



#### FEATURES:

- Wide Input Range (4:1)
- 24 Pin DIP Package
- Metal package
- High efficiency up to 82%
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1500 or 3500VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection



#### Models Single output

| Model             | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Capacitive load, max (µF) | Efficiency (%) |
|-------------------|-------------------|--------------------|-------------------------|---------------------------|----------------|
| AM5TW-2403S-VZ    | 9-36              | 3.3                | 1200                    | 2200                      | 68             |
| AM5TW-2405S-VZ    | 9-36              | 5                  | 1000                    | 1000                      | 73             |
| AM5TW-2412S-VZ    | 9-36              | 12                 | 416                     | 470                       | 74             |
| AM5TW-2415S-VZ    | 9-36              | 15                 | 333                     | 470                       | 74             |
| AM5TW-4803S-VZ    | 18-72             | 3.3                | 1200                    | 2200                      | 70             |
| AM5TW-4805S-VZ    | 18-72             | 5                  | 1000                    | 1000                      | 73             |
| AM5TW-4812S-VZ    | 18-72             | 12                 | 416                     | 470                       | 74             |
| AM5TW-4815S-VZ    | 18-72             | 15                 | 333                     | 470                       | 76             |
| AM5TW-2403SH35-VZ | 9-36              | 3.3                | 1200                    | 2200                      | 68             |
| AM5TW-2405SH35-VZ | 9-36              | 5                  | 1000                    | 1000                      | 73             |
| AM5TW-2412SH35-VZ | 9-36              | 12                 | 416                     | 470                       | 74             |
| AM5TW-2415SH35-VZ | 9-36              | 15                 | 333                     | 470                       | 74             |
| AM5TW-4803SH35-VZ | 18-72             | 3.3                | 1200                    | 2200                      | 70             |
| AM5TW-4805SH35-VZ | 18-72             | 5                  | 1000                    | 1000                      | 73             |
| AM5TW-4812SH35-VZ | 18-72             | 12                 | 416                     | 470                       | 74             |
| AM5TW-4815SH35-VZ | 18-72             | 15                 | 333                     | 470                       | 76             |

#### Models Dual output

| Model             | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Capacitive load, max (µF) | Efficiency (%) |
|-------------------|-------------------|--------------------|-------------------------|---------------------------|----------------|
| AM5TW-2405D-VZ    | 9-36              | ±5                 | ±500                    | ±1000                     | 77             |
| AM5TW-2412D-VZ    | 9-36              | ±12                | ±208                    | ±220                      | 82             |
| AM5TW-2415D-VZ    | 9-36              | ±15                | ±166                    | ±220                      | 82             |
| AM5TW-4805D-VZ    | 18-72             | ±5                 | ±500                    | ±1000                     | 72             |
| AM5TW-4812D-VZ    | 18-72             | ±12                | ±208                    | ±220                      | 75             |
| AM5TW-4815D-VZ    | 18-72             | ±15                | ±166                    | ±220                      | 75             |
| AM5TW-2405DH35-VZ | 9-36              | ±5                 | ±500                    | ±1000                     | 77             |
| AM5TW-2412DH35-VZ | 9-36              | ±12                | ±208                    | ±220                      | 82             |
| AM5TW-2415DH35-VZ | 9-36              | ±15                | ±166                    | ±220                      | 82             |
| AM5TW-4805DH35-VZ | 18-72             | ±5                 | ±500                    | ±1000                     | 72             |
| AM5TW-4812DH35-VZ | 18-72             | ±12                | ±208                    | ±220                      | 75             |
| AM5TW-4815DH35-VZ | 18-72             | ±15                | ±166                    | ±220                      | 75             |

#### Input Specifications

| Parameters                       | Nominal        | Typical | Maximum | Units  |
|----------------------------------|----------------|---------|---------|--------|
| Voltage Range                    | 24             | 9-36    |         | VDC    |
|                                  | 48             | 18-72   |         | VDC    |
| Filter                           | π (Pi) Network |         |         |        |
| Peak Input Voltage time          |                | 100     |         | mS     |
| Absolute Max Rating              | 24 Vin         | -0.7-40 |         | VDC    |
|                                  | 48 Vin         | -0.7-80 |         | VDC    |
| Input Reflected ripple current * |                | 35      |         | mA p-p |

\* The input reflected ripple current should be measured with connected 12µH inductor and a 47µF capacitor.

