



### FEATURES:

- 7 Pin SIP Package
- High Efficiency up to 90%
- Low Profile Plastic Package
- RoHS Compliant
- Operating Temperature -40°C to +85°C
- Short Circuit Protection
- Input / Output Isolation 1000, 3000 VDC
- Pin Compatible With Multiple Manufacturers

### Models Single output



| Model                    | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Input Current Full   No Load (mA) |    | Efficiency (%) |
|--------------------------|-------------------|--------------------|-------------------------|-----------------|-----------------------------------|----|----------------|
| AM3D-0505SZ              | 4.5-5.5           | 5                  | 600                     | 1000            | 769                               | 80 | 78             |
| AM3D-0509SZ              | 4.5-5.5           | 9                  | 333                     | 1000            | 714                               | 70 | 84             |
| AM3D-0512SZ              | 4.5-5.5           | 12                 | 250                     | 1000            | 714                               | 80 | 84             |
| AM3D-0515SZ              | 4.5-5.5           | 15                 | 200                     | 1000            | 714                               | 80 | 84             |
| AM3D-1205SZ              | 10.8-13.2         | 5                  | 600                     | 1000            | 298                               | 25 | 84             |
| AM3D-1209SZ              | 10.8-13.2         | 9                  | 333                     | 1000            | 287                               | 25 | 87             |
| AM3D-1212SZ              | 10.8-13.2         | 12                 | 250                     | 1000            | 284                               | 25 | 88             |
| AM3D-1215SZ              | 10.8-13.2         | 15                 | 200                     | 1000            | 278                               | 20 | 90             |
| <b>3000VDC Isolation</b> |                   |                    |                         |                 |                                   |    |                |
| AM3D-0505SH30Z           | 4.5-5.5           | 5                  | 600                     | 3000            | 769                               | 80 | 78             |
| AM3D-0509SH30Z           | 4.5-5.5           | 9                  | 333                     | 3000            | 714                               | 70 | 84             |
| AM3D-0512SH30Z           | 4.5-5.5           | 12                 | 250                     | 3000            | 714                               | 80 | 84             |
| AM3D-0515SH30Z           | 4.5-5.5           | 15                 | 200                     | 3000            | 714                               | 80 | 84             |
| AM3D-1205SH30Z           | 10.8-13.2         | 5                  | 600                     | 3000            | 298                               | 25 | 84             |
| AM3D-1209SH30Z           | 10.8-13.2         | 9                  | 333                     | 3000            | 287                               | 25 | 87             |
| AM3D-1212SH30Z           | 10.8-13.2         | 12                 | 250                     | 3000            | 284                               | 25 | 88             |
| AM3D-1215SH30Z           | 10.8-13.2         | 15                 | 200                     | 3000            | 278                               | 20 | 90             |

### Models Dual output

| Model                    | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Input Current Full   No Load (mA) |    | Efficiency (%) |
|--------------------------|-------------------|--------------------|-------------------------|-----------------|-----------------------------------|----|----------------|
| AM3D-0505DZ              | 4.5-5.5           | ±5                 | ±300                    | 1000            | 741                               | 80 | 81             |
| AM3D-0509DZ              | 4.5-5.5           | ±9                 | ±167                    | 1000            | 706                               | 70 | 85             |
| AM3D-0512DZ              | 4.5-5.5           | ±12                | ±125                    | 1000            | 706                               | 70 | 85             |
| AM3D-0515DZ              | 4.5-5.5           | ±15                | ±100                    | 1000            | 714                               | 80 | 84             |
| AM3D-1205DZ              | 10.8-13.2         | ±5                 | ±300                    | 1000            | 294                               | 25 | 85             |
| AM3D-1209DZ              | 10.8-13.2         | ±9                 | ±167                    | 1000            | 284                               | 25 | 88             |
| AM3D-1212DZ              | 10.8-13.2         | ±12                | ±125                    | 1000            | 281                               | 25 | 89             |
| AM3D-1215DZ              | 10.8-13.2         | ±15                | ±100                    | 1000            | 278                               | 20 | 90             |
| <b>3000VDC Isolation</b> |                   |                    |                         |                 |                                   |    |                |
| AM3D-0505DH30Z           | 4.5-5.5           | ±5                 | ±300                    | 3000            | 741                               | 80 | 81             |
| AM3D-0509DH30Z           | 4.5-5.5           | ±9                 | ±167                    | 3000            | 706                               | 70 | 85             |
| AM3D-0512DH30Z           | 4.5-5.5           | ±12                | ±125                    | 3000            | 706                               | 70 | 85             |
| AM3D-0515DH30Z           | 4.5-5.5           | ±15                | ±100                    | 3000            | 714                               | 80 | 84             |
| AM3D-1205DH30Z           | 10.8-13.2         | ±5                 | ±300                    | 3000            | 294                               | 25 | 85             |
| AM3D-1209DH30Z           | 10.8-13.2         | ±9                 | ±167                    | 3000            | 284                               | 25 | 88             |
| AM3D-1212DH30Z           | 10.8-13.2         | ±12                | ±125                    | 3000            | 281                               | 25 | 89             |
| AM3D-1215DH30Z           | 10.8-13.2         | ±15                | ±100                    | 3000            | 278                               | 20 | 90             |

