

**FEATURES:**

- Regulated
- High Efficiency up to 80%
- Remote On/Off Control
- 8 Pin SIP Package
- Operating Temperature -40°C to +85°C
- Continuous Short Circuit Protection
- Wide 2:1 Input Range
- Input / Output Isolation 1000 & 3000VDC

### Models

#### Single Output



| Model          | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Capacitive Load Max (μF) | Input Current Full Load   No Load (mA) | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|--------------------------|----------------------------------------|----------------|
| AM2G-0503SZ    | 4.5-9             | 3.3                | 500                     | 1000            | 3300                     | 492 15                                 | 67             |
| AM2G-0505SZ    | 4.5-9             | 5                  | 400                     | 1000            | 3300                     | 571 15                                 | 70             |
| AM2G-0507SZ    | 4.5-9             | 7.2                | 278                     | 1000            | 470                      | 560 15                                 | 71             |
| AM2G-0509SZ    | 4.5-9             | 9                  | 222                     | 1000            | 470                      | 555 30                                 | 72             |
| AM2G-0512SZ    | 4.5-9             | 12                 | 167                     | 1000            | 470                      | 555 30                                 | 72             |
| AM2G-0515SZ    | 4.5-9             | 15                 | 133                     | 1000            | 470                      | 547 30                                 | 73             |
| AM2G-0518SZ    | 4.5-9             | 18                 | 111                     | 1000            | 220                      | 540 30                                 | 70             |
| AM2G-0524SZ    | 4.5-9             | 24                 | 83                      | 1000            | 220                      | 533 60                                 | 75             |
| AM2G-1203SZ    | 9-18              | 3.3                | 500                     | 1000            | 3300                     | 205 15                                 | 67             |
| AM2G-1205SZ    | 9-18              | 5                  | 400                     | 1000            | 3300                     | 216 15                                 | 77             |
| AM2G-1207SZ    | 9-18              | 7.2                | 278                     | 1000            | 470                      | 215 15                                 | 75             |
| AM2G-1209SZ    | 9-18              | 9                  | 222                     | 1000            | 470                      | 213 15                                 | 78             |
| AM2G-1212SZ    | 9-18              | 12                 | 167                     | 1000            | 470                      | 208 15                                 | 80             |
| AM2G-1215SZ    | 9-18              | 15                 | 133                     | 1000            | 470                      | 213 15                                 | 78             |
| AM2G-1224SZ    | 9-18              | 24                 | 83                      | 1000            | 220                      | 208 15                                 | 80             |
| AM2G-2403SZ    | 18-36             | 3.3                | 500                     | 1000            | 3300                     | 98 8                                   | 70             |
| AM2G-2405SZ    | 18-36             | 5                  | 400                     | 1000            | 3300                     | 108 8                                  | 77             |
| AM2G-2407SZ    | 18-36             | 7.2                | 278                     | 1000            | 470                      | 106 8                                  | 74             |
| AM2G-2409SZ    | 18-36             | 9                  | 222                     | 1000            | 470                      | 104 8                                  | 80             |
| AM2G-2412SZ    | 18-36             | 12                 | 167                     | 1000            | 470                      | 104 8                                  | 80             |
| AM2G-2415SZ    | 18-36             | 15                 | 133                     | 1000            | 470                      | 104 8                                  | 80             |
| AM2G-2418SZ    | 18-36             | 18                 | 111                     | 1000            | 220                      | 104 8                                  | 78             |
| AM2G-2424SZ    | 18-36             | 24                 | 83                      | 1000            | 220                      | 104 8                                  | 80             |
| AM2G-4803SZ    | 36-72             | 3.3                | 500                     | 1000            | 3300                     | 48 6                                   | 71             |
| AM2G-4805SZ    | 36-72             | 5                  | 400                     | 1000            | 3300                     | 56 6                                   | 74             |
| AM2G-4807SZ    | 36-72             | 7.2                | 278                     | 1000            | 470                      | 55 6                                   | 74             |
| AM2G-4809SZ    | 36-72             | 9                  | 222                     | 1000            | 470                      | 53 6                                   | 78             |
| AM2G-4812SZ    | 36-72             | 12                 | 167                     | 1000            | 470                      | 53 6                                   | 78             |
| AM2G-4815SZ    | 36-72             | 15                 | 133                     | 1000            | 470                      | 53 6                                   | 78             |
| AM2G-4824SZ    | 36-72             | 24                 | 83                      | 1000            | 220                      | 52 6                                   | 80             |
|                |                   |                    |                         |                 |                          |                                        |                |
| AM2G-0503SH30Z | 4.5-9             | 3.3                | 500                     | 3000            | 3300                     | 492 15                                 | 67             |
| AM2G-0505SH30Z | 4.5-9             | 5                  | 400                     | 3000            | 3300                     | 571 15                                 | 70             |
| AM2G-0509SH30Z | 4.5-9             | 9                  | 222                     | 3000            | 470                      | 555 30                                 | 72             |
| AM2G-0512SH30Z | 4.5-9             | 12                 | 167                     | 3000            | 470                      | 555 30                                 | 72             |
| AM2G-0515SH30Z | 4.5-9             | 15                 | 133                     | 3000            | 470                      | 547 30                                 | 73             |
| AM2G-0524SH30Z | 4.5-9             | 24                 | 83                      | 3000            | 220                      | 533 60                                 | 75             |
| AM2G-1203SH30Z | 9-18              | 3.3                | 500                     | 3000            | 3300                     | 205 15                                 | 67             |
| AM2G-1205SH30Z | 9-18              | 5                  | 400                     | 3000            | 3300                     | 216 15                                 | 77             |
| AM2G-1209SH30Z | 9-18              | 9                  | 222                     | 3000            | 470                      | 213 15                                 | 78             |
| AM2G-1212SH30Z | 9-18              | 12                 | 167                     | 3000            | 470                      | 208 15                                 | 80             |
| AM2G-1215SH30Z | 9-18              | 15                 | 133                     | 3000            | 470                      | 213 15                                 | 78             |
| AM2G-1218SH30Z | 9-18              | 18                 | 111                     | 3000            | 220                      | 210 15                                 | 78             |
| AM2G-1224SH30Z | 9-18              | 24                 | 83                      | 3000            | 220                      | 208 15                                 | 80             |

