



FEATURES:

- Short Circuit, OC & OVP Protection
- DIP 24 Package
- output short circuit protection
- Wide 2:1 input range
- Meets EN55032 Class A without external circuit
- Operating temperature -40°C to + 85°
- Input under-voltage protection
- over-current, over-voltage protection
- Low ripple and noise
- Input/output Isolation voltage 1500VDC



Models
Single output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Capacitive Load, max(uf) | Efficiency (%) |
|---------------|-------------------|--------------------|-------------------------|--------------------------|----------------|
| AM10T-1203SNZ | 9-18 | 3.3 | 2400 | 1200 | 87 |
| AM10T-1205SNZ | 9-18 | 5 | 2000 | 1000 | 87 |
| AM10T-1212SNZ | 9-18 | 12 | 833 | 470 | 87 |
| AM10T-1215SNZ | 9-18 | 15 | 667 | 330 | 87 |
| AM10T-1224SNZ | 9-18 | 24 | 416 | 100 | 88 |
| AM10T-2403SNZ | 18-36 | 3.3 | 2400 | 1200 | 87 |
| AM10T-2405SNZ | 18-36 | 5 | 2000 | 1000 | 88 |
| AM10T-2412SNZ | 18-36 | 12 | 833 | 470 | 87 |
| AM10T-2415SNZ | 18-36 | 15 | 667 | 330 | 87 |
| AM10T-2424SNZ | 18-36 | 24 | 416 | 100 | 88 |
| AM10T-4803SNZ | 36-75 | 3.3 | 2400 | 1200 | 87 |
| AM10T-4805SNZ | 36-75 | 5 | 2000 | 1000 | 88 |
| AM10T-4812SNZ | 36-75 | 12 | 833 | 470 | 87 |
| AM10T-4815SNZ | 36-75 | 15 | 667 | 330 | 87 |
| AM10T-4824SNZ | 36-75 | 24 | 416 | 100 | 88 |

Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Capacitive Load, max(uf) | Efficiency (%) |
|---------------|-------------------|--------------------|-------------------------|--------------------------|----------------|
| AM10T-1205DNZ | 9-18 | ±5 | ±1000 | 1000 | 83 |
| AM10T-1212DNZ | 9-18 | ±12 | ±416 | 470 | 87 |
| AM10T-1215DNZ | 9-18 | ±15 | ±333 | 330 | 86 |
| AM10T-2405DNZ | 18-36 | ±5 | ±1000 | 1000 | 83 |
| AM10T-2412DNZ | 18-36 | ±12 | ±416 | 470 | 87 |
| AM10T-2415DNZ | 18-36 | ±15 | ±333 | 330 | 87 |
| AM10T-4805DNZ | 36-75 | ±5 | ±1000 | 1000 | 83 |
| AM10T-4812DNZ | 36-75 | ±12 | ±416 | 470 | 87 |
| AM10T-4815DNZ | 36-75 | ±15 | ±333 | 330 | 87 |

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 | | | |
| | 48 | 36-75 | | | |
| Input current (Full load/No load) | 12 | 3.3V Output | 776/30 | mA | |
| | | 5V Output | 980/12 | | |
| | | All other output voltages | 1028/15 | | |
| Input current (Full load/No load) | 24 | 3.3V Output | 388/25 | mA | |
| | | 5V Output | 484/12 | | |
| | | All other output voltages | 515/12 | | |
| Input current (Full load/No load) | 12 | 3.3V Output | 195/20 | mA | |
| | | 24 | 5V Output | | 243/12 |
| | | 48 | All other output voltages | | 258/8 |

Input Specifications(Continued)

| Parameters | Nominal | Typical | Maximum | Units |
|---------------------------------------|----------------------------|--|-----------------|-------|
| Filter | Capacitor | | | |
| Input reflected ripple Current | 12 24 48 | 50 40 30 | | mA |
| Absolute Maximum Rating | 12 Vin 24 Vin 48 Vin | | 25 50 100 | VDC |
| Permissible absolute maximum duration | | | 1 | S |
| Remote On/Off Control | On Off | 3.5-12VDC or leave open 0-1.2VDC or connect to GND, idle current 6-10mA | | |
| | Input Current when Off | 6 | 10 | mA |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec | | 1500 | VDC |
| Resistance | | > 1000 | | MOhm |
| Capacitance | | 2000 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|-------------------------------|-------------------------------|-----------------------|-----------------------|--------|
| Voltage accuracy | Positive Output | ±0.5 | | % |
| | Negative Output | ±1 | | |
| Short Circuit protection | | Continuous | | |
| Short Circuit restart | | Auto recovery | | |
| Over voltage protection | Zener diode clamp | >110% | | VDC |
| Line voltage regulation LL-HL | Positive Output | ±0.2 | | % |
| | Negative Output | ±0.5 | | |
| Load voltage regulation | 5% – 100% full load | ±0.5 | | % |
| | 0% – 5% load | ±5 | | |
| Temperature coefficient | Full load | ±0.03 | | %/°C |
| Transient recovery time | 25% load step change, | 0.3 | 0.5 | mS |
| Transient recovery deviation | 25% load step change | 3.3 and 5V output: ±5 | 3.3 and 5V output: ±8 | % |
| | | Others: ±3 | Others: ±5 | |
| Ripple & Noise | 20Mhz bandwidth, 5%-100% load | 40 | | mV p-p |
| Over Current Protection | 3.3 and 5V Outputs | 160 | 230 | %Io |
| | Other | 140 | 190 | |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|------------------------|---|---------------------------|--------------------------|-------|
| Switching frequency | 100% load | 350 | | KHz |
| Operating temperature | Derating above +71 °C | | -40 to +85 | °C |
| Storage temperature | | | -55 to +125 | °C |
| Cooling | Free air convection | | | |
| Humidity | | | 95 | % |
| Case material | Aluminum Alloy | | | |
| Weight | | 14 | | g |
| Dimensions (L x W x H) | Tolerance ±0.02 inch, ±0.5mm | 1.26 x 0.78 x 0.42 inches | 32.00 x 20.00 x 10.80 mm | |
| MTBF | 1000 K hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | | |