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 |         | VDC    |
| Filter                         | Capacitor |           |         |        |
| Absolute Maximum Rating        | 5         | 9         |         | VDC    |
|                                | 12        | 18        |         | VDC    |
| Peak Input Voltage Time        |           |           | 100     | ms     |
| Input Reflected Ripple Current |           | 25        |         | mA p-p |

### Isolation Specifications

| Parameters         | Conditions | Typical    | Rated | Units |
|--------------------|------------|------------|-------|-------|
| Tested I/O Voltage | 60 sec     | 1000, 3000 |       | VDC   |
| Resistance         |            | >1000      |       | MOhm  |
| Capacitance        |            | 60         |       | pF    |

### Output Specifications

| Parameters              | Conditions                      | Typical  | Maximum | Units    |
|-------------------------|---------------------------------|----------|---------|----------|
| Voltage Accuracy        |                                 | -4 to +2 |         | %        |
| Line Voltage Regulation | For 1.0% of Vin                 | ±1.2     |         | % of Vin |
| Load Voltage Regulation | load 10~100%, 5Vin/5Vout models | 8        |         | %        |
|                         | load 10~100%, other models      | 7        |         | %        |
| Temperature Coefficient |                                 | ±0.02    |         | %/°C     |
| Ripple & Noise *        | 20MHz Bandwidth                 | 50       |         | mV p-p   |
| Minimum Load Current    |                                 | 10       |         | % of Max |

\* Measured with a 1µF CC.

### General Specifications

| Parameters                    | Conditions  | Typical     | Maximum | Units |
|-------------------------------|---|-------------|---------|-------|
| Switching Frequency           | 100% load   | 70          |         | KHz   |
| Operating Temperature         | With Derating Above 71 °C (5V input models only)        | -40 to +85  |         | °C    |
| Storage Temperature           |   | -40 to +125 |         | °C    |
| Maximum Case Temperature      |   |             | 100     | °C    |
| Cooling                       | Free Air Convection                                     |             |         |       |
| Humidity                      |   |             | 95      | % RH  |
| Case Material                 | Non-conductive black plastic UL 94 V-0                  |             |         |       |
| Weight                        |   | 2.8         |         | g     |
| Dimensions (L x W x H)        | 0.76 x 0.28 x 0.37 inches 19.50 x 7.20 x 9.50 mm        |             |         |       |
| MTBF                          | >1 800 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) |             |         |       |
| Maximum Soldering Temperature | 1.5mm from case for 10 sec                              |             | 260     | °C    |

