



**FEATURES:**

- RoHS compliant
- Full SMD technology
- Wide 2:1 input range
- High efficiency up to 86%
- Pin compatible with multiple manufacturers
- Operating temperature -40°C to + 85°C
- Input/Output Isolation 1500VDC
- Continuous short circuit protection
- Low profile metal package

**Models**  
**Single output**



| Model        | Input Voltage (V) | Output Voltage (V) | Output Current max (A) | Capacitance load, max (µF) | Efficiency (%) |
|--------------|-------------------|--------------------|------------------------|----------------------------|----------------|
| AM10E-1203SZ | 9-18              | 3.3                | 2                      | 2200                       | 78             |
| AM10E-1205SZ | 9-18              | 5                  | 2                      | 2200                       | 82             |
| AM10E-1207SZ | 9-18              | 7.2                | 1.38                   | 1000                       | 83             |
| AM10E-1209SZ | 9-18              | 9                  | 1.111                  | 1000                       | 83             |
| AM10E-1212SZ | 9-18              | 12                 | 0.833                  | 680                        | 84             |
| AM10E-1215SZ | 9-18              | 15                 | 0.666                  | 470                        | 84             |
| AM10E-1218SZ | 9-18              | 18                 | 0.55                   | 470                        | 85             |
| AM10E-1224SZ | 9-18              | 24                 | 0.416                  | 330                        | 85             |
| AM10E-2403SZ | 18-36             | 3.3                | 2                      | 2200                       | 78             |
| AM10E-2405SZ | 18-36             | 5                  | 2                      | 2200                       | 82             |
| AM10E-2407SZ | 18-36             | 7.2                | 1.38                   | 1000                       | 83             |
| AM10E-2409SZ | 18-36             | 9                  | 1.111                  | 1000                       | 84             |
| AM10E-2412SZ | 18-36             | 12                 | 0.833                  | 680                        | 84             |
| AM10E-2415SZ | 18-36             | 15                 | 0.666                  | 470                        | 85             |
| AM10E-2418SZ | 18-36             | 18                 | 0.55                   | 470                        | 85             |
| AM10E-2424SZ | 18-36             | 24                 | 0.416                  | 330                        | 86             |
| AM10E-4803SZ | 36-72             | 3.3                | 2                      | 2200                       | 78             |
| AM10E-4805SZ | 36-72             | 5                  | 2                      | 2200                       | 83             |
| AM10E-4807SZ | 36-72             | 7.2                | 1.38                   | 1000                       | 83             |
| AM10E-4809SZ | 36-72             | 9                  | 1.111                  | 1000                       | 84             |
| AM10E-4812SZ | 36-72             | 12                 | 0.833                  | 680                        | 84             |
| AM10E-4815SZ | 36-72             | 15                 | 0.666                  | 470                        | 84             |
| AM10E-4818SZ | 36-72             | 18                 | 0.55                   | 470                        | 85             |
| AM10E-4824SZ | 36-72             | 24                 | 0.416                  | 330                        | 86             |

**Models**  
**Dual output**

| Model        | Input Voltage (V) | Output Voltage (V) | Output Current max (A) | Capacitance load, max (µF) | Efficiency (%) |
|--------------|-------------------|--------------------|------------------------|----------------------------|----------------|
| AM10E-1203DZ | 9-18              | ±3.3               | ±1                     | ±1000                      | 78             |
| AM10E-1205DZ | 9-18              | ±5                 | ±1                     | ±1000                      | 82             |
| AM10E-1207DZ | 9-18              | ±7.2               | ±0.69                  | ±680                       | 83             |
| AM10E-1209DZ | 9-18              | ±9                 | ±0.555                 | ±470                       | 84             |
| AM10E-1212DZ | 9-18              | ±12                | ±0.416                 | ±470                       | 84             |
| AM10E-1215DZ | 9-18              | ±15                | ±0.333                 | ±330                       | 85             |
| AM10E-1218DZ | 9-18              | ±18                | ±0.27                  | ±220                       | 85             |
| AM10E-1224DZ | 9-18              | ±24                | ±0.208                 | ±220                       | 85             |
| AM10E-2403DZ | 18-36             | ±3.3               | ±1                     | ±1000                      | 78             |
| AM10E-2405DZ | 18-36             | ±5                 | ±1                     | ±1000                      | 82             |
| AM10E-2407DZ | 18-36             | ±7.2               | ±0.69                  | ±680                       | 83             |
| AM10E-2409DZ | 18-36             | ±9                 | ±0.555                 | ±470                       | 83             |
| AM10E-2412DZ | 18-36             | ±12                | ±0.416                 | ±470                       | 84             |
| AM10E-2415DZ | 18-36             | ±15                | ±0.333                 | ±330                       | 84             |
| AM10E-2418DZ | 18-36             | ±18                | ±0.27                  | ±220                       | 85             |

