



### FEATURES:

- Wide Input Range 2:1
- 1600 Vdc Isolation
- Efficiency up to 91%
- Soft Start
- Remote On/Off Function
- No Minimum Load Required
- -40°C to +85°C Operating Temperature Range
- Short Circuit & Over Voltage Protection
- DIP 24 Package
- Low No Load Input Current



### Models Single output

| Model        | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Maximum Capacitive load (μF) | Efficiency (%) |
|--------------|-------------------|--------------------|-------------------------|-----------------|------------------------------|----------------|
| AM12T-1202SZ | 9-18              | 2.5                | 3500                    | 1600            | 2000                         | 85             |
| AM12T-1203SZ | 9-18              | 3.3                | 3500                    | 1600            | 2000                         | 87             |
| AM12T-1205SZ | 9-18              | 5                  | 2400                    | 1600            | 2000                         | 89             |
| AM12T-1212SZ | 9-18              | 12                 | 1000                    | 1600            | 430                          | 90             |
| AM12T-1215SZ | 9-18              | 15                 | 800                     | 1600            | 300                          | 90             |
| AM12T-2402SZ | 18-36             | 2.5                | 3500                    | 1600            | 2000                         | 85             |
| AM12T-2403SZ | 18-36             | 3.3                | 3500                    | 1600            | 2000                         | 87             |
| AM12T-2405SZ | 18-36             | 5                  | 2400                    | 1600            | 2000                         | 89             |
| AM12T-2412SZ | 18-36             | 12                 | 1000                    | 1600            | 430                          | 90             |
| AM12T-2415SZ | 18-36             | 15                 | 800                     | 1600            | 300                          | 90             |
| AM12T-4802SZ | 36-75             | 2.5                | 3500                    | 1600            | 2000                         | 84             |
| AM12T-4803SZ | 36-75             | 3.3                | 3500                    | 1600            | 2000                         | 88             |
| AM12T-4805SZ | 36-75             | 5                  | 2400                    | 1600            | 2000                         | 89             |
| AM12T-4812SZ | 36-75             | 12                 | 1000                    | 1600            | 430                          | 88             |
| AM12T-4815SZ | 36-75             | 15                 | 800                     | 1600            | 300                          | 89             |

### Models Dual output

| Model        | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Maximum Capacitive load (μF) | Efficiency (%) |
|--------------|-------------------|--------------------|-------------------------|-----------------|------------------------------|----------------|
| AM12T-1212DZ | 9-18              | ±12                | ±500                    | 1600            | ±200                         | 90             |
| AM12T-1215DZ | 9-18              | ±15                | ±400                    | 1600            | ±120                         | 91             |
| AM12T-2412DZ | 18-36             | ±12                | ±500                    | 1600            | ±200                         | 90             |
| AM12T-2415DZ | 18-36             | ±15                | ±400                    | 1600            | ±120                         | 91             |
| AM12T-4812DZ | 36-75             | ±12                | ±500                    | 1600            | ±200                         | 88             |
| AM12T-4815DZ | 36-75             | ±15                | ±400                    | 1600            | ±120                         | 89             |

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                  | 12                                      | 9-18     |         | VDC   |
|                                | 24                                      | 18-36    |         | VDC   |
|                                | 48                                      | 36-48    |         | VDC   |
| Filter                         | π (Pi) Network                          |          |         |       |
| Turn on Transient process time |   | 250      |         | μs    |
| Transient response deviation   |   | ±3       |         | %     |
| Start up time                  | Nominal Vin and constant resistive load |          | 20      | ms    |
| Absolute Maximum Rating        | 12 Vin models                           | -0.7-36  |         | VDC   |
|                                | 24 Vin models                           | -0.7-50  |         | VDC   |
|                                | 48 Vin models                           | -0.7-100 |         | VDC   |

### Input Specifications (continued)

| Parameters                     | Nominal  | Typical | Maximum | Units  |
|--------------------------------|--|---------|---------|--------|
| Peak Input Voltage time        |  |         | 1000    | ms     |
| Input reflected ripple current |  | 20      |         | mA p-p |
| Quiescent Current              |  | 15      |         | mA     |
| On/Off Control                 | ON – High (3.0 ... 12Vdc) or open circuit;<br>OFF – Low (0 ... 1.2Vdc) or Short circuit pin1 and pin 2/3<br>OFF idle current: 5.0 mA typ |         |         |        |