### Models

#### Single Output (continued)

| Model          | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Capacitive Load Max (μF) | Input Current Full Load   No Load (mA) |   | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|--------------------------|----------------------------------------|---|----------------|
| AM2G-2403SH30Z | 18-36             | 3.3                | 500                     | 3000            | 3300                     | 98                                     | 8 | 70             |
| AM2G-2405SH30Z | 18-36             | 5                  | 400                     | 3000            | 3300                     | 108                                    | 8 | 77             |
| AM2G-2407SH30Z | 18-36             | 7.2                | 278                     | 3000            | 470                      | 106                                    | 8 | 74             |
| AM2G-2409SH30Z | 18-36             | 9                  | 222                     | 3000            | 470                      | 104                                    | 8 | 80             |
| AM2G-2412SH30Z | 18-36             | 12                 | 167                     | 3000            | 470                      | 104                                    | 8 | 80             |
| AM2G-2415SH30Z | 18-36             | 15                 | 133                     | 3000            | 470                      | 104                                    | 8 | 80             |
| AM2G-2424SH30Z | 18-36             | 24                 | 83                      | 3000            | 220                      | 104                                    | 8 | 80             |
| AM2G-4803SH30Z | 36-72             | 3.3                | 500                     | 3000            | 3300                     | 48                                     | 6 | 71             |
| AM2G-4805SH30Z | 36-72             | 5                  | 400                     | 3000            | 3300                     | 56                                     | 6 | 74             |
| AM2G-4809SH30Z | 36-72             | 9                  | 222                     | 3000            | 470                      | 53                                     | 6 | 78             |
| AM2G-4812SH30Z | 36-72             | 12                 | 167                     | 3000            | 470                      | 53                                     | 6 | 78             |
| AM2G-4815SH30Z | 36-72             | 15                 | 133                     | 3000            | 470                      | 53                                     | 6 | 78             |
| AM2G-4824SH30Z | 36-72             | 24                 | 83                      | 3000            | 220                      | 52                                     | 6 | 80             |

