

FEATURES:

- Wide input range 2:1
- Regulated output voltage
- Low ripple and noise
- High efficiency up to 80%
- Operating temperature -40°C to + 90°C
- Input / Output Isolation 1500 & 3000VDC
- Continuous short circuit protection
- No minimal load required

Models**Single output**

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Input Current Max No Load (mA) | Isolation (VDC) | Capacitive Load (uF) | Efficiency (%) |
|-----------------|-------------------|--------------------|-------------------------|----------------------------------|-----------------|----------------------|----------------|
| AM1DU-0505SZ | 4.5-9 | 5 | 200 | 263 35 | 1500 | 1680 | 76 |
| AM1DU-0512SZ | 4.5-9 | 12 | 83 | 253 35 | 1500 | 820 | 79 |
| AM1DU-1205SZ | 9-18 | 5 | 200 | 107 20 | 1500 | 1680 | 78 |
| AM1DU-1212SZ | 9-18 | 12 | 83 | 105 20 | 1500 | 820 | 80 |
| AM1DU-2405SZ | 18-36 | 5 | 200 | 54 10 | 1500 | 1680 | 78 |
| AM1DU-2412SZ | 18-36 | 12 | 83 | 52 10 | 1500 | 820 | 80 |
| AM1DU-0505SH30Z | 4.5-9 | 5 | 200 | 263 35 | 3000 | 1680 | 76 |
| AM1DU-0512SH30Z | 4.5-9 | 12 | 83 | 253 35 | 3000 | 820 | 79 |
| AM1DU-1205SH30Z | 9-18 | 5 | 200 | 107 20 | 3000 | 1680 | 78 |
| AM1DU-1212SH30Z | 9-18 | 12 | 83 | 105 20 | 3000 | 820 | 80 |
| AM1DU-2405SH30Z | 18-36 | 5 | 200 | 54 10 | 3000 | 1680 | 78 |
| AM1DU-2412SH30Z | 18-36 | 12 | 83 | 52 10 | 3000 | 820 | 80 |

NOTE: Capacitive load tested at full resistive load.

Input Specifications

| Parameters | Nominal | Typical | Maximum | Units |
|--------------------------|------------|---------|----------|-------|
| Voltage range | 5 | 4.5-9 | 15(1sec) | VDC |
| | 12 | 9-18 | 25(1sec) | |
| | 24 | 18-36 | 50(1sec) | |
| Filter | Capacitor | | | |
| Reflected ripple current | 35mA pk-pk | | | |

NOTE: Reflected ripple current measured with a simulated source inductance of 12uH and a source capacitor Cin(47uF, ESR<1.0 at 100KHz).

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|--------------|---------|------------|-------|
| Tested I/O voltage | 60 sec, <1mA | | 1500, 3000 | VDC |
| Resistance | | >1000 | | MOhm |
| Capacitance | 100KHz/0.1V | 70 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|------------|--------------------------------|---------|-------|
| Voltage accuracy | | ±2 | | % |
| Short Circuit protection | | Continuous(Automatic Recovery) | | |
| Line voltage regulation | | ±0.2 | | % |
| Load voltage regulation | 0-100% | ±1 | | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise | | 50 | | mVp-p |

NOTE: Ripple & Noise measured with 0.1uF ceramic disc capacitor and a 10uF electrolytic capacitor.

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|------------------------|---------------------|---|-------------------------|-------|
| Switching frequency | 100% load | 150 | 550 | KHz |
| Operating temperature | Derating above 85°C | | -40 to +90 | °C |
| Storage temperature | | | -55 to +125 | °C |
| Cooling | | Free air convection | | |
| Humidity | | | 95 | % |
| Case material | | Black Plastic UL94V-0 | | |
| Weight | | 3.1 | | g |
| Dimensions (L x W x H) | | 0.76 x 0.28 x 0.39 inch | 19.50 x 7.20 x 10.00 mm | |
| MTBF | | >2,800,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | |

