



FEATURES:

- SIP8 Package
- High Efficiency up to 87%
- On / Off Control
- No Minimum Load
- Operating Temperature -40°C to +71°C
- Continuous Short Circuit Protection
- Input / Output Isolation 1500 & 3000 VDC
- Wide 4:1 Input Range



Models
Single Output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Input Current Full No Load (mA) | | Capacitor Load (µF) | Efficiency (%) |
|-----------------|-------------------|--------------------|-------------------------|-----------------|-----------------------------------|---|---------------------|----------------|
| AM6GH-2403SZ | 9-36 | 3.3 | 1500 | 1500 | 261 | 6 | 4700 | 79 |
| AM6GH-2405SZ | 9-36 | 5 | 1200 | 1500 | 298 | 6 | 2200 | 84 |
| AM6GH-2409SZ | 9-36 | 9 | 666 | 1500 | 290 | 6 | 1000 | 86 |
| AM6GH-2412SZ | 9-36 | 12 | 500 | 1500 | 287 | 6 | 470 | 87 |
| AM6GH-2415SZ | 9-36 | 15 | 400 | 1500 | 287 | 6 | 220 | 87 |
| AM6GH-2424SZ | 9-36 | 24 | 250 | 1500 | 287 | 6 | 100 | 87 |
| AM6GH-4803SZ | 18-75 | 3.3 | 1500 | 1500 | 131 | 6 | 4700 | 79 |
| AM6GH-4805SZ | 18-75 | 5 | 1200 | 1500 | 151 | 6 | 2200 | 83 |
| AM6GH-4809SZ | 18-75 | 9 | 666 | 1500 | 147 | 6 | 1000 | 85 |
| AM6GH-4812SZ | 18-75 | 12 | 500 | 1500 | 144 | 6 | 470 | 87 |
| AM6GH-4815SZ | 18-75 | 15 | 400 | 1500 | 144 | 6 | 220 | 87 |
| AM6GH-4824SZ | 18-75 | 24 | 250 | 1500 | 144 | 6 | 100 | 87 |
| AM6GH-2403SH30Z | 9-36 | 3.3 | 1500 | 3000 | 261 | 6 | 4700 | 79 |
| AM6GH-2405SH30Z | 9-36 | 5 | 1200 | 3000 | 298 | 6 | 2200 | 84 |
| AM6GH-2409SH30Z | 9-36 | 9 | 666 | 3000 | 290 | 6 | 1000 | 86 |
| AM6GH-2412SH30Z | 9-36 | 12 | 500 | 3000 | 287 | 6 | 470 | 87 |
| AM6GH-2415SH30Z | 9-36 | 15 | 400 | 3000 | 287 | 6 | 220 | 87 |
| AM6GH-2424SH30Z | 9-36 | 24 | 250 | 3000 | 287 | 6 | 100 | 87 |
| AM6GH-4803SH30Z | 18-75 | 3.3 | 1500 | 3000 | 131 | 6 | 4700 | 79 |
| AM6GH-4805SH30Z | 18-75 | 5 | 1200 | 3000 | 151 | 6 | 2200 | 83 |
| AM6GH-4809SH30Z | 18-75 | 9 | 666 | 3000 | 147 | 6 | 1000 | 85 |
| AM6GH-4812SH30Z | 18-75 | 12 | 500 | 3000 | 144 | 6 | 470 | 87 |
| AM6GH-4815SH30Z | 18-75 | 15 | 400 | 3000 | 144 | 6 | 220 | 87 |
| AM6GH-4824SH30Z | 18-75 | 24 | 250 | 3000 | 144 | 6 | 100 | 87 |

Models
Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Input Current Full No Load (mA) | | Capacitor Load (µF) | Efficiency (%) |
|-----------------|-------------------|--------------------|-------------------------|-----------------|-----------------------------------|---|---------------------|----------------|
| AM6GH-2405DZ | 9-36 | ±5 | ±600 | 1500 | 298 | 6 | ±330 | 84 |
| AM6GH-2412DZ | 9-36 | ±12 | ±250 | 1500 | 291 | 6 | ±220 | 86 |
| AM6GH-2415DZ | 9-36 | ±15 | ±200 | 1500 | 287 | 6 | ±100 | 87 |
| AM6GH-4805DZ | 18-75 | ±5 | ±600 | 1500 | 152 | 6 | ±330 | 82 |
| AM6GH-4812DZ | 18-75 | ±12 | ±250 | 1500 | 147 | 6 | ±220 | 85 |
| AM6GH-4815DZ | 18-75 | ±15 | ±200 | 1500 | 145 | 6 | ±100 | 86 |
| AM6GH-2405DH30Z | 9-36 | ±5 | ±600 | 3000 | 298 | 6 | ±330 | 84 |
| AM6GH-2412DH30Z | 9-36 | ±12 | ±250 | 3000 | 291 | 6 | ±220 | 86 |
| AM6GH-2415DH30Z | 9-36 | ±15 | ±200 | 3000 | 287 | 6 | ±100 | 87 |
| AM6GH-4805DH30Z | 18-75 | ±5 | ±600 | 3000 | 152 | 6 | ±330 | 82 |
| AM6GH-4812DH30Z | 18-75 | ±12 | ±250 | 3000 | 147 | 6 | ±220 | 85 |
| AM6GH-4815DH30Z | 18-75 | ±15 | ±200 | 3000 | 145 | 6 | ±100 | 86 |