### Isolation Specifications

| Parameters                   | Conditions | Typical | Rated | Units |
|------------------------------|------------|---------|-------|-------|
| Tested I/O voltage           | 60 sec     |         | 1600  | VDC   |
| Tested Case/Input and Output |            | 1600    |       | VDC   |
| Resistance                   |            | >1000   |       | MOhm  |
| Capacitance                  |            | 1200    |       | pF    |

### Output Specifications

| Parameters                       | Conditions           | Typical | Maximum | Units  |
|----------------------------------|----------------------|---------|---------|--------|
| Voltage accuracy                 |                      | ±1.2    |         | %      |
| Voltage balance*                 | Dual output          | ±5      |         | %      |
| Line voltage regulation          | HL-LL                | ±0.5    |         | %      |
| Load voltage regulation (Single) | 0% Load to Full Load | ±0.5    |         | %      |
| Load voltage regulation (Dual)   | 0% Load to Full Load | ±1.0    |         | %      |
| Over voltage protection          | Zener diode clamp    |         |         |        |
| Over current protection          | Full Load            | 150     |         | %      |
| Short Circuit protection         | Continuous           |         |         |        |
| Short circuit restart            | Auto recovery        |         |         |        |
| Ripple & Noise**                 |                      |         | 85      | m Vp-p |

\* One of the outputs is at 100% load while the other output is at 25% to 100% load.

\*\* Measured at 20MHz bandwidth with a 1uF ceramic capacitor.

### General Specifications

| Parameters              | Conditions  | Typical  | Maximum | Units |
|-------------------------|---|--|---------|-------|
| Switching frequency     | 100% load   | 330  |         | KHz   |
| Operating temperature   | Full Load with Derating above 60°C                      | -40 to +85   |         | °C    |
| Storage temperature     |   | -40 to +125  |         | °C    |
| Max Case temperature    |   |  | 100     | °C    |
| Temperature coefficient |   | ±0.02  |         | %/°C  |
| Derating                | Above 60°C  | 2.5  |         | %/°C  |
| Cooling                 | Free air convection                                     |  |         |       |
| Humidity                |   |  | 95      | % RH  |
| Case material           | Nickel-coated Copper                                    |  |         |       |
| Potting material        | UL94V-0 rated   |  |         |       |
| Weight                  |   | 18.0   |         | g     |
| Dimensions (L x W x H)  | Tolerance ±0.5 mm or ±0.02 inches                       | 1.25 x 0.80 x 0.40 inches 31.80 x 20.30 x 10.20 mm |         |       |
| MTBF                    | >1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) |  |         |       |

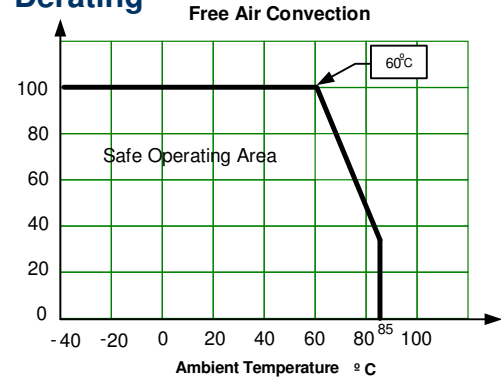
### Safety Specifications

| Parameters |   |
|------------|---|
| Standards  | Design to meet IEC/EM/UL 62368-1                                  |
|            | EN55032 Class A, with the recommended EMC circuit                 |
|            | IEC61000-4-2, Perf. Criteria B                                    |
|            | IEC61000-4-3, Perf. Criteria A                                    |
|            | IEC61000-4-4, Perf. Criteria A                                    |
|            | IEC61000-4-5, Perf. Criteria A (external 330uF/100V cap required) |
|            | IEC61000-4-6, Perf. Criteria A                                    |
|            | IEC61000-4-8, Perf. Criteria A                                    |