### Isolation Specifications

| Parameters         | Conditions           | Typical | Rated | Units |
|--------------------|----------------------|---------|-------|-------|
| Tested I/O voltage | 60 sec, H35 model    |         | 3500  | VDC   |
|                    | 60 sec, other models |         | 1500  | VDC   |
| Resistance         |                      | > 1000  |       | MOhm  |
| Capacitance        |                      | 60      |       | pF    |

### Output Specifications

| Parameters               | Conditions         | Typical | Maximum | Units  |
|--------------------------|--------------------|---------|---------|--------|
| Voltage accuracy         |                    |         | ±1      | %      |
| Short circuit protection | Continuous         |         |         |        |
| Short circuit restart    | Auto Recovery      |         |         |        |
| Line voltage regulation  |                    |         | ±0.5    | %      |
| Load voltage regulation  |                    |         | ±0.5    | %      |
| Temperature coefficient  |                    | ±0.02   |         | %/°C   |
| Ripple & Noise           | At 20MHz Bandwidth |         | 60      | mV p-p |
| Minimum load*            |                    | 25      |         | %      |

\* Specifications may not be met if the minimum load is not satisfied.

### General Specifications

| Parameters            | Conditions  | Typical                | Maximum                | Units |
|-----------------------|---|------------------------|------------------------|-------|
| Switching frequency   | 100% load   | 100-400                |                        | KHz   |
| Operating temperature | Full Load (see derating chart)                          | -40 to +85             |                        | °C    |
| Storage temperature   |   | -40 to +125            |                        | °C    |
| Max Case temperature  |   |                        | 100                    | °C    |
| Derating              | Above 71°C  | 3.45                   |                        | %/°C  |
| Cooling               | Free air convection                                     |                        |                        |       |
| Humidity              |   |                        | 95                     | %     |
| Case material         | Nickel coated copper                                    |                        |                        |       |
| Weight                |   | 17                     |                        | g     |
| Dimensions(L x W x H) | Tolerance ±0.5 mm or ±0.02 inches                       | 1.25 x 0.8 x 0.4inches | 31.75 x 20.32 x 10.2mm |       |
| MTBF                  | >1,000,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) |                        |                        |       |

### Safety Specifications

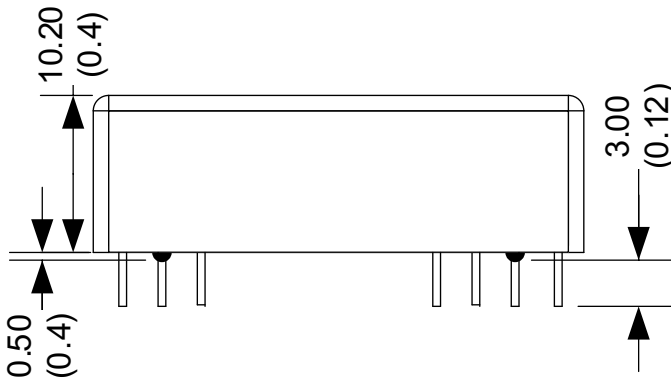
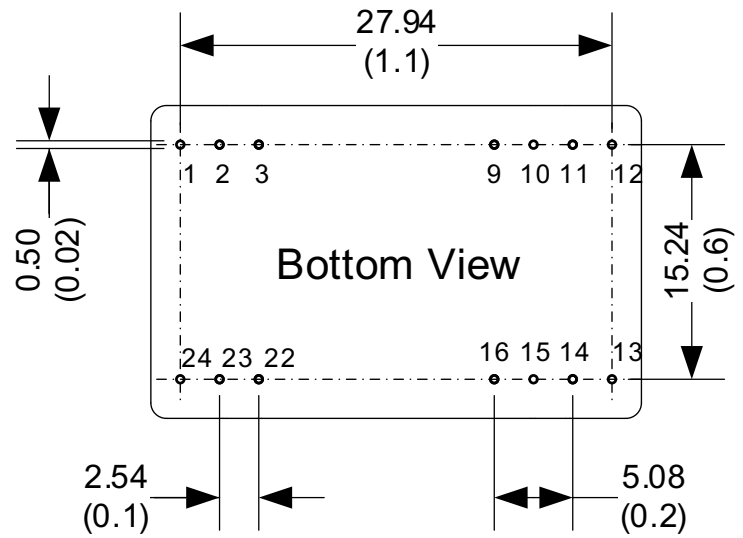
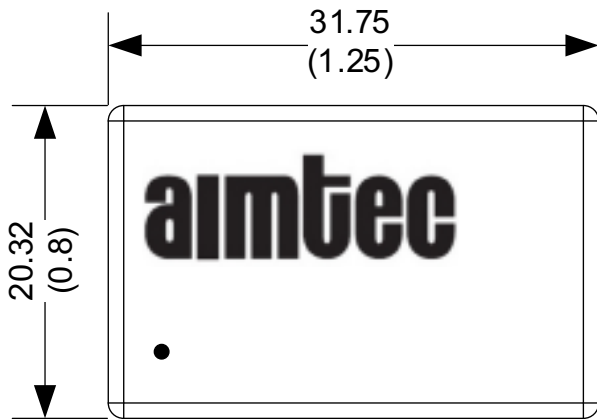
| Parameters |                              |
|------------|------------------------------|
| Standards  | Designed to meet IEC 60950-1 |