## Models

### Dual output (continued)

| Model        | Input Voltage (V) | Output Voltage (V) | Output Current max (A) | Capacitance load, max (μF) | Efficiency (%) |
|--------------|-------------------|--------------------|------------------------|----------------------------|----------------|
| AM10E-2424DZ | 18-36             | ±24                | ±0.208                 | ±220                       | 85             |
| AM10E-4803DZ | 36-72             | ±3.3               | ±1                     | ±1000                      | 78             |
| AM10E-4805DZ | 36-72             | ±5                 | ±1                     | ±1000                      | 82             |
| AM10E-4807DZ | 36-72             | ±7.2               | ±0.69                  | ±680                       | 84             |
| AM10E-4809DZ | 36-72             | ±9                 | ±0.555                 | ±470                       | 84             |
| AM10E-4812DZ | 36-72             | ±12                | ±0.416                 | ±470                       | 85             |
| AM10E-4815DZ | 36-72             | ±15                | ±0.333                 | ±330                       | 85             |
| AM10E-4818DZ | 36-72             | ±18                | ±0.27                  | ±220                       | 86             |
| AM10E-4824DZ | 36-72             | ±24                | ±0.208                 | ±220                       | 86             |

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 |
|--------------------------------|---------|---------|---------|-------|
| Input Voltage range            | 12      | 9-18    |         | VDC   |
|                                | 24      | 18-36   |         |       |
|                                | 48      | 36-72   |         |       |
| Filter                         | π(PI)   |         |         |       |
| Turn on Transient process time |         |         | 350     | ms    |
| Start up time                  |         | 20      |         | ms    |
| Absolute Maximum Rating        | 12 Vin  | -0.7-24 |         | VDC   |
|                                | 24 Vin  | -0.7-40 |         |       |
|                                | 48 Vin  | -0.7-80 |         |       |
| Peak Input Voltage time        |         |         | 100     | ms    |
| No Load Input Current          |         | 70      |         | mA    |
| Input reflected current        |         | 35      |         | mAp-p |

## Isolation Specifications

| Parameters         | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 3 sec      |         | 1500  | VDC   |
| Resistance         |            | > 1000  |       | MOhm  |
| Capacitance        |            | 500     |       | pF    |

## Output Specifications

| Parameters                         | Conditions   | Typical | Maximum | Units |
|------------------------------------|--|---------|---------|-------|
| Voltage accuracy                   |  | ±1      |         | %     |
| Voltage balance (Dual Output)      | Balance Load   | ±1      |         | %     |
| Cross Regulation (Dual Output)     | 25% load on one output -<br>100% load on second load | ±5      |         | %     |
| Short Circuit protection           | Continuous   |         |         |       |
| Short circuit restart              | Auto Recovery  |         |         |       |
| Over load protection               |  | 140     |         | %     |
| Line voltage regulation            | HL-LL  | ±0.5    |         | %     |
| Load voltage regulation (Single)   | 10-100%  | ±0.5    |         | %     |
| Load voltage regulation (Dual)     | 10-100%  | ±1.0    |         | %     |
| Temperature coefficient            |  | ±0.02   |         | % °C  |
| Ripple & Noise                     | 20MHz Bandwidth                                      | 100     |         | mVp-p |
| Ripple & Noise (24V Output models) | 20MHz Bandwidth                                      | 150     |         | mVp-p |
| Rising time                        |  | 10      |         | ms    |

