



FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- Low ripple and noise
- High efficiency up to 74%
- Operating temperature -40°C to +85°C
- Input / Output Isolation 1000, 3000 and 5200VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection



Models

Single output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|----------------|
| AM3N-0503SZ | 4.5-5.5 | 3.3 | 600 | 1000 | 55 |
| AM3N-0505SZ | 4.5-5.5 | 5 | 600 | 1000 | 65 |
| AM3N-0507SZ | 4.5-5.5 | 7.2 | 417 | 1000 | 62 |
| AM3N-0509SZ | 4.5-5.5 | 9 | 333 | 1000 | 70 |
| AM3N-0512SZ | 4.5-5.5 | 12 | 250 | 1000 | 70 |
| AM3N-0515SZ | 4.5-5.5 | 15 | 200 | 1000 | 70 |
| AM3N-0518SZ | 4.5-5.5 | 18 | 167 | 1000 | 65 |
| AM3N-0524SZ | 4.5-5.5 | 24 | 125 | 1000 | 67 |
| AM3N-1203SZ | 10.8-13.2 | 3.3 | 600 | 1000 | 60 |
| AM3N-1205SZ | 10.8-13.2 | 5 | 600 | 1000 | 66 |
| AM3N-1207SZ | 10.8-13.2 | 7.2 | 417 | 1000 | 69 |
| AM3N-1209SZ | 10.8-13.2 | 9 | 333 | 1000 | 68 |
| AM3N-1212SZ | 10.8-13.2 | 12 | 250 | 1000 | 74 |
| AM3N-1215SZ | 10.8-13.2 | 15 | 200 | 1000 | 72 |
| AM3N-1218SZ | 10.8-13.2 | 18 | 167 | 1000 | 70 |
| AM3N-1224SZ | 10.8-13.2 | 24 | 125 | 1000 | 70 |
| AM3N-2403SZ | 21.6-26.4 | 3.3 | 600 | 1000 | 52 |
| AM3N-2405SZ | 21.6-26.4 | 5 | 600 | 1000 | 66 |
| AM3N-2407SZ | 21.6-26.4 | 7.2 | 417 | 1000 | 61 |
| AM3N-2409SZ | 21.6-26.4 | 9 | 333 | 1000 | 68 |
| AM3N-2412SZ | 21.6-26.4 | 12 | 250 | 1000 | 70 |
| AM3N-2415SZ | 21.6-26.4 | 15 | 200 | 1000 | 70 |
| AM3N-2418SZ | 21.6-26.4 | 18 | 167 | 1000 | 70 |
| AM3N-2424SZ | 21.6-26.4 | 24 | 125 | 1000 | 74 |
| AM3N-0503SH30Z | 4.5-5.5 | 3.3 | 600 | 3000 | 55 |
| AM3N-0505SH30Z | 4.5-5.5 | 5 | 600 | 3000 | 65 |
| AM3N-0507SH30Z | 4.5-5.5 | 7.2 | 417 | 3000 | 62 |
| AM3N-0509SH30Z | 4.5-5.5 | 9 | 333 | 3000 | 70 |
| AM3N-0512SH30Z | 4.5-5.5 | 12 | 250 | 3000 | 70 |
| AM3N-0515SH30Z | 4.5-5.5 | 15 | 200 | 3000 | 70 |
| AM3N-0518SH30Z | 4.5-5.5 | 18 | 167 | 3000 | 65 |
| AM3N-0524SH30Z | 4.5-5.5 | 24 | 125 | 3000 | 67 |
| AM3N-1203SH30Z | 10.8-13.2 | 3.3 | 600 | 3000 | 60 |
| AM3N-1205SH30Z | 10.8-13.2 | 5 | 600 | 3000 | 66 |
| AM3N-1207SH30Z | 10.8-13.2 | 7.2 | 417 | 3000 | 69 |
| AM3N-1209SH30Z | 10.8-13.2 | 9 | 333 | 3000 | 68 |
| AM3N-1212SH30Z | 10.8-13.2 | 12 | 250 | 3000 | 74 |
| AM3N-1215SH30Z | 10.8-13.2 | 15 | 200 | 3000 | 72 |
| AM3N-1218SH30Z | 10.8-13.2 | 18 | 167 | 3000 | 70 |
| AM3N-1224SH30Z | 10.8-13.2 | 24 | 125 | 3000 | 70 |
| AM3N-2403SH30Z | 21.6-26.4 | 3.3 | 600 | 3000 | 52 |
| AM3N-2405SH30Z | 21.6-26.4 | 5 | 600 | 3000 | 66 |
| AM3N-2407SH30Z | 21.6-26.4 | 7.2 | 417 | 3000 | 61 |