### Models

#### Dual Output

| Model       | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Capacitive Load Max (μF) | Input Current Full Load   No Load (mA) |    | Efficiency (%) |
|-------------|-------------------|--------------------|-------------------------|-----------------|--------------------------|----------------------------------------|----|----------------|
| AM2G-0503DZ | 4.5-9             | ±3.3               | ±250                    | 1000            | ±1000                    | 471                                    | 20 | 65             |
| AM2G-0505DZ | 4.5-9             | ±5                 | ±200                    | 1000            | ±1000                    | 571                                    | 20 | 70             |
| AM2G-0507DZ | 4.5-9             | ±7.2               | ±139                    | 1000            | ±220                     | 560                                    | 20 | 70             |
| AM2G-0509DZ | 4.5-9             | ±9                 | ±111                    | 1000            | ±220                     | 540                                    | 20 | 74             |
| AM2G-0512DZ | 4.5-9             | ±12                | ±83                     | 1000            | ±220                     | 533                                    | 25 | 75             |
| AM2G-0515DZ | 4.5-9             | ±15                | ±67                     | 1000            | ±220                     | 533                                    | 25 | 75             |
| AM2G-0518DZ | 4.5-9             | ±18                | ±56                     | 1000            | ±100                     | 540                                    | 30 | 73             |
| AM2G-0524DZ | 4.5-9             | ±24                | ±42                     | 1000            | ±100                     | 563                                    | 60 | 71             |
| AM2G-1203DZ | 9-18              | ±3.3               | ±250                    | 1000            | ±1000                    | 188                                    | 15 | 67             |
| AM2G-1205DZ | 9-18              | ±5                 | ±200                    | 1000            | ±1000                    | 222                                    | 15 | 75             |
| AM2G-1207DZ | 9-18              | ±7.2               | ±139                    | 1000            | ±220                     | 215                                    | 15 | 75             |
| AM2G-1209DZ | 9-18              | ±9                 | ±111                    | 1000            | ±220                     | 210                                    | 15 | 79             |
| AM2G-1212DZ | 9-18              | ±12                | ±83                     | 1000            | ±220                     | 208                                    | 15 | 80             |
| AM2G-1215DZ | 9-18              | ±15                | ±67                     | 1000            | ±220                     | 210                                    | 15 | 79             |
| AM2G-1218DZ | 9-18              | ±18                | ±56                     | 1000            | ±100                     | 210                                    | 15 | 78             |
| AM2G-1224DZ | 9-18              | ±24                | ±42                     | 1000            | ±100                     | 219                                    | 30 | 76             |
| AM2G-2403DZ | 18-36             | ±3.3               | ±250                    | 1000            | ±1000                    | 94                                     | 8  | 73             |
| AM2G-2405DZ | 18-36             | ±5                 | ±200                    | 1000            | ±1000                    | 106                                    | 8  | 78             |
| AM2G-2407DZ | 18-36             | ±7.2               | ±139                    | 1000            | ±220                     | 106                                    | 8  | 75             |
| AM2G-2409DZ | 18-36             | ±9                 | ±111                    | 1000            | ±220                     | 105                                    | 8  | 79             |
| AM2G-2412DZ | 18-36             | ±12                | ±83                     | 1000            | ±220                     | 104                                    | 8  | 80             |
| AM2G-2415DZ | 18-36             | ±15                | ±67                     | 1000            | ±220                     | 104                                    | 8  | 80             |
| AM2G-2418DZ | 18-36             | ±18                | ±56                     | 1000            | ±100                     | 104                                    | 8  | 78             |
| AM2G-2424DZ | 18-36             | ±24                | ±42                     | 1000            | ±100                     | 106                                    | 20 | 78             |
| AM2G-4803DZ | 36-72             | ±3.3               | ±250                    | 1000            | ±1000                    | 47                                     | 6  | 73             |
| AM2G-4805DZ | 36-72             | ±5                 | ±200                    | 1000            | ±1000                    | 56                                     | 6  | 74             |
| AM2G-4809DZ | 36-72             | ±9                 | ±111                    | 1000            | ±220                     | 53                                     | 6  | 79             |
| AM2G-4815DZ | 36-72             | ±15                | ±67                     | 1000            | ±220                     | 52                                     | 6  | 80             |
| AM2G-4824DZ | 36-72             | ±24                | ±42                     | 1000            | ±100                     | 55                                     | 12 | 75             |