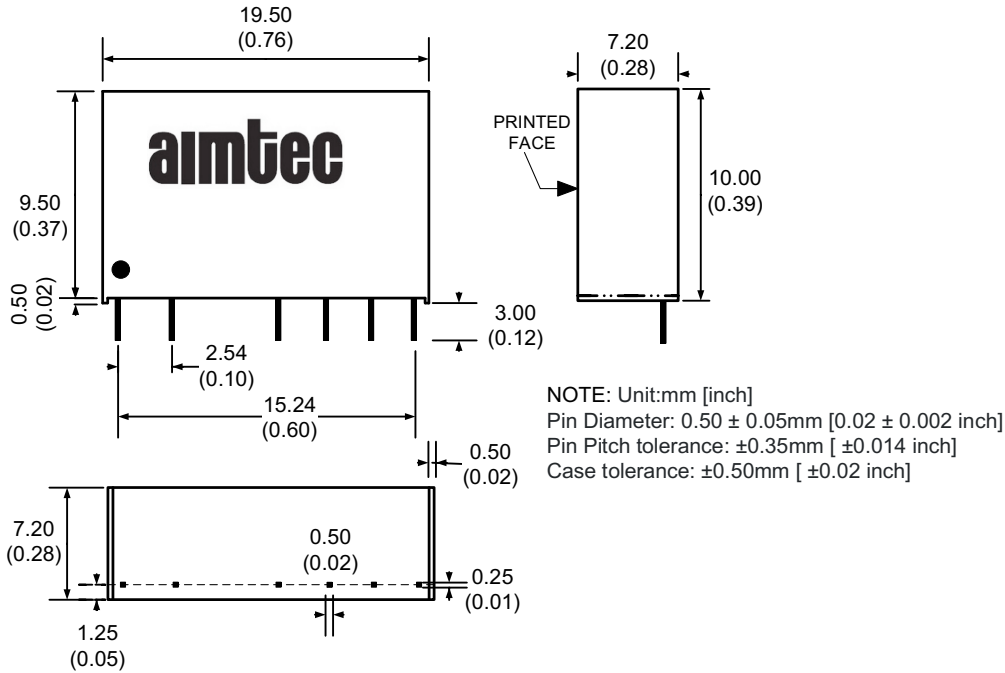
### Safety Specifications

| Parameters      |   |
|-----------------|---|
| Agency Approval | CE  |
| Standards       | EN55032, Class B with the recommended circuit                     |
|                 | IEC61000-4-2, Perf. Criteria A                                    |
|                 | IEC61000-4-3, Perf. Criteria A                                    |
|                 | IEC61000-4-4, Perf. Criteria A (external 220µF/100V cap required) |
|                 | IEC61000-4-6, Perf. Criteria A                                    |
|                 | IEC61000-4-8, Perf. Criteria A                                    |

### Pin Out Specifications

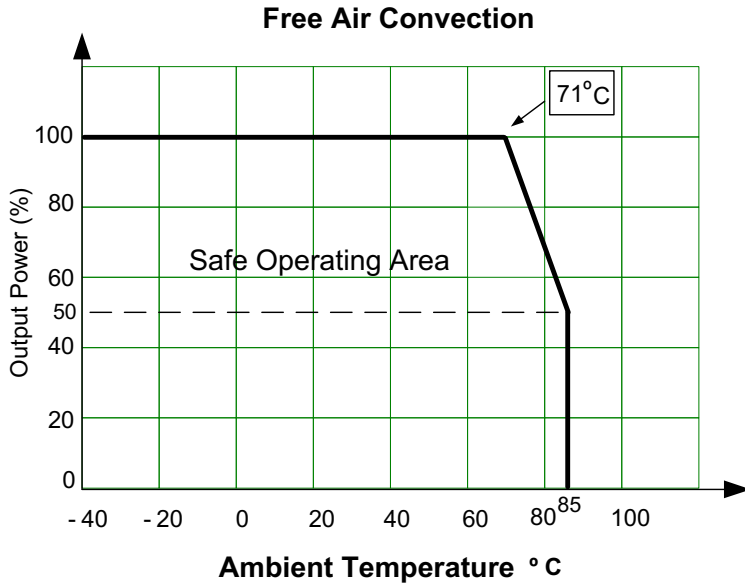
| Pin | 1000Vdc    |            | 3000Vdc    |            |
|-----|------------|------------|------------|------------|
|     | Single     | Dual       | Single     | Dual       |
| 1   | + V Input  | + V Input  | + V Input  | + V Input  |
| 2   | - V Input  | - V Input  | - V Input  | - V Input  |
| 4   | - V Output | - V Output | No pin     | No pin     |
| 5   | No pin     | Common     | - V Output | - V Output |
| 6   | + V Output | + V Output | No pin     | Common     |
| 7   | No pin     | No pin     | + V Output | + V Output |

