



FEATURES:

- Ultra Wide 4:1 input range
- Efficiency up to 88%
- RoHS compliant
- Continuous Short Circuit Protection
- Operating temperature -40°C to + 85°C
- Remote on/off control
- Input/Output Isolation 1600VDC
- Over voltage & Over Load Protection



Models
Single output

| Model | Input Voltage (V) | Output Voltage (Vdc) | Output Current max (mA) | Isolation (VDC) | Max Capacitive Load(uF) | Efficiency (%) |
|---------------|-------------------|----------------------|-------------------------|-----------------|-------------------------|----------------|
| AM10TW-2403SZ | 9-36 | 3.3 | 2700 | 1600 | 1330 | 85 |
| AM10TW-2405SZ | 9-36 | 5 | 2000 | 1600 | 1330 | 87 |
| AM10TW-2412SZ | 9-36 | 12 | 833 | 1600 | 288 | 88 |
| AM10TW-2415SZ | 9-36 | 15 | 667 | 1600 | 200 | 88 |
| AM10TW-4803SZ | 18-75 | 3.3 | 2700 | 1600 | 1330 | 84 |
| AM10TW-4805SZ | 18-75 | 5 | 2000 | 1600 | 1330 | 87 |
| AM10TW-4812SZ | 18-75 | 12 | 833 | 1600 | 288 | 87 |
| AM10TW-4815SZ | 18-75 | 15 | 667 | 1600 | 200 | 87 |

Models
Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Max Capacitive Load(uF) | Efficiency (%) |
|---------------|-------------------|--------------------|-------------------------|-----------------|-------------------------|----------------|
| AM10TW-2405DZ | 9-36 | ±5 | ±1000 | 1600 | ±900 | 85 |
| AM10TW-2412DZ | 9-36 | ±12 | ±417 | 1600 | ±133 | 87 |
| AM10TW-2415DZ | 9-36 | ±15 | ±330 | 1600 | ±90 | 87 |
| AM10TW-4805DZ | 18-75 | ±5 | ±1000 | 1600 | ±900 | 85 |
| AM10TW-4812DZ | 18-75 | ±12 | ±417 | 1600 | ±133 | 88 |
| AM10TW-4815DZ | 18-75 | ±15 | ±330 | 1600 | ±90 | 88 |

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 | 24 | 9-36 | | VDC |
| | 48 | 18-75 | | |
| Filter | π (Pi) Network | | | |
| Start up time | Nominal Vin and constant resistive load | | 20 | ms |
| Absolute Maximum Rating | 24 Vin | -0.7-50 | | VDC |
| | 48 Vin | -0.7-100 | | |
| Peak Input Voltage time | | | 100 | ms |
| On/Off control | ON – High (3.0 ... 12Vdc) or open circuit; OFF – Low (0 ... 1.2Vdc) or Short circuit pin1 and pin 2/3 OFF idle current: 5.0 mA typical | | | |
| Input reflected current | | | 20 | mAPk-Pk |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 3 sec | | 1600 | VDC |
| Resistance | | >1000 | | MOhm |
| Capacitance | | 1500 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---------------------------------------|--|---------|---------|----------|
| Voltage accuracy | | ±1.2 | | % |
| Cross Regulation (Dual Output Models) | 25% load on one output 100% load on second load | ±5 | | % |
| Over voltage protection | Zener diode clamp | | | |
| Over current protection | Full Load | 170 | | % |
| Short Circuit protection | Continuous | | | |
| Short circuit restart | Auto recovery | | | |
| Line voltage regulation | | ±2 | | % |
| Load voltage regulation (Single) | 0% Load to Full Load | ±0.5 | | % |
| Load voltage regulation (Dual) | 0% Load to Full Load | ±1.0 | | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise | 20MHz Bandwidth | 85 | | mV p-p |
| Minimum Load Current | | 0 | | % of Max |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------------|---|-------------|---------|-------|
| Switching frequency | 100% load | 270 | | KHz |
| Operating temperature | Full Load with derating above 60°C | -40 to +85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Maximum case temperature | | | 105 | °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 | | g |
| Dimensions (L x W x H) | 1.25 x 0.80 x 0.40 inches 31.75 x 20.32 x 10.16 mm | | | |
| MTBF | >1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | | |
| Maximum soldering temperature | 1.5mm from case for 10 sec | | 260 | °C |
| Transient recovery time | | 250 | | µS |
| Transient recovery deviation | | ±3 | | % |