### Models

#### Dual Output (continued)

| Model          | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Isolation (VDC) | Capacitive Load Max (μF) | Input Current Full Load   No Load (mA) |    | Efficiency (%) |
|----------------|-------------------|--------------------|-------------------------|-----------------|--------------------------|----------------------------------------|----|----------------|
| AM2G-0503DH30Z | 4.5-9             | ±3.3               | ±250                    | 3000            | ±1000                    | 471                                    | 20 | 65             |
| AM2G-0505DH30Z | 4.5-9             | ±5                 | ±200                    | 3000            | ±1000                    | 571                                    | 20 | 70             |
| AM2G-0509DH30Z | 4.5-9             | ±9                 | ±111                    | 3000            | ±220                     | 540                                    | 20 | 74             |
| AM2G-0512DH30Z | 4.5-9             | ±12                | ±83                     | 3000            | ±220                     | 533                                    | 25 | 75             |
| AM2G-0515DH30Z | 4.5-9             | ±15                | ±67                     | 3000            | ±220                     | 533                                    | 25 | 75             |
| AM2G-0524DH30Z | 4.5-9             | ±24                | ±42                     | 3000            | ±100                     | 563                                    | 60 | 71             |
| AM2G-1203DH30Z | 9-18              | ±3.3               | ±250                    | 3000            | ±1000                    | 188                                    | 15 | 67             |
| AM2G-1205DH30Z | 9-18              | ±5                 | ±200                    | 3000            | ±1000                    | 222                                    | 15 | 75             |
| AM2G-1209DH30Z | 9-18              | ±9                 | ±111                    | 3000            | ±220                     | 210                                    | 15 | 79             |
| AM2G-1212DH30Z | 9-18              | ±12                | ±83                     | 3000            | ±220                     | 208                                    | 15 | 80             |
| AM2G-1215DH30Z | 9-18              | ±15                | ±67                     | 3000            | ±220                     | 210                                    | 15 | 79             |
| AM2G-1218DH30Z | 9-18              | ±18                | ±56                     | 3000            | ±100                     | 210                                    | 15 | 78             |
| AM2G-1224DH30Z | 9-18              | ±24                | ±42                     | 3000            | ±100                     | 219                                    | 30 | 76             |
| AM2G-2403DH30Z | 18-36             | ±3.3               | ±250                    | 3000            | ±1000                    | 94                                     | 8  | 73             |
| AM2G-2405DH30Z | 18-36             | ±5                 | ±200                    | 3000            | ±1000                    | 106                                    | 8  | 78             |
| AM2G-2407DH30Z | 18-36             | ±7.2               | ±139                    | 3000            | ±220                     | 106                                    | 8  | 75             |
| AM2G-2409DH30Z | 18-36             | ±9                 | ±111                    | 3000            | ±220                     | 105                                    | 8  | 79             |
| AM2G-2412DH30Z | 18-36             | ±12                | ±83                     | 3000            | ±220                     | 104                                    | 8  | 80             |
| AM2G-2415DH30Z | 18-36             | ±15                | ±67                     | 3000            | ±220                     | 104                                    | 8  | 80             |
| AM2G-2424DH30Z | 18-36             | ±24                | ±42                     | 3000            | ±100                     | 106                                    | 20 | 78             |
| AM2G-4803DH30Z | 36-72             | ±3.3               | ±250                    | 3000            | ±1000                    | 47                                     | 6  | 73             |
| AM2G-4805DH30Z | 36-72             | ±5                 | ±200                    | 3000            | ±1000                    | 56                                     | 6  | 74             |
| AM2G-4809DH30Z | 36-72             | ±9                 | ±111                    | 3000            | ±220                     | 53                                     | 6  | 79             |
| AM2G-4812DH30Z | 36-72             | ±12                | ±83                     | 3000            | ±220                     | 53                                     | 6  | 79             |
| AM2G-4815DH30Z | 36-72             | ±15                | ±67                     | 3000            | ±220                     | 52                                     | 6  | 80             |
| AM2G-4824DH30Z | 36-72             | ±24                | ±42                     | 3000            | ±100                     | 55                                     | 12 | 75             |

