



FEATURES:

- SIP9 Package
- Low Ripple and Noise
- Continuous Short Circuit Protection
- -40°C to +85°C Operating Temperature Range
- Ultra-Wide Input Range 4:1
- 1500VDC I/O Isolation
- Efficiency up to 84%
- Remote ON/OFF Control



Models
Single output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Maximum capacitive load (µF) | Efficiency (%) |
|--------------|-------------------|--------------------|-------------------------|------------------------------|----------------|
| AM3GW-2403SZ | 9-36 | 3.3 | 700 | 2200 | 77 |
| AM3GW-2405SZ | 9-36 | 5 | 600 | 1000 | 82 |
| AM3GW-2412SZ | 9-36 | 12 | 250 | 165 | 83 |
| AM3GW-2415SZ | 9-36 | 15 | 200 | 100 | 83 |
| AM3GW-4803SZ | 18-75 | 3.3 | 700 | 2200 | 78 |
| AM3GW-4805SZ | 18-75 | 5 | 600 | 1000 | 84 |
| AM3GW-4812SZ | 18-75 | 12 | 250 | 165 | 84 |
| AM3GW-4815SZ | 18-75 | 15 | 200 | 100 | 82 |

Models
Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Maximum capacitive load (µF) | Efficiency (%) |
|--------------|-------------------|--------------------|-------------------------|------------------------------|----------------|
| AM3GW-2405DZ | 9-36 | ±5 | ±300 | ±470 | 81 |
| AM3GW-2412DZ | 9-36 | ±12 | ±125 | ±100 | 84 |
| AM3GW-2415DZ | 9-36 | ±15 | ±100 | ±47 | 83 |
| AM3GW-4805DZ | 18-75 | ±5 | ±300 | ±470 | 82 |
| AM3GW-4812DZ | 18-75 | ±12 | ±125 | ±100 | 82 |
| AM3GW-4815DZ | 18-75 | ±15 | ±100 | ±47 | 83 |

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 48 | 9-36 18-75 | | VDC |
| Filter | Capacitor | | | |
| Start up time | | 10 | | ms |
| Absolute Maximum Rating | 24 48 | | 50 100 | VDC |
| Peak Input Voltage time | | | 100 | ms |
| On/Off Control | ON: 0 to 0.6VDC (or open) ; OFF:2.7 to 15.0VDC, OFF idle current: 5mA, max | | | |
| Input reflected ripple current | | 20 | | mA p-p |

Isolation Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------|------------|---------|---------|-------|
| Tested I/O voltage | 3 sec | 1500 | | VDC |
| Resistance | | >1000 | | MOhm |
| Capacitance | | 500 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---------------------------------------|---|---------|------------|--------|
| Voltage accuracy | | ±1 | | % |
| Cross Regulation (Dual Output Models) | 25% load on one output - 100% load on second load | ±5 | | % |
| Short Circuit protection | Hiccup | | Continuous | |
| Short circuit restart | Auto-Recovery | | | |
| Line voltage regulation | LL~HL | ±0.5 | | % |
| Load voltage regulation | From 10% to 100% load | ±0.5 | | % |
| | From 0% to 100% load 12Vout and 15Vout | ±0.5 | | |
| | From 0% to 100% load 3.3Vout and 5Vout | ±1 | | |
| Ripple & Noise | 20MHz Bandwidth | 50 | | mV p-p |
| Transient Response Deviation | | ±3 | | % |
| Transient Recovery Time | | 300 | | µs |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---------------------------|------------------------------|---|-------------------------|-------|
| Switching frequency | 100% load | 250 | | KHz |
| Operating temperature | | -40 to 85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Temperature coefficient | | ±0.02 | | %/°C |
| Maximum case temperature | | | 100 | °C |
| Derating | Above 75°C | 3.5 | | %/°C |
| Cooling | Free Air Convection | | | |
| Humidity | | | 95 | % RH |
| Case material | Non conductive black plastic | | | |
| Potting Material | Epoxy (UL94V-0 rated) | | | |
| Weight | | 6.5 | | g |
| Dimensions (L x W x H) | | 1.02 x 0.36 x 0.49 inches | 25.91 x 9.14 x 12.44 mm | |
| MTBF | | >1,212,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | |
| Max Soldering Temperature | 1.5mm from case 10 second | | 260 | °C |