### General Specifications

| Parameters                    | Conditions                 | Typical  | Maximum                  | Units |
|-------------------------------|----------------------------|--|--------------------------|-------|
| Switching frequency           | 100% load                  | 200  |                          | KHz   |
| Operating temperature         | No derating                |  | -40 to +85               | °C    |
| Storage temperature           |                            | -40 to +125  |                          | °C    |
| Maximum case temperature      |                            |  | 100                      | °C    |
| Cooling                       |                            | Free air convection                                      |                          |       |
| Humidity                      |                            |  | 95                       | %     |
| Case material                 |                            | Nickel coated copper                                     |                          |       |
| Potting Material              |                            | UL94V-0 rated  |                          |       |
| Weight                        |                            | 31   |                          | g     |
| Dimensions (L x W x H)        | Tolerance ±0.5mm           | 2.00 x 1.00 x 0.40 inches                                | 50.80 x 25.40 x 10.16 mm |       |
| MTBF                          |                            | > 1 121 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) |                          |       |
| Maximum soldering temperature | 1.5mm from case max 10 sec |  | 260                      | °C    |
| Transient recovery time       |                            | 250  |                          | us    |
| Transient recovery deviation  |                            | ±3   |                          | %     |

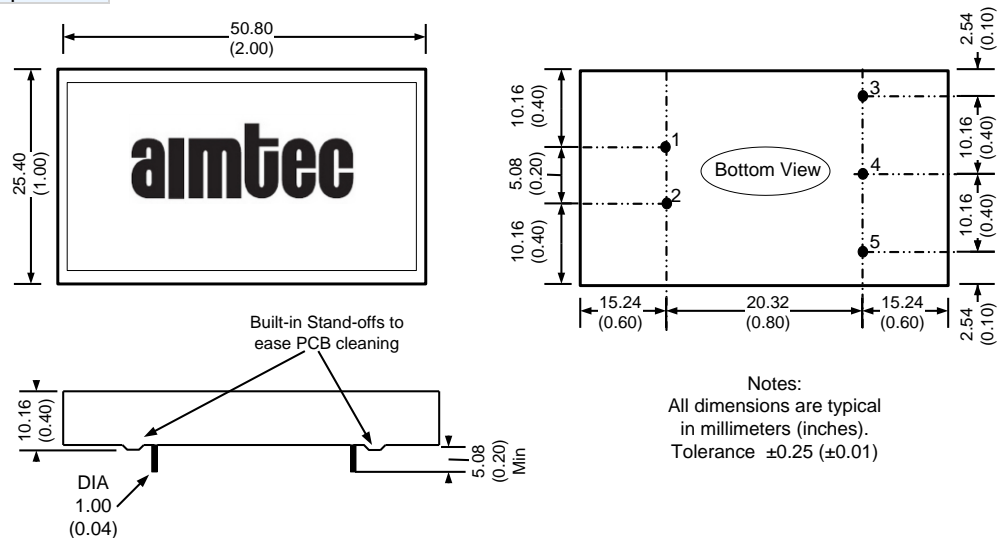
### Safety Specifications

| Parameters       |                    |
|------------------|--------------------|
| Agency approvals | CE, cULus          |
| Standards        | IEC/UL/EN/62368-1  |
|                  | EN 55032 – Class A |
|                  | EN 55024 – Class A |
|                  | IEC61000-4-2       |
|                  | IEC61000-4-3       |

### Pin Out Specifications

| Pin | Single    | Dual      |
|-----|-----------|-----------|
| 1   | +V Input  | +V Input  |
| 2   | -V Input  | -V Input  |
| 3   | +V Output | +V Output |
| 4   | No Pin.   | Common.   |
| 5   | -V Output | -V Output |

### Dimensions



Notes:  
All dimensions are typical in millimeters (inches).  
Tolerance ±0.25 (±0.01)

**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).