NOTE: All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

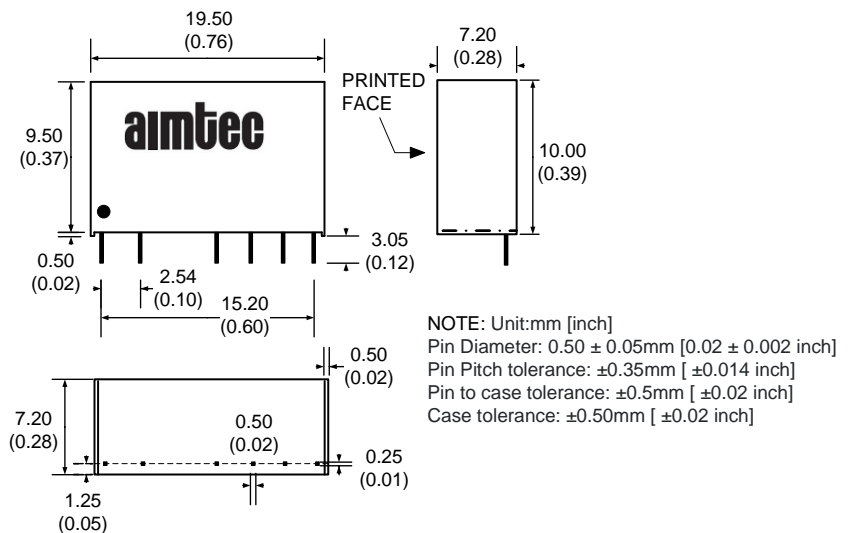
Safety Specifications

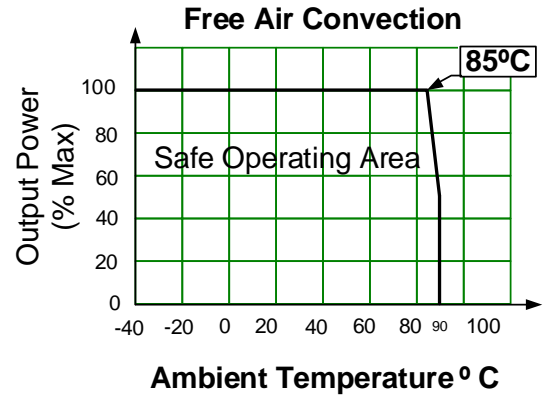
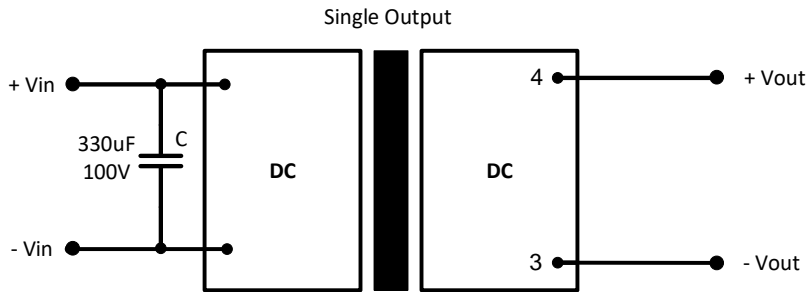
| Parameters | | |
|------------------|--|---|
| Agency approvals | | CE |
| Standards | Information Technology Equipment | EN55032 Class B, with the recommended circuit below |
| | Electrostatic Discharge Immunity | IEC 61000-4-2, Criteria A |
| | RF, Electromagnetic Field Immunity | IEC 61000-4-3, Criteria A |
| | Electrical Fast Transient / Burst Immunity | IEC 61000-4-4, Criteria A, with the recommended circuit below |
| | Surge Immunity | IEC 61000-4-5, Criteria A, with the recommended circuit below |
| | Conducted Susceptibility | IEC 61000-4-6, Criteria A |
| | Power frequency magnetic field | IEC 61000-4-8, Criteria A |

Pin Out Specification

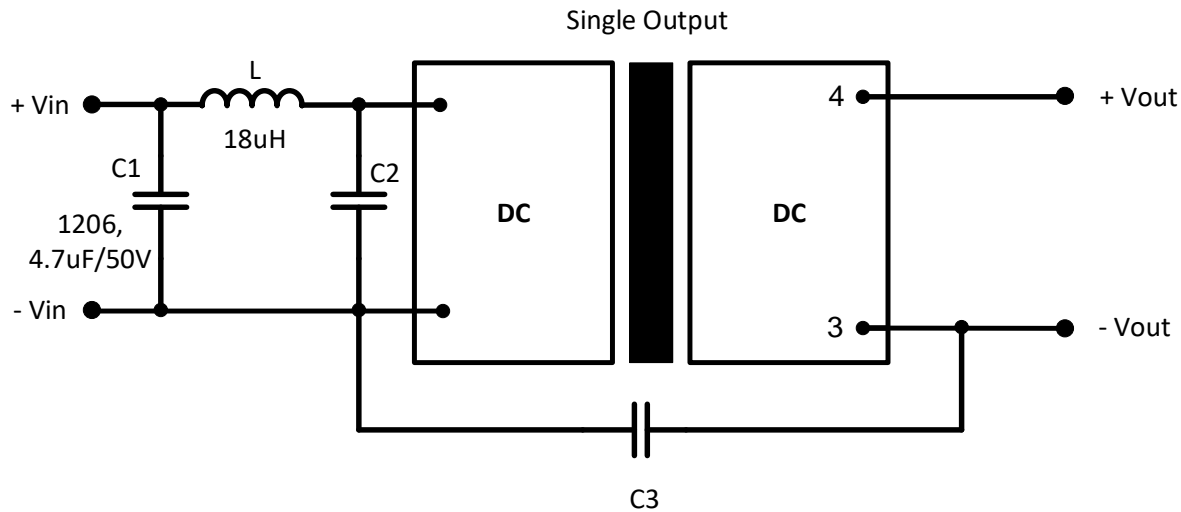
| Pin | Single | |
|-----|-------------------|-------------------|
| | 1500VDC Isolation | 3000VDC Isolation |
| 1 | + V Input | + V Input |
| 2 | - V Input | - V Input |
| 4 | - V Output | No pin |
| 5 | No pin | - V Output |
| 6 | + V Output | No pin |
| 7 | No pin | + V Output |

Dimensions





EMI Filter



External capacitor

| Vin (VDC) | C2 (uF) | C3 (pF) |
|-----------|-----------------|-------------------|
| 5 | - | 1808, 220pF / 3KV |
| 12 | - | 1808, 220pF / 3KV |
| 24 | 1206, 4.7uF/50V | 1808, 470pF / 3KV |

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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.