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 | | | |
| Transient recovery time | | 250 | | µs |
| Transient Response deviation | 3.3 & 5 V output | | ±3 ±5 | % |
| Start up time | Nominal input voltage and constant resistive load | | 30 | ms |
| Absolute Maximum Rating | 24 Vin 48 Vin | -0.7-50 -0.7-100 | | VDC |
| Peak Input Voltage time | | | 100 | ms |
| On / Off Control | ON – high impedance or open; OFF – 2-4mA input current through 1KΩ (standby 2.5mA typ.) | | | |
| Input reflected ripple current* | 24Vin 48Vin | 20 40 | | mA p-p |

* The input reflected ripple current should be measured with connected 12µH inductor and 47µF input capacitor (ESR<1Ω at 100 KHz)

Isolation Specifications

| Parameters | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------------|-------|
| Tested I/O voltage | 60 sec | | 1500 & 3000 | VDC |
| Resistance | | > 1000 | | MOhm |
| Capacitance | | | 50 | pF |

Output Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|--------------------------|---|---------|--------------|--------|
| Voltage accuracy | | | ±1 | % |
| Cross Regulation (Dual) | 1 st output 25% to 100%, 2 nd output 100% | ±5 | | % |
| Short Circuit protection | Continuous | | | |
| Short Circuit restart | Auto recovery | | | |
| Line voltage regulation | LL~HL | | ±0.2 | % |
| Load voltage regulation | (0 to 100% load) Single (0 to 100% load) 3.3V, 5V, & Dual | | ±0.5 ±1.0 | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise* | At 20MHz Bandwidth | | 125 | mV p-p |

* Measured with a 100nF CC.

General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|------------------------|---|-------------------------|---------|-------|
| Switching frequency | 100% load | 580 | | KHz |
| Operating temperature | Derating above +71°C | -40 to +71 | | °C |
| Storage temperature | | -55 to +125 | | °C |
| Max Case temperature | | | +100 | °C |
| Cooling | Free air convection (30-65 LFM) | | | |
| Humidity | | | 95 | % |
| Case material | Non-conductive black plastic | | | |
| Potting material | Epoxy (UL94V-0 rated) | | | |
| Pin Material | C5191R-H Solder coated | | | |
| Weight | | 4.5 | | g |
| Dimensions (L x W x H) | 0.86 x 0.36 x 0.44 inch | 21.85 x 9.20 x 11.10 mm | | |
| MTBF | >800,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) | | | |

Safety Specifications

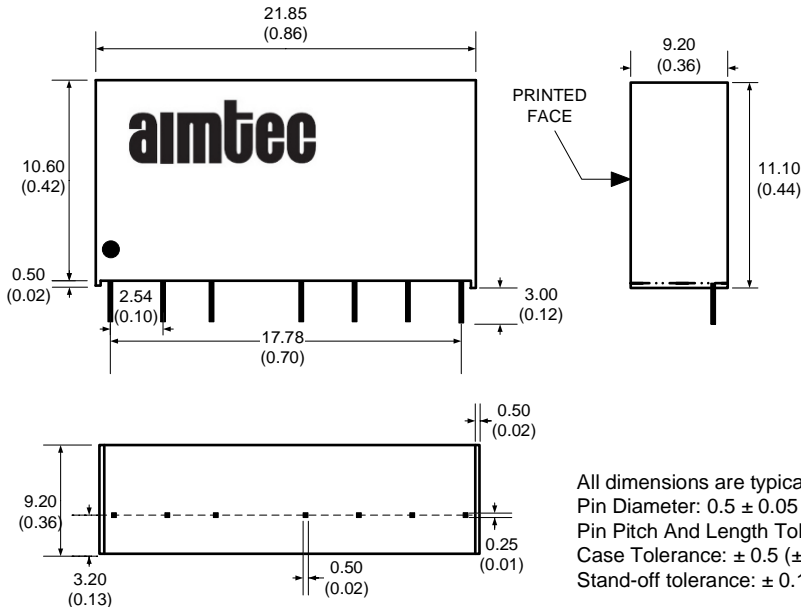
| Parameters | |
|------------------|--|
| Agency Approvals | UL |
| Standards | UL 60950-1:2001 & UL 62368-1 Design to meet IEC/EN 60950-1, 62368-1 |

| |
|--|
| EN55032 Class A, EN55024 (external class A circuit required) |
| IEC61000-4-2, Perf. Criteria A |
| IEC61000-4-3, Perf. Criteria A |
| IEC61000-4-4, Perf. Criteria A (external EFT/Surge circuit required) |
| IEC61000-4-5, Perf. Criteria A (external EFT/Surge circuit required) |
| IEC61000-4-6, Perf. Criteria A |
| IEC61000-4-8, Perf. Criteria A |