Models
Single output (Continue)

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VDC) | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|----------------|
| AM3N-2409SH30Z | 21.6-26.4 | 9 | 333 | 3000 | 68 |
| AM3N-2412SH30Z | 21.6-26.4 | 12 | 250 | 3000 | 70 |
| AM3N-2415SH30Z | 21.6-26.4 | 15 | 200 | 3000 | 70 |
| AM3N-2418SH30Z | 21.6-26.4 | 18 | 167 | 3000 | 70 |
| AM3N-2424SH30Z | 21.6-26.4 | 24 | 125 | 3000 | 74 |
| AM3N-0503SH52Z | 4.5-5.5 | 3.3 | 600 | 5200 | 55 |
| AM3N-0505SH52Z | 4.5-5.5 | 5 | 600 | 5200 | 65 |
| AM3N-0507SH52Z | 4.5-5.5 | 7.2 | 417 | 5200 | 62 |
| AM3N-0509SH52Z | 4.5-5.5 | 9 | 333 | 5200 | 70 |
| AM3N-0512SH52Z | 4.5-5.5 | 12 | 250 | 5200 | 70 |
| AM3N-0515SH52Z | 4.5-5.5 | 15 | 200 | 5200 | 70 |
| AM3N-0518SH52Z | 4.5-5.5 | 18 | 167 | 5200 | 65 |
| AM3N-0524SH52Z | 4.5-5.5 | 24 | 125 | 5200 | 67 |
| AM3N-1203SH52Z | 10.8-13.2 | 3.3 | 600 | 5200 | 60 |
| AM3N-1205SH52Z | 10.8-13.2 | 5 | 600 | 5200 | 66 |
| AM3N-1207SH52Z | 10.8-13.2 | 7.2 | 417 | 5200 | 69 |
| AM3N-1209SH52Z | 10.8-13.2 | 9 | 333 | 5200 | 68 |
| AM3N-1212SH52Z | 10.8-13.2 | 12 | 250 | 5200 | 74 |
| AM3N-1215SH52Z | 10.8-13.2 | 15 | 200 | 5200 | 72 |
| AM3N-1218SH52Z | 10.8-13.2 | 18 | 167 | 5200 | 70 |
| AM3N-1224SH52Z | 10.8-13.2 | 24 | 125 | 5200 | 70 |
| AM3N-2403SH52Z | 21.6-26.4 | 3.3 | 700 | 5200 | 52 |
| AM3N-2405SH52Z | 21.6-26.4 | 5 | 600 | 5200 | 66 |
| AM3N-2407SH52Z | 21.6-26.4 | 7.2 | 417 | 5200 | 61 |
| AM3N-2409SH52Z | 21.6-26.4 | 9 | 333 | 5200 | 68 |
| AM3N-2412SH52Z | 21.6-26.4 | 12 | 250 | 5200 | 70 |
| AM3N-2415SH52Z | 21.6-26.4 | 15 | 200 | 5200 | 70 |
| AM3N-2418SH52Z | 21.6-26.4 | 18 | 167 | 5200 | 70 |
| AM3N-2424SH52Z | 21.6-26.4 | 24 | 125 | 5200 | 74 |

Input Specifications

| Parameters | Nominal | Typical | Maximum | Units |
|--------------------------------|--------------------|-----------|---------|-------|
| Voltage range | 5 | 4.5-5.5 | | VDC |
| | 12 | 10.8-13.2 | | |
| | 24 | 21.6-26.4 | | |
| Filter | π (Pi) Network | | | |
| Turn on Transient process time | | | 100 | ms |
| Start up time | | 300 | | ms |
| Absolute Maximum Rating | 5 Vin | 0-7 | | VDC |
| | 12 Vin | 0-15 | | |
| | 24 Vin | 0-28 | | |
| Peak Input Voltage time | | 100 | | ms |

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|----------------|------------|---------|---------------------|-------|
| Tested voltage | 3 sec | | 1000, 3000 and 5200 | VDC |
| Resistance | | > 1000 | | MOhm |
| Capacitance | | 60 | | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|------------|---------|---------|-------|
| Voltage accuracy | | ± 2 | | % |
| Short Circuit protection | Continuous | | | |
| Short circuit restart | Automatic | | | |

Output Specifications (continued)

| Parameters | Conditions | Typical | Maximum | Units |
|---|--------------------|---------|---------|--------|
| Line voltage regulation (Single) | | ±0.5 | | % |
| Load voltage regulation (Single) | 0 to 100% load | ±0.5 | | % |
| Load voltage regulation (Single) 3.3V output model | 0 to 100% load | ±1.5 | | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise | At 20MHz Bandwidth | 75 | | mV p-p |
| Rising time | | 150 | | ms |