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.

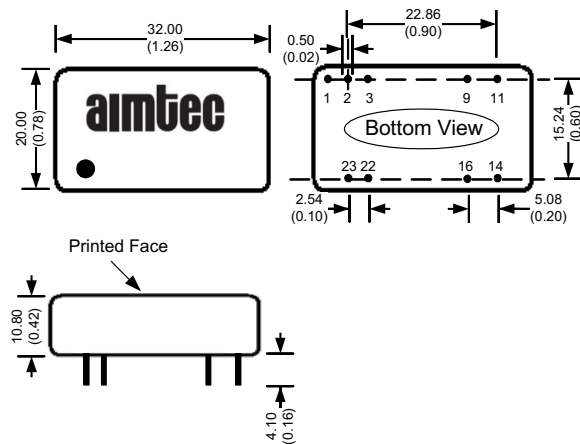
Safety Specifications

| Parameters | | |
|------------|--|---|
| Standards | Designed to meet IEC/EN/UL60950-1 | |
| | EN 55032, class A (without external circuit), EN55032 Class B with EMC recommended circuit | |
| | Electrostatic Discharge Immunity | IEC 61000-4-2, Contact $\pm 4\text{KV}$, Criteria B |
| | RF, Electromagnetic Field Immunity | IEC 61000-4-3, 10V/m, Criteria A |
| | Electrical Fast Transient / Burst Immunity | IEC 61000-4-4, $\pm 2\text{KV}$, Criteria B (with the recommended EMC circuit) |
| | Surge Immunity | IEC 61000-4-5, $\pm 2\text{KV}$, Criteria B (with the recommended EMC circuit) |
| | RF, Conducted Disturbance Immunity | IEC 61000-4-6, 10 Vrms, Criteria A |
| | Voltage dips, Short Interruptions & Voltage variations Immunity | IEC 61000-4-29: 0-70%, Criteria B |

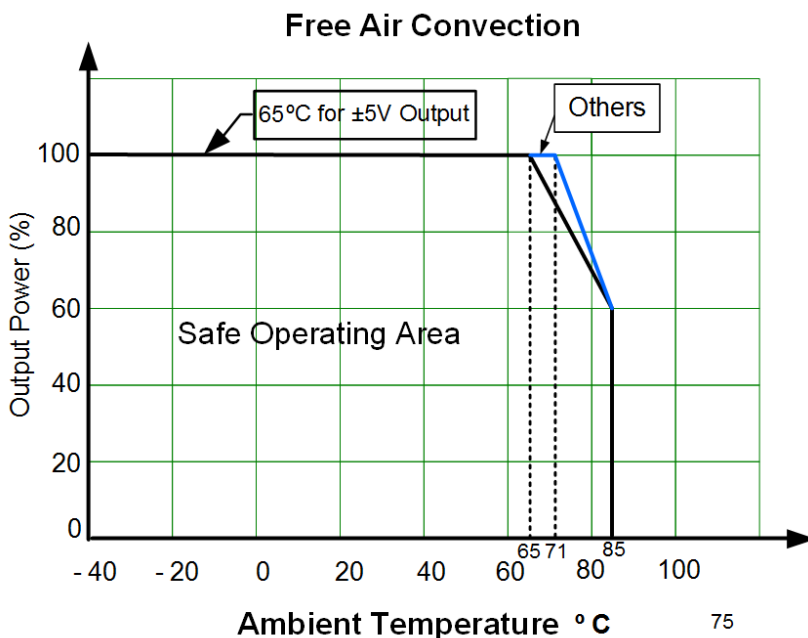
Pin Out Specifications

| Pin | Single | Dual |
|-------|-----------|------------|
| 1 | Ctrl | Ctrl |
| 2,3 | -V Input | -V Input |
| 9 | N.C. | Common |
| 10,15 | Omitted | Omitted |
| 11 | N.C. | -V Output |
| 14 | +V Output | + V Output |
| 16 | -V Output | Common |
| 22,23 | +V Input | +V Input |