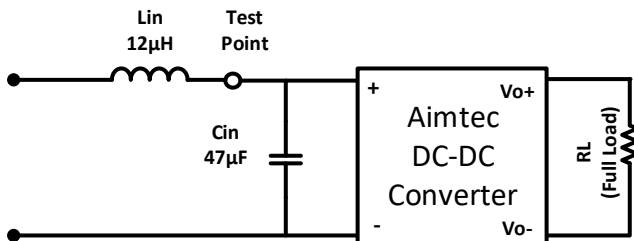
Pin Out Specifications

| Pin | 1500 VDC | | 3000 VDC | |
|-----|----------------|----------------|----------------|----------------|
| | Single | Dual | Single | Dual |
| 1 | - V Input | - V Input | - V Input | - V Input |
| 2 | + V Input | + V Input | + V Input | + V Input |
| 3 | On/Off Control | On/Off Control | On/Off Control | On/Off Control |
| 5 | N.C. | N.C. | No Pin | No Pin |
| 6 | + V Output | + V Output | + V Output | + V Output |
| 7 | - V Output | Common | - V Output | Common |
| 8 | N.C. | - V Output | N.C. | - V Output |

Dimensions

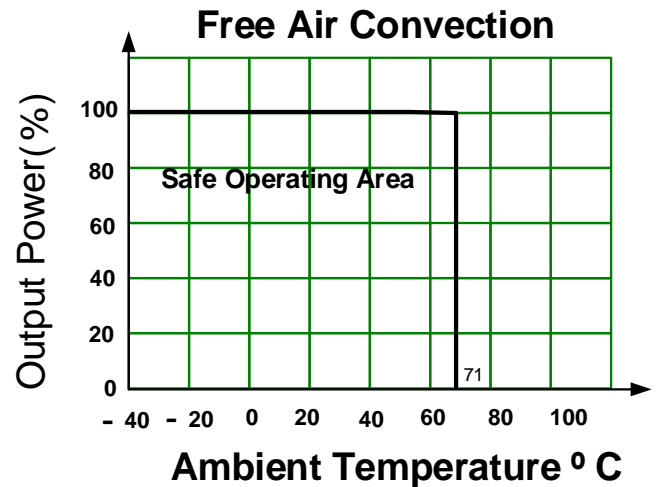


Input Reflected Ripple Test Circuit

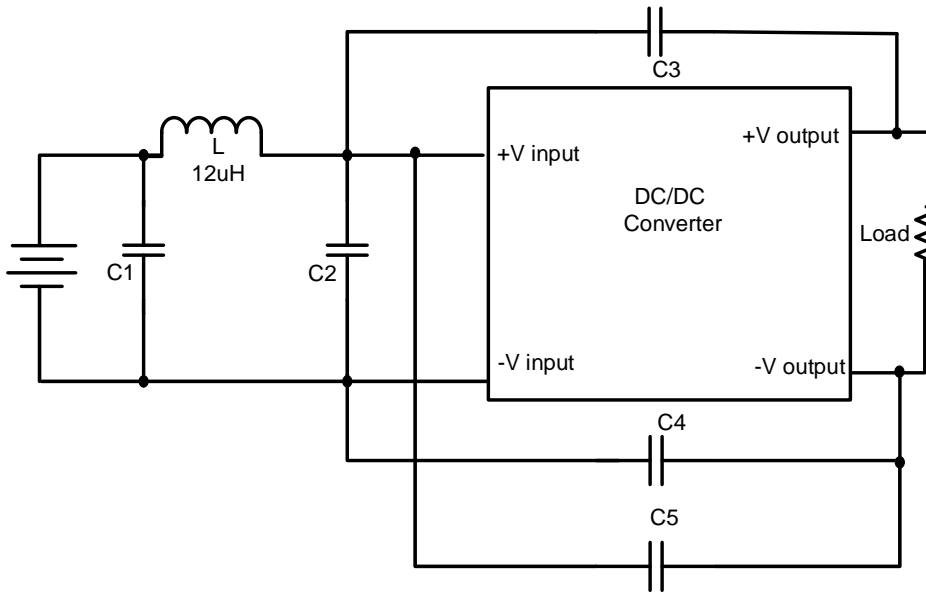