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                   | 5                                                       | 4.5-9   |         | VDC    |
|                                 | 12                                                      | 9-18    |         | VDC    |
|                                 | 24                                                      | 18-36   |         | VDC    |
|                                 | 48                                                      | 36-72   |         | VDC    |
| Filter                          | Capacitor                                               |         |         |        |
| Input Reflected Ripple Current* |                                                         | 35      |         | mA p-p |
| Absolute Maximum Rating         | 5 Vin                                                   | -0.7-12 |         | VDC    |
|                                 | 12 Vin                                                  | -0.7-24 |         | VDC    |
|                                 | 24 Vin                                                  | -0.7-40 |         | VDC    |
|                                 | 48 Vin                                                  | -0.7-80 |         | VDC    |
| Peak Input Voltage time         |                                                         | 100     |         | ms     |
| On/Off Control                  | ON – low or open (0Vdc to 0.8Vdc)                       |         |         |        |
|                                 | OFF – high (4.5Vdc to 15Vdc) OFF idle current: 5mA typ. |         |         |        |

\* Measured with the 12μH source inductor and a 47μF source capacitor (ESR<1.0Ω at 100kHz).

### Isolation Specifications

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

### Output Specifications

| Parameters               | Conditions                                                       | Typical | Maximum | Units  |
|--------------------------|------------------------------------------------------------------|---------|---------|--------|
| Voltage accuracy         |                                                                  |         | ±2      | %      |
| Cross Regulation         | 25% load on 1 <sup>st</sup> load, 100% load 2 <sup>nd</sup> load | ±5      |         | %      |
| Short Circuit protection | Continuous                                                       |         |         |        |
| Short Circuit restart    | Auto recovery                                                    |         |         |        |
| Line voltage regulation  | LL~HL                                                            |         | ±0.5    | %      |
| Load voltage regulation  | load 25~100%                                                     |         | ±1.0    | %      |
| Temperature coefficient  |                                                                  | ±0.02   |         | %/°C   |
| Ripple & Noise           | At 20MHz Bandwidth                                               |         | 80      | mV p-p |

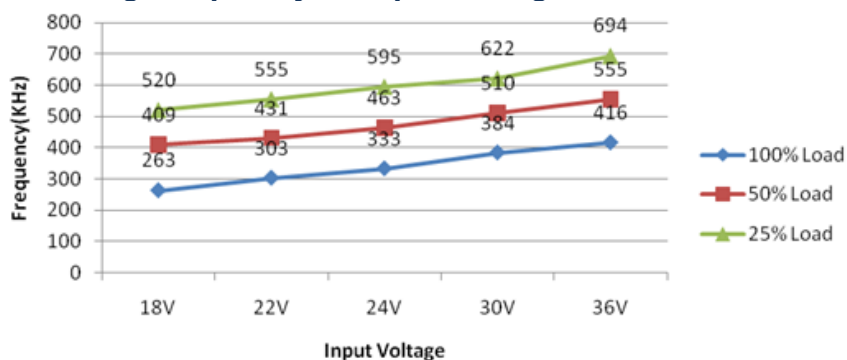
### General Specifications

| Parameters             | Conditions                                              | Typical                 | Maximum | Units |
|------------------------|---------------------------------------------------------|-------------------------|---------|-------|
| Switching frequency    |                                                         | >100                    | 650     | KHz   |
| Operating temperature  | No derating                                             | -40 to +85              |         | °C    |
| Storage temperature    |                                                         | -40 to +125             |         | °C    |
| Max Case temperature   |                                                         |                         | +100    | °C    |
| Cooling                | Free air convection                                     |                         |         |       |
| Humidity               |                                                         |                         | 95      | %     |
| Case material          | Non-conductive black plastic (UL94V-0 rated)            |                         |         |       |
| 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                   | >1 610 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C) |                         |         |       |

### Safety Specifications

| Parameters      |                                                                   |
|-----------------|-------------------------------------------------------------------|
| Agency Approval | CE, UL                                                            |
| Standards       | EN55032 Class A, with the recommended EMI circuit                 |
|                 | IEC61000-4-2, Perf. Criteria A                                    |
|                 | IEC61000-4-3, Perf. Criteria A                                    |
|                 | IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required) |
|                 | IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required) |
|                 | IEC61000-4-6, Perf. Criteria A                                    |
|                 | IEC61000-4-8, Perf. Criteria A                                    |
|                 | IEC/EN/UL 60950-1:2001 & IEC/EN/UL 62368-1                        |

