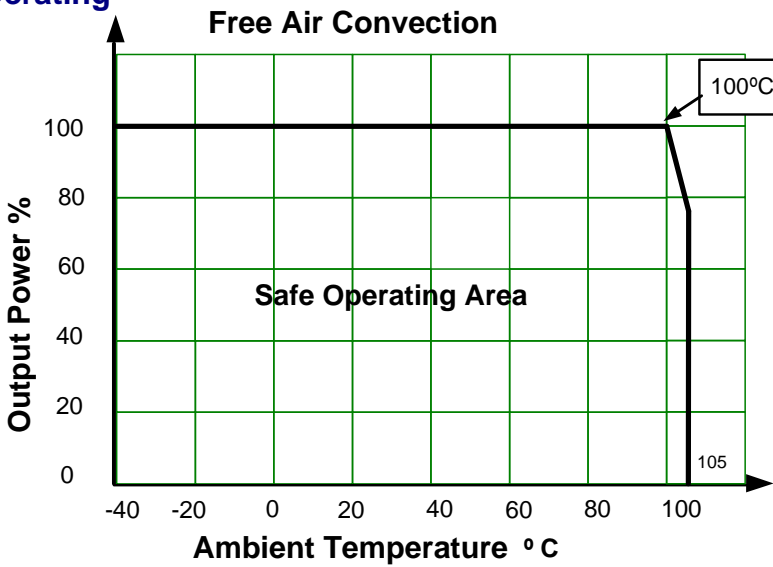
**Typical Efficiency Example Charts**



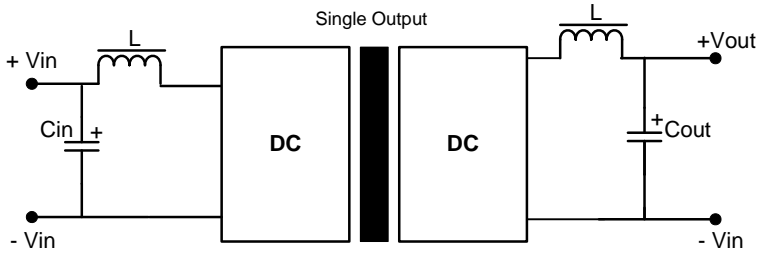
**Dimensions**



**Derating**



## 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        | 1        |

### Output Capacitor (Cout)

| Single Vout (VDC) | Cout (uF) |
|-------------------|-----------|
| 5                 | 10        |
| 12                | 2.2       |
| 15                | 1         |

**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).