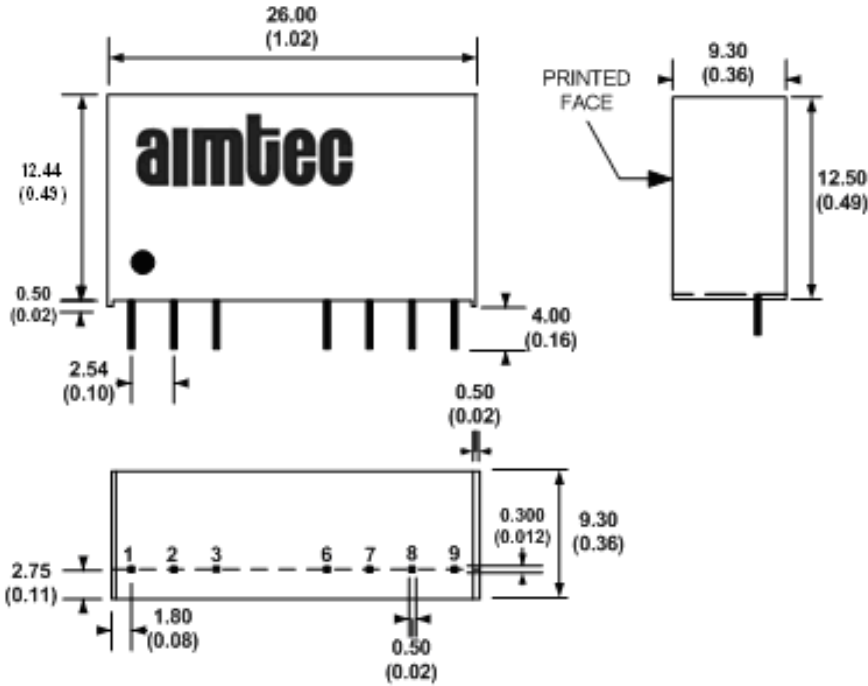
Safety Specifications

| Parameters | |
|-----------------|---|
| Agency Approval | CE |
| Standards | EN55022 Class A, |
| | IEC61000-4-2, Perf. Criteria B |
| | IEC61000-4-3, Perf. Criteria A |
| | IEC61000-4-4, Perf. Criteria B (external 220uF/100V cap required) |
| | IEC61000-4-5, Perf. Criteria B (external 220uF/100V cap required) |
| | IEC61000-4-6, Perf. Criteria A |
| | IEC61000-4-8, Perf. Criteria A |
| | NOTE: designed to meet IEC 60950-1:2001 |

Pin Out Specifications

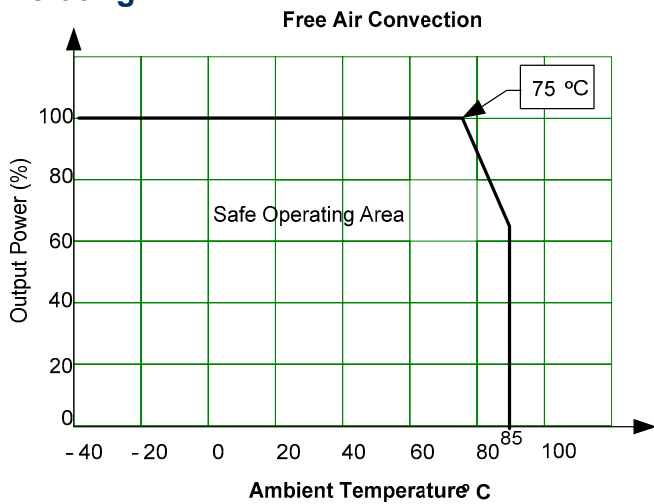
| Pin | Single | Dual |
|-----|----------------|----------------|
| 1 | - V Input | - V Input |
| 2 | + V Input | + V Input |
| 3 | On/Off Control | On/Off Control |
| 6 | + V Output | + V Output |
| 7 | NC | Common |
| 8 | NC | NC |
| 9 | - V Output | -V Output |