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|---|--|---------|-------|
| Switching frequency | 100% load | 40 | | KHz |
| Operating temperature | Full Load without Derating | -40 to +85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Maximum Case temperature | | | 95 | °C |
| Cooling | Free air convection | | | |
| Humidity | Non condensing | | 90 | % |
| Case material | Nickel-coated copper, at 5200VDC plastic | | | |
| Weight | | 14.5 | | g |
| Dimensions (L x W xH) | Tolerance ±0.5 mm or ±0.02 inches | 1.25 x 0.80 x 0.40 inches 31.75 x 20.32 x 10.16 mm | | |
| MTBF | >954 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | | |

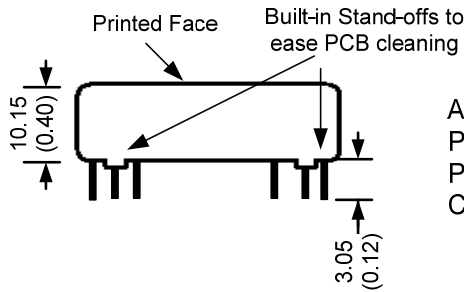
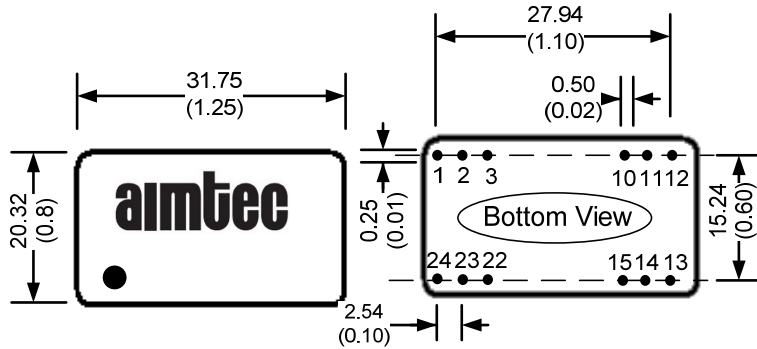
Safety Specifications

| Standards | |
|---------------------------|---|
| Agency Approval / Marking | CE |
| Safety 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 |

Pin Out Specifications

| Pin | 1000VDC | 3000 and 5200VDC |
|-----|-----------|------------------|
| | Single | Single |
| 1 | +V Input | +V Input |
| 2 | N.C. | +V Input |
| 3 | N.C. | No pin |
| 10 | -V Output | No pin |
| 11 | +V Output | No pin |
| 12 | -V Input | -V Output |
| 13 | -V Input | +V Output |
| 14 | +V Output | No pin |
| 15 | -V Output | No pin |
| 22 | N.C. | No pin |
| 23 | N.C. | -V Input |
| 24 | +V Input | -V Input |

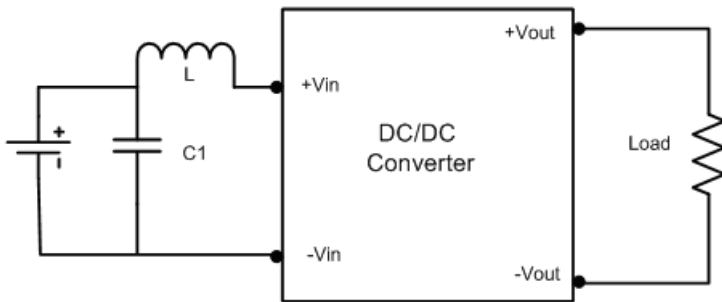
Dimensions



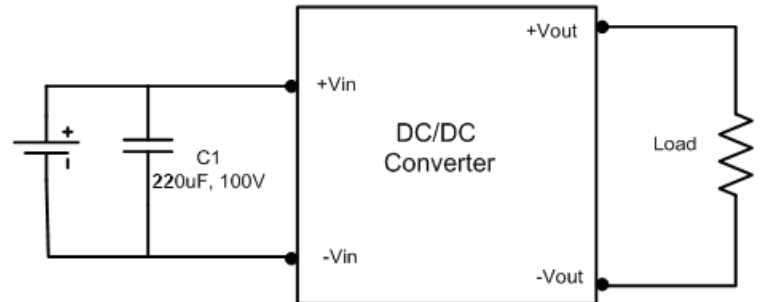
All dimensions are typical: millimeters (inches)
 Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
 Pin Pitch Tolerance: ± 0.35 (± 0.014)
 Case Tolerance: ± 0.5 (± 0.02)

Test Circuits

Conducted Emissions:



Surge:



| C1 | L1 |
|------------|------|
| 220μF/100V | 12μH |

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