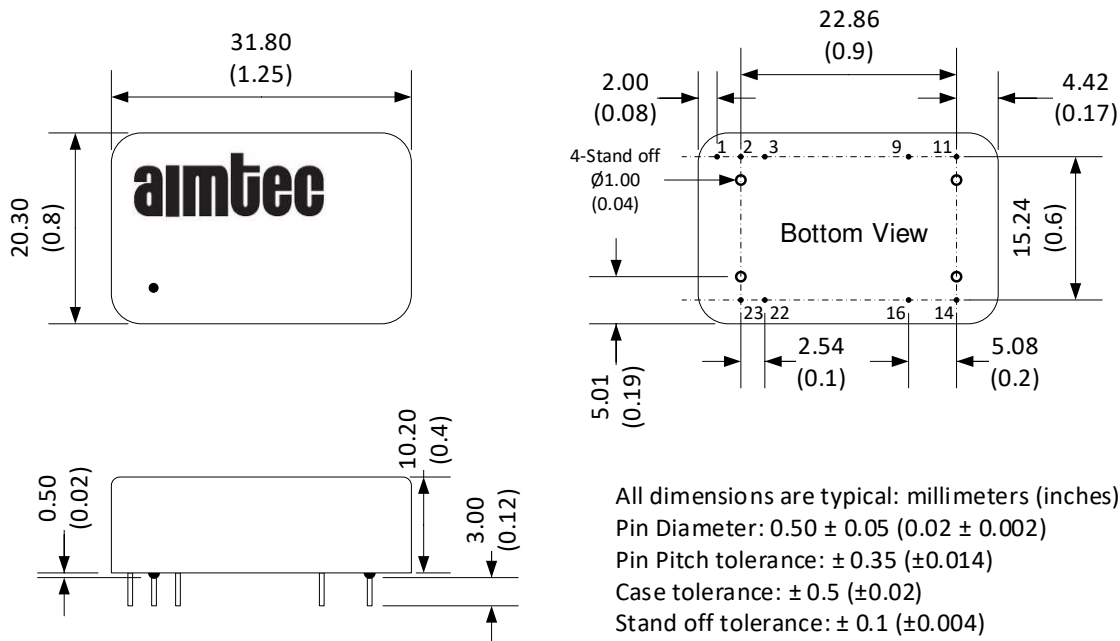
### Pin Out Specifications

| Pin | Single        | Dual          |
|-----|---------------|---------------|
| 1   | Remote On/Off | Remote On/Off |
| 2   | -V Input      | -V Input      |
| 3   | -V Input      | -V Input      |
| 9   | No Pin        | Common        |
| 11  | N.C.          | -V Output     |
| 14  | +V Output     | +V Output     |
| 16  | -V Output     | Common        |
| 22  | +V Input      | +V Input      |
| 23  | +V Input      | +V Input      |

### Derating

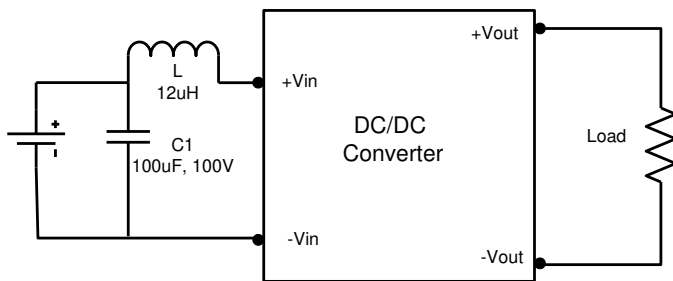


### Dimensions

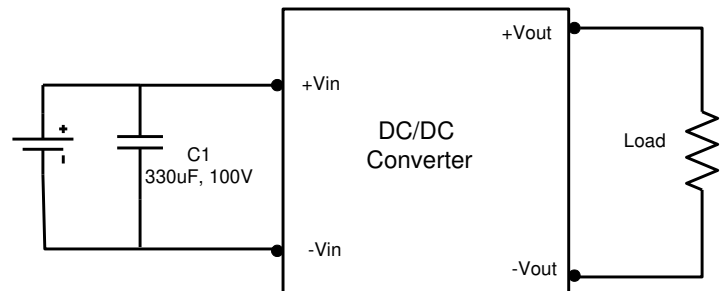


### Test Circuits

#### Conducted Emissions :



#### Surge:



**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).