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.

### Pin Out Specifications

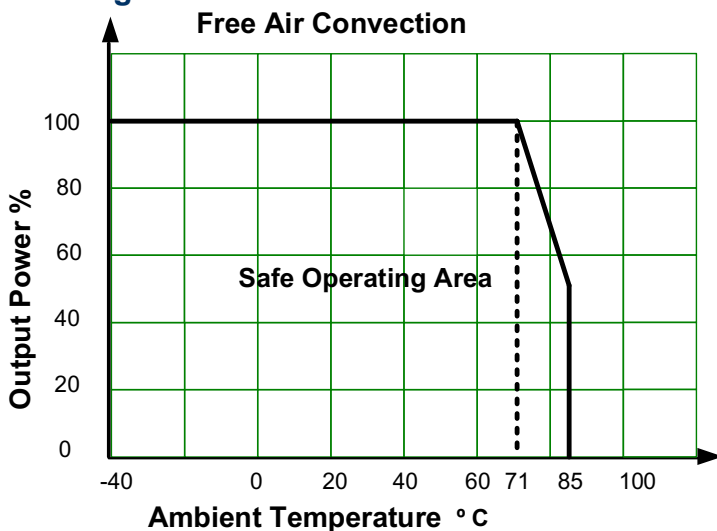
| Pin   | 1500VDC   |           | 3500VDC   |           |
|-------|-----------|-----------|-----------|-----------|
|       | Single    | Dual      | Single    | Dual      |
| 1     | +V Input  | +V Input  | No pin    | No pin    |
| 2     | N.C.      | -V Output | -V Input  | -V Input  |
| 3     | N.C.      | Common    | -V Input  | -V Input  |
| 9     | No pin    | No pin    | No pin    | Common    |
| 10    | -V Output | Common    | No pin    | No pin    |
| 11    | +V Output | +V Output | N.C.      | -V Output |
| 12/13 | -V Input  | -V Input  | No pin    | No pin    |
| 14    | +V Output | +V Output | +V Output | +V Output |
| 15    | -V Output | Common    | No pin    | No pin    |
| 16    | No pin    | No pin    | -V Output | Common    |
| 22    | N.C.      | Common    | +V Input  | +V Input  |
| 23    | N.C.      | -V Output | +V Input  | +V Input  |
| 24    | +V Input  | +V Input  | No pin    | No pin    |

**Dimensions**



All dimensions are typical: millimeters (inches)  
 Pin Diameter:  $0.50 \pm 0.05$  ( $0.02 \pm 0.002$ )  
 Pin Pitch tolerance:  $\pm 0.35$  ( $\pm 0.014$ )  
 Case tolerance:  $\pm 0.5$  ( $\pm 0.02$ )  
 Stand-off tolerance:  $\pm 0.1$  ( $\pm 0.004$ )

**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).