Dimensions



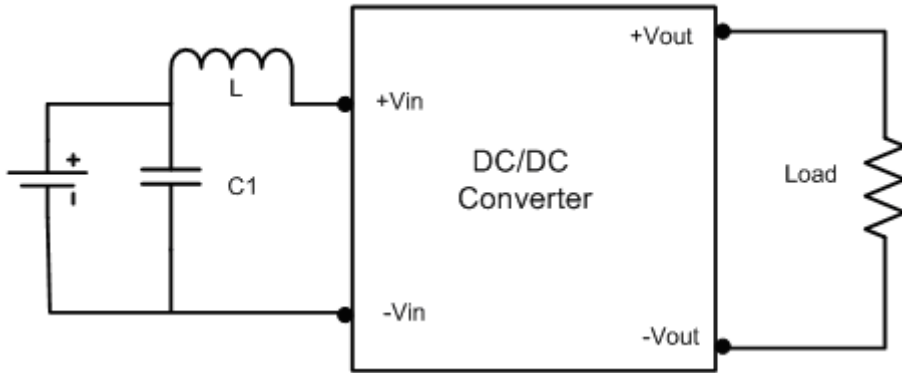
All dimensions are in millimeters (inches)
 Pin diameter: 1.0 ± 0.05 (0.04 ± 0.002)
 Pin pitch tolerance: ± 0.35 (± 0.014)
 Case Tolerance: ± 0.5 (± 0.02)

Derating



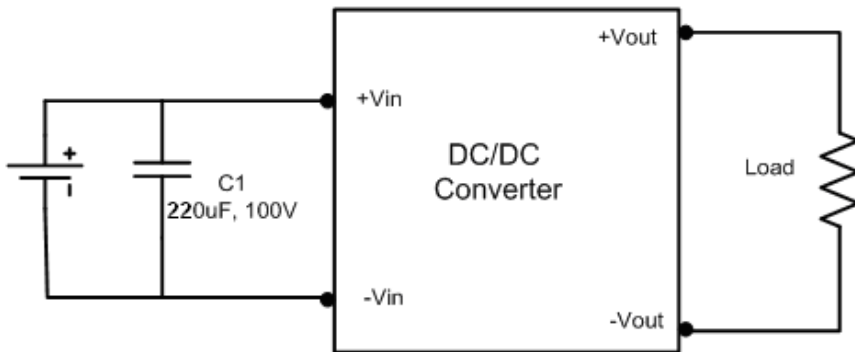
Test Circuits

Conducted Emissions:

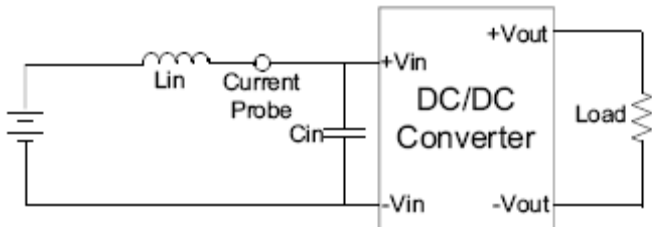


| Models | C1 | L1 |
|--------------|--------------------------|-------------|
| AM2GW-24XX-Z | 1210,225K/100V,X7R, 2pcs | 6.8 μ H |
| AM2GW-48XX-Z | 1210,105k/100V,X7R | 56 μ H |

Surge:



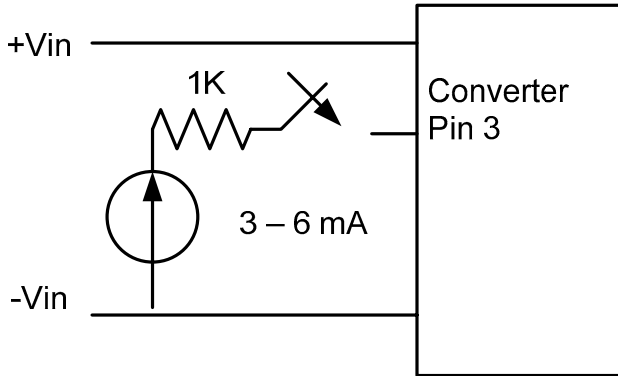
Input Reflected Ripple current:



| | |
|-----|--------------------------------------|
| Lin | 12 μ H |
| Cin | 47 μ F, ESR<1 Ω at 100KHz |

Measurement taken at nominal input and full load.

Control ON/OFF pin connection example:



The voltage could be applied through a limiting resistor. The converter is turned on the external switching circuit is open.

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