* Tested at full load, and nominal input

Derating

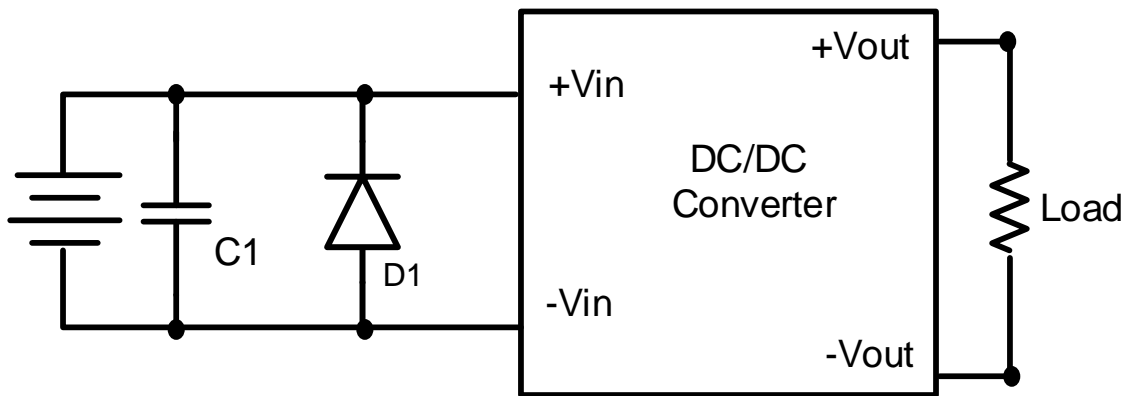


Class A EMI, external filter



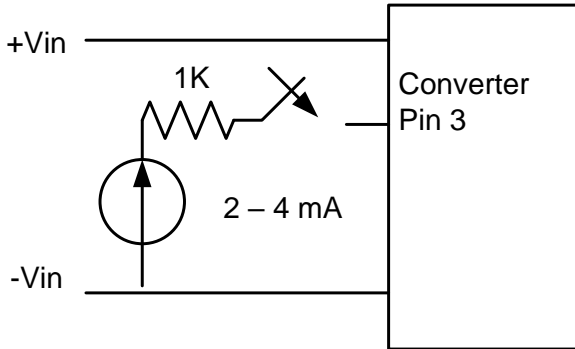
| Vin | C1 & C2 | C3 & C4 | C5 |
|-------|------------------------|-----------------|---------------|
| 24VDC | 10 μ F/35V, MLCC | 470pF/3KV, MLCC | - |
| 48VDC | 2.2 μ F/100V, MLCC | 1nF/3KV, MLCC | 1nF/3KV, MLCC |

EFT/Surge Application circuit



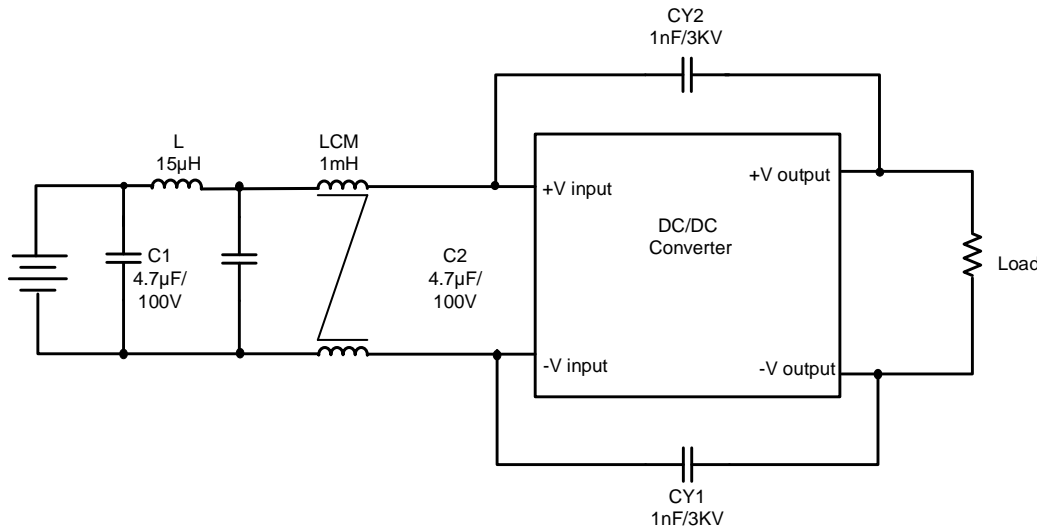
| Vin | C1 | D1 |
|-------|------------------|----------------|
| 24VDC | 300 μ F/100V | TVS, 3kW, 75V |
| 48VDC | 470 μ F/100V | TVS, 3kW, 130V |

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.

Recommended circuit for class B compliance



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