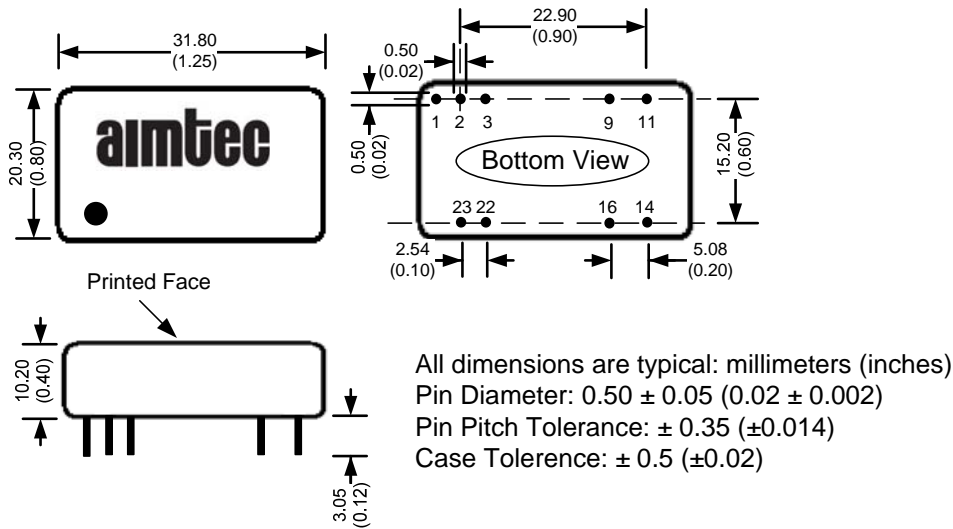
Safety Specifications

| Parameters | |
|------------------|---|
| Agency approvals | CE |
| Standards | EN55022 Class A |
| | IEC61000-4-2, Perf. Criteria B |
| | IEC61000-4-3, Perf. Criteria A |
| | IEC61000-4-4, Perf. Criteria B (external 330µF/100V cap required) |
| | IEC61000-4-5, Perf. Criteria B (external 330µF/100V cap required) |
| | IEC61000-4-6, Perf. Criteria A |
| | IEC61000-4-8, Perf. Criteria A |
| | NOTE: Also designed to meet standard IEC 60950-1: 2001 |

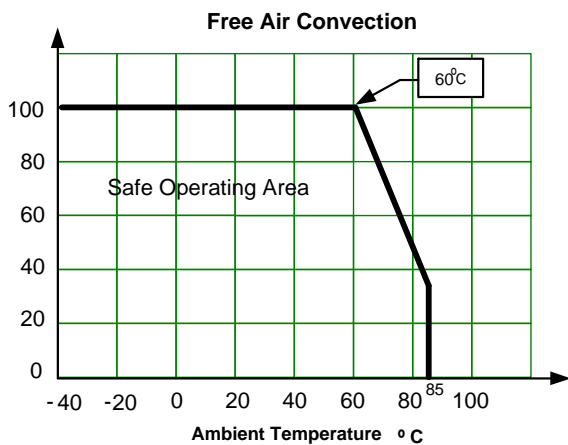
Pin Out Specifications

| 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 |

Dimensions

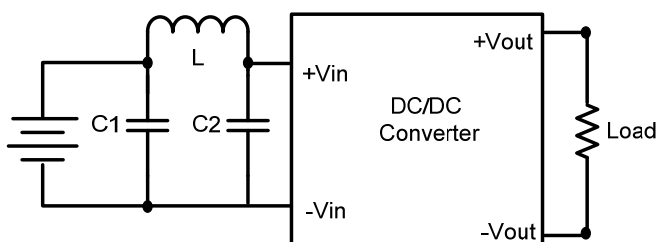


Derating

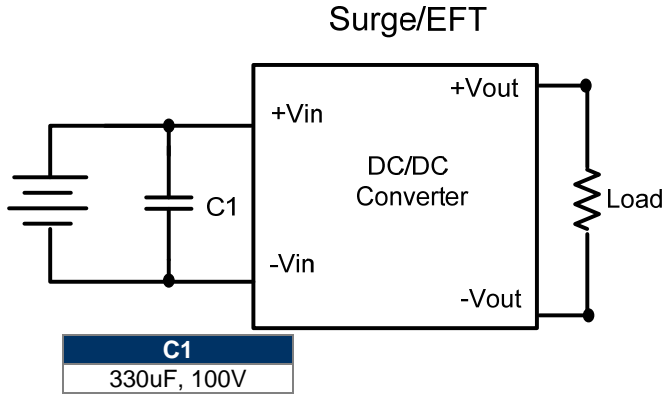


Recommended Circuit

Conducted Emissions



| C1 | L | C2 |
|-------------|------|-------------|
| 2.2uF, 100V | 12uH | 2.2uF, 100V |



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 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.