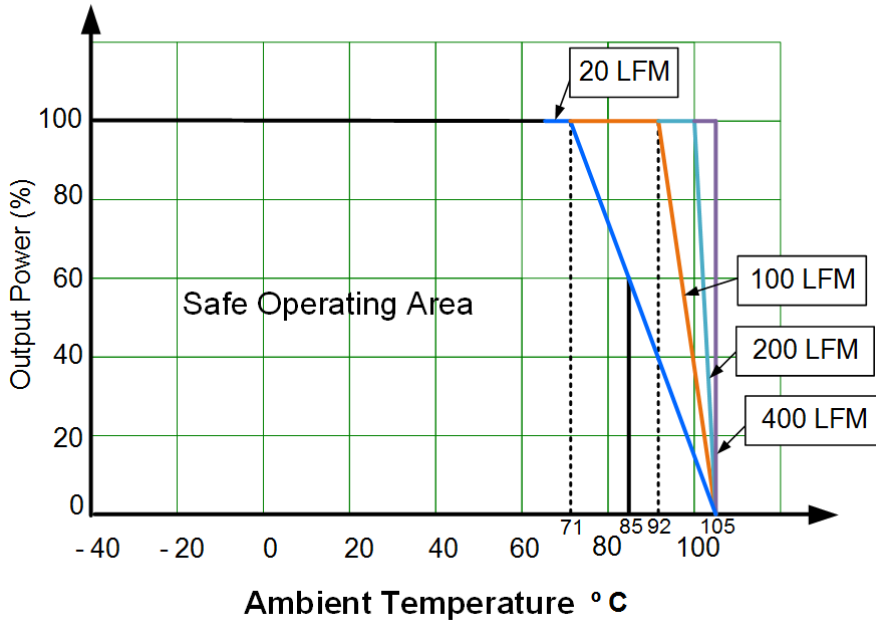
Dimensions



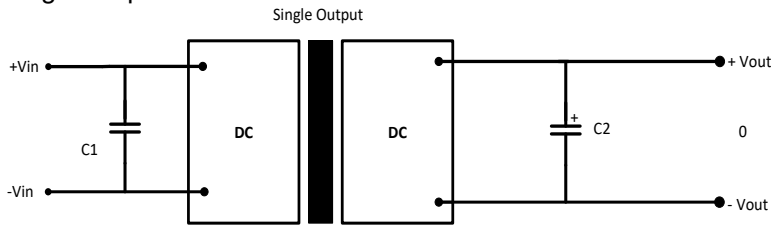
Derating



5V/12V/15V/24V Single Output
Free Air Convection

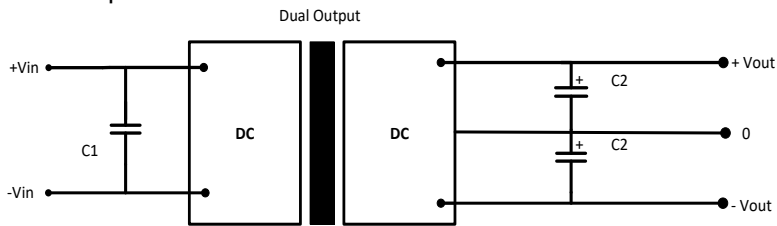


Typical Application Circuit Single Output
Single Output

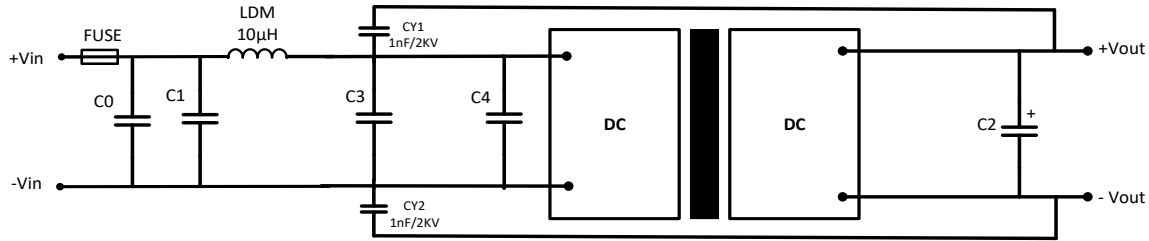


| Vin (VDC) | C1 | C2 |
|-----------|-----------|------|
| 12/24 | 100μF | 10μF |
| 48 | 10μF~47μF | 10μF |

Dual Output



EMC Recommended circuit



| Vin (VDC) | C0 & C4 | C1 & C3 | C2 | FUSE |
|-----------|-----------|-----------|------|-----------------------------|
| 12 | 470µF/35V | 10µF/50V | 10µF | Choose as per input current |
| 24 | 330µF/50V | 10µF/50V | 10µF | |
| 48 | 330µF/50V | 10µF/100V | 10µF | |

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