### Switching Frequency vs Input Voltage and Load

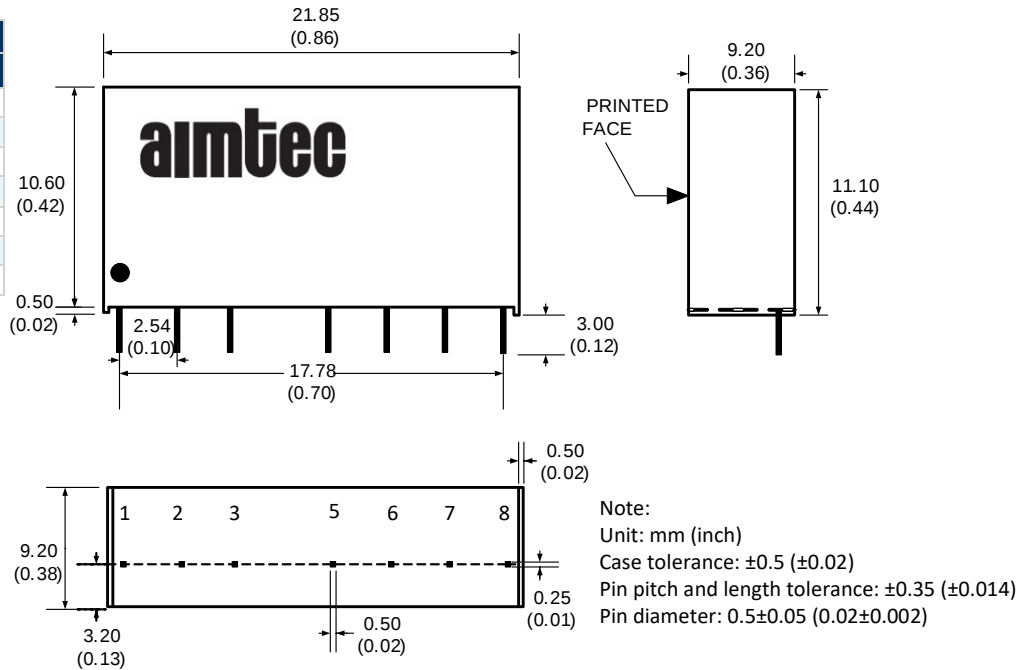


## Pin Out Specification

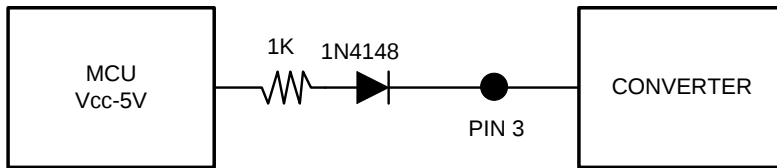
| Pin | 1000 & 3000VDC |                |
|-----|----------------|----------------|
|     | Single         | Dual           |
| 1   | - V Input      | - V Input      |
| 2   | + V Input      | + V Input      |
| 3   | On/Off Control | On/Off Control |
| 5   | N.C.           | N.C.           |
| 6   | + V Output     | + V Output     |
| 7   | - V Output     | Common         |
| 8   | N.C.           | - V Output     |

N.C.: Not Connected

## Dimensions



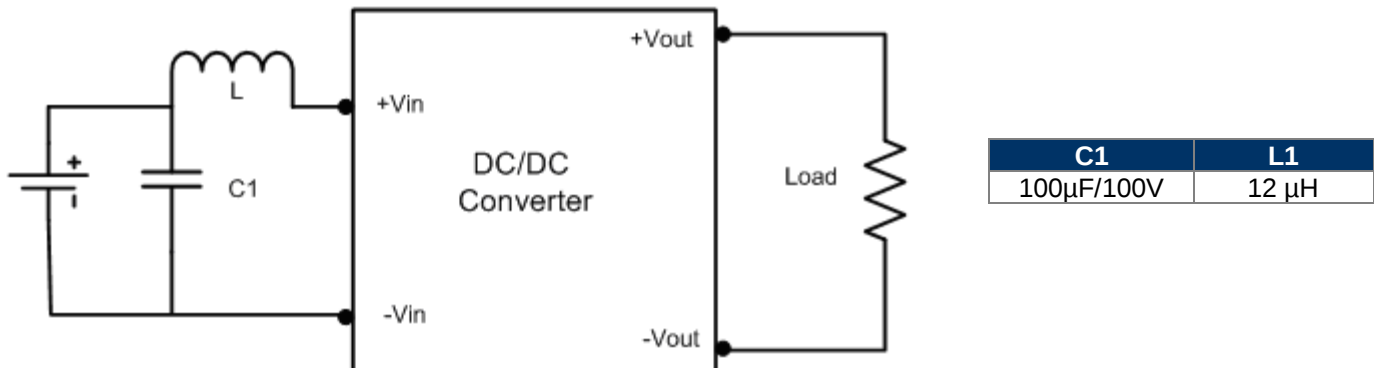
## Control ON/OFF pin connection example:



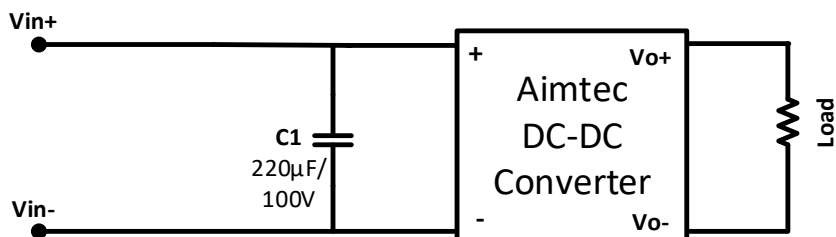
The voltage could be applied through a limiting resistor and a switching diode. The converter is in a low power mode during high level phase.

## Recommended EMI circuit

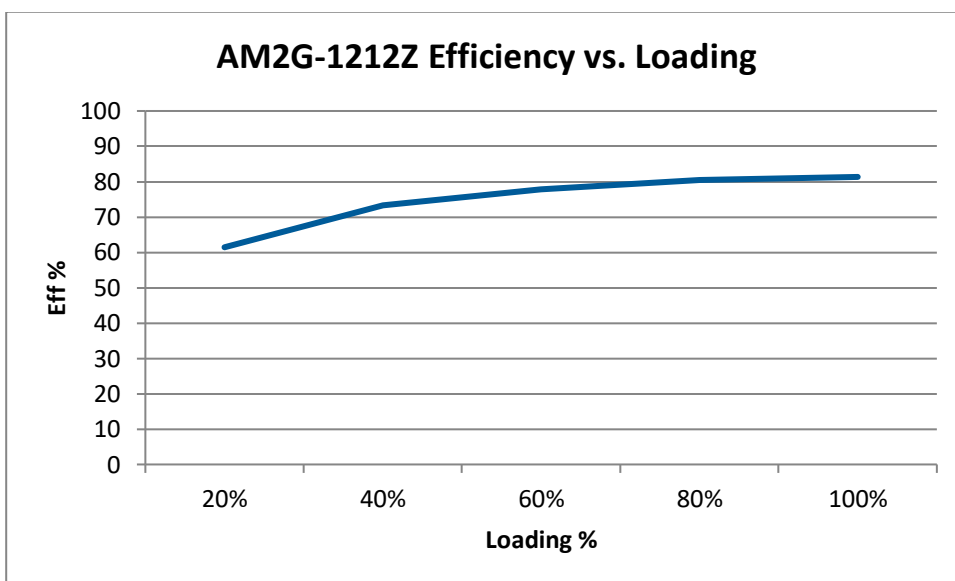
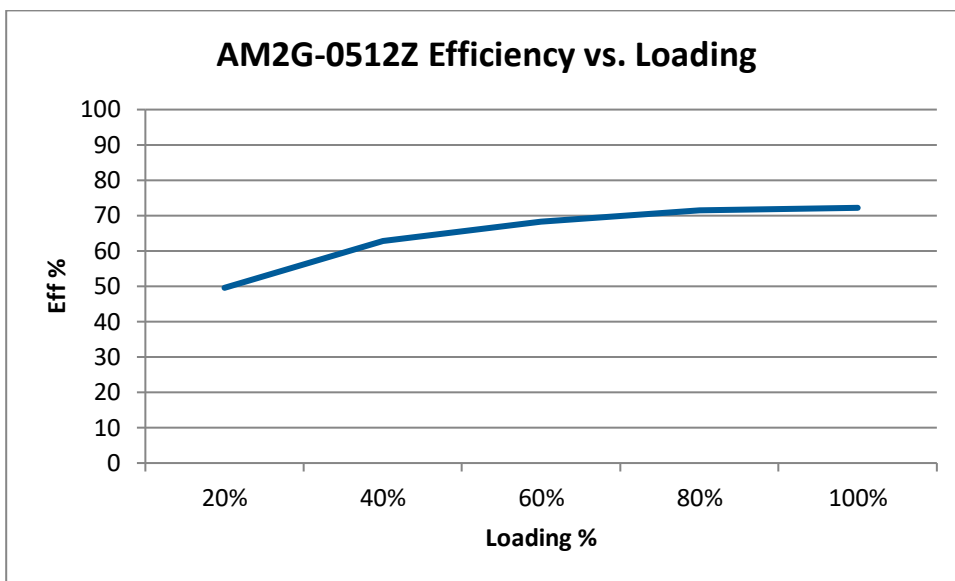
### Conducted Emissions:

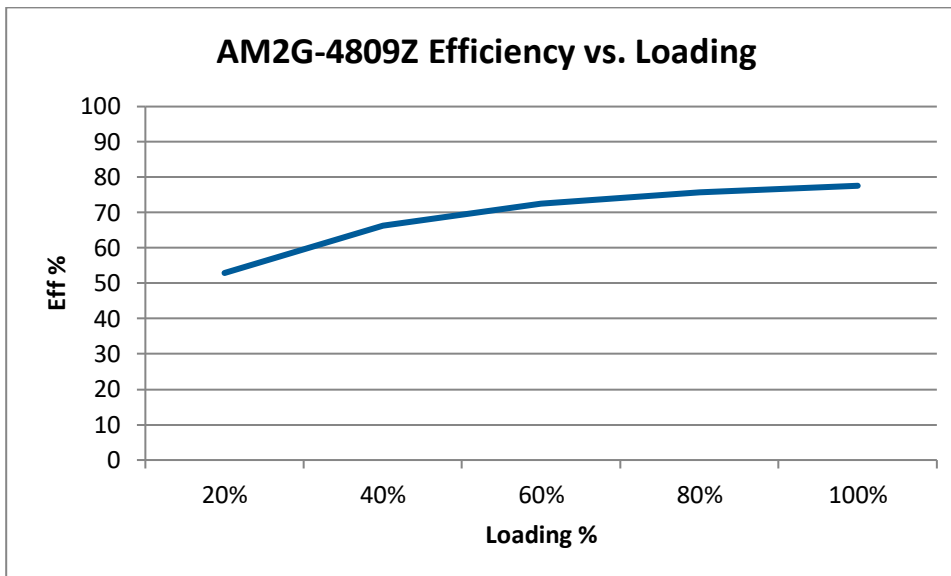
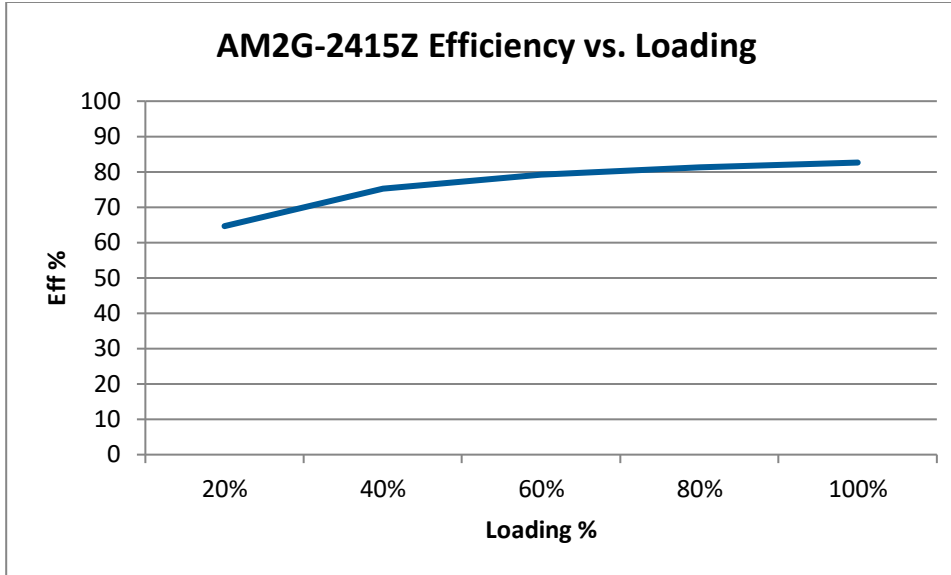


### Surge/EFT:



### Typical Efficiency Example Charts





**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](http://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 the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).