### Dimensions

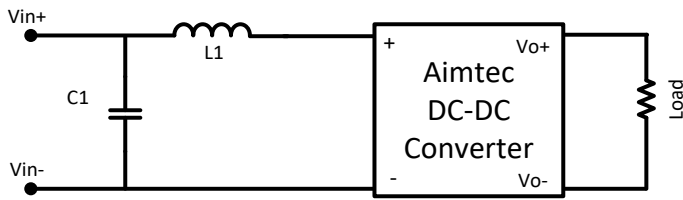


### Derating

5V input models only

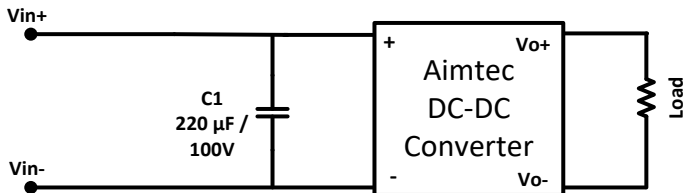


**Conducted Emissions**

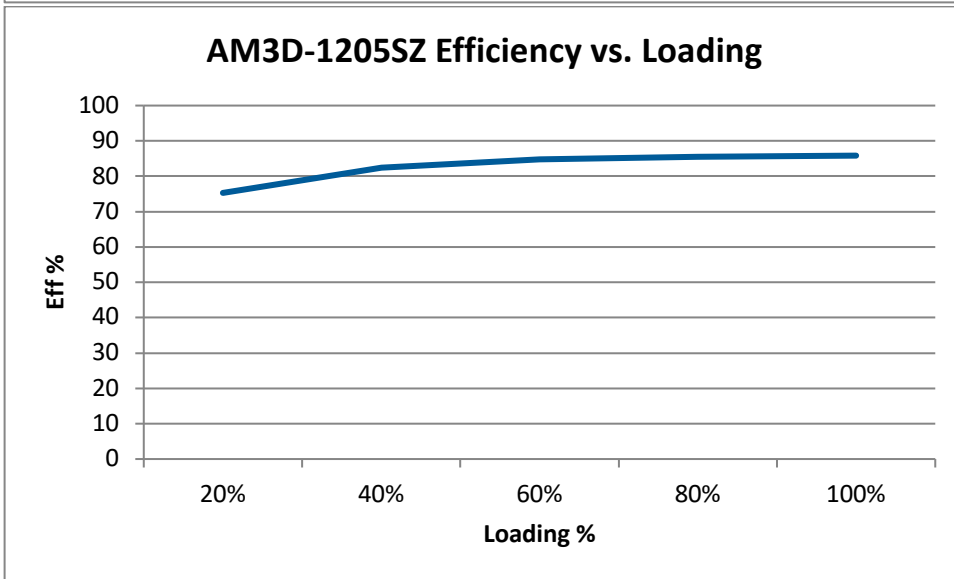
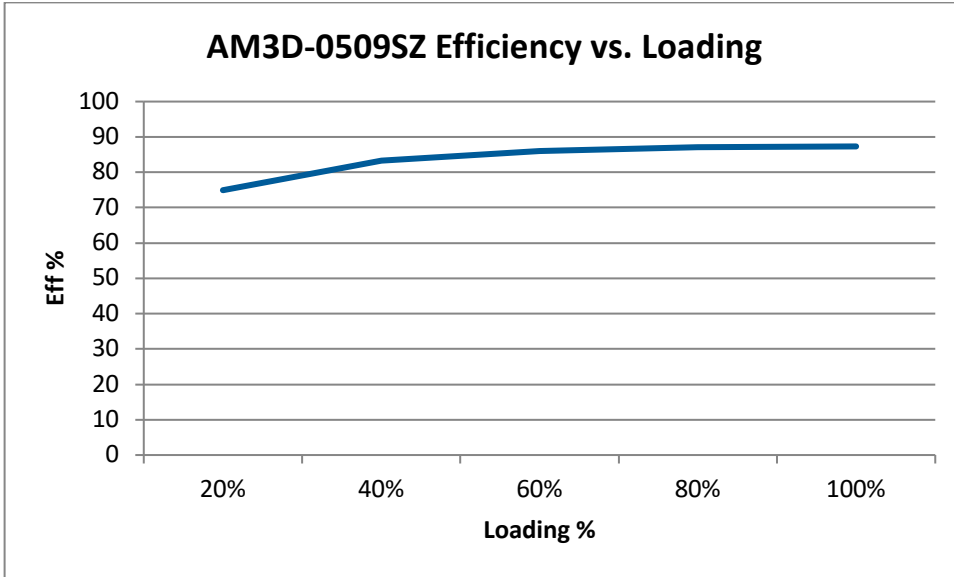


| Model  | C1                      | L1         |
|--------|-------------------------|------------|
| 5 Vin  | 1210 2.2 $\mu$ F / 100V | 18 $\mu$ H |
| 12 Vin | 1210 2.2 $\mu$ F / 100V | 18 $\mu$ H |

**EFT**



**Typical Efficiency Example Charts**



**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).