



#### 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 85%
- Remote ON / OFF Control



#### Models Single output

| Model        | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Maximum Capacitive Load (μF) | Input Current Full Load   No Load (mA) |    | Efficiency (%) |
|--------------|-------------------|--------------------|-------------------------|------------------------------|----------------------------------------|----|----------------|
| AM2GW-2403SZ | 9-36              | 3.3                | 500                     | 2200                         | 92                                     | 10 | 75             |
| AM2GW-2405SZ | 9-36              | 5                  | 400                     | 1000                         | 103                                    | 10 | 81             |
| AM2GW-2412SZ | 9-36              | 12                 | 165                     | 165                          | 100                                    | 10 | 84             |
| AM2GW-2415SZ | 9-36              | 15                 | 135                     | 100                          | 98                                     | 10 | 85             |
| AM2GW-4803SZ | 18-75             | 3.3                | 500                     | 2200                         | 46                                     | 5  | 75             |
| AM2GW-4805SZ | 18-75             | 5                  | 400                     | 1000                         | 53                                     | 5  | 80             |
| AM2GW-4812SZ | 18-75             | 12                 | 165                     | 165                          | 50                                     | 5  | 84             |
| AM2GW-4815SZ | 18-75             | 15                 | 135                     | 100                          | 50                                     | 5  | 84             |

#### Models Dual output

| Model        | Input Voltage (V) | Output Voltage (V) | Output Current Max (mA) | Maximum Capacitive Load (μF) | Input Current Full Load   No Load (mA) |    | Efficiency (%) |
|--------------|-------------------|--------------------|-------------------------|------------------------------|----------------------------------------|----|----------------|
| AM2GW-2405DZ | 9-36              | ±5                 | ±200                    | ±470                         | 103                                    | 10 | 81             |
| AM2GW-2412DZ | 9-36              | ±12                | ±85                     | ±100                         | 101                                    | 10 | 83             |
| AM2GW-2415DZ | 9-36              | ±15                | ±65                     | ±47                          | 102                                    | 15 | 82             |
| AM2GW-4805DZ | 18-75             | ±5                 | ±200                    | ±470                         | 53                                     | 5  | 80             |
| AM2GW-4812DZ | 18-75             | ±12                | ±85                     | ±100                         | 52                                     | 5  | 81             |
| AM2GW-4815DZ | 18-75             | ±15                | ±65                     | ±47                          | 50                                     | 5  | 84             |

#### Input Specifications

| Parameters                      | Nominal                                                                       | Typical       | Maximum   | Units  |
|---------------------------------|-------------------------------------------------------------------------------|---------------|-----------|--------|
| Voltage range                   | 24<br>48                                                                      | 9-36<br>18-75 |           | VDC    |
| Filter                          | Capacitor                                                                     |               |           |        |
| Start up time                   |                                                                               | 10            |           | ms     |
| Absolute Maximum Rating         | 24V <sub>in</sub><br>48V <sub>in</sub>                                        |               | 50<br>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 |

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

#### Isolation Specifications

| Parameters         | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec     |         | 1500  | VDC   |
| Resistance         |            | >1000   |       | MOhm  |
| Capacitance        |            | 500     |       | pF    |

### Output Specifications

| Parameters                   | Conditions                                            | Typical | Maximum | Units  |
|------------------------------|-------------------------------------------------------|---------|---------|--------|
| Voltage accuracy             |                                                       |         | ±1      | %      |
| Cross Regulation             | 25% load on output - 100% load 2 <sup>nd</sup> output | ±5      |         | %      |
| Short Circuit protection     | Hiccup, Continuous                                    |         |         |        |
| Short circuit restart        | Auto-Recovery                                         |         |         |        |
| Transient Response Deviation |                                                       |         | ±3      | %      |
| Transient Recovery Time      |                                                       | 300     |         | µs     |
| 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 |

### 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                                              | 4                       |         | %/°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                               | 26.00 x 9.30 x 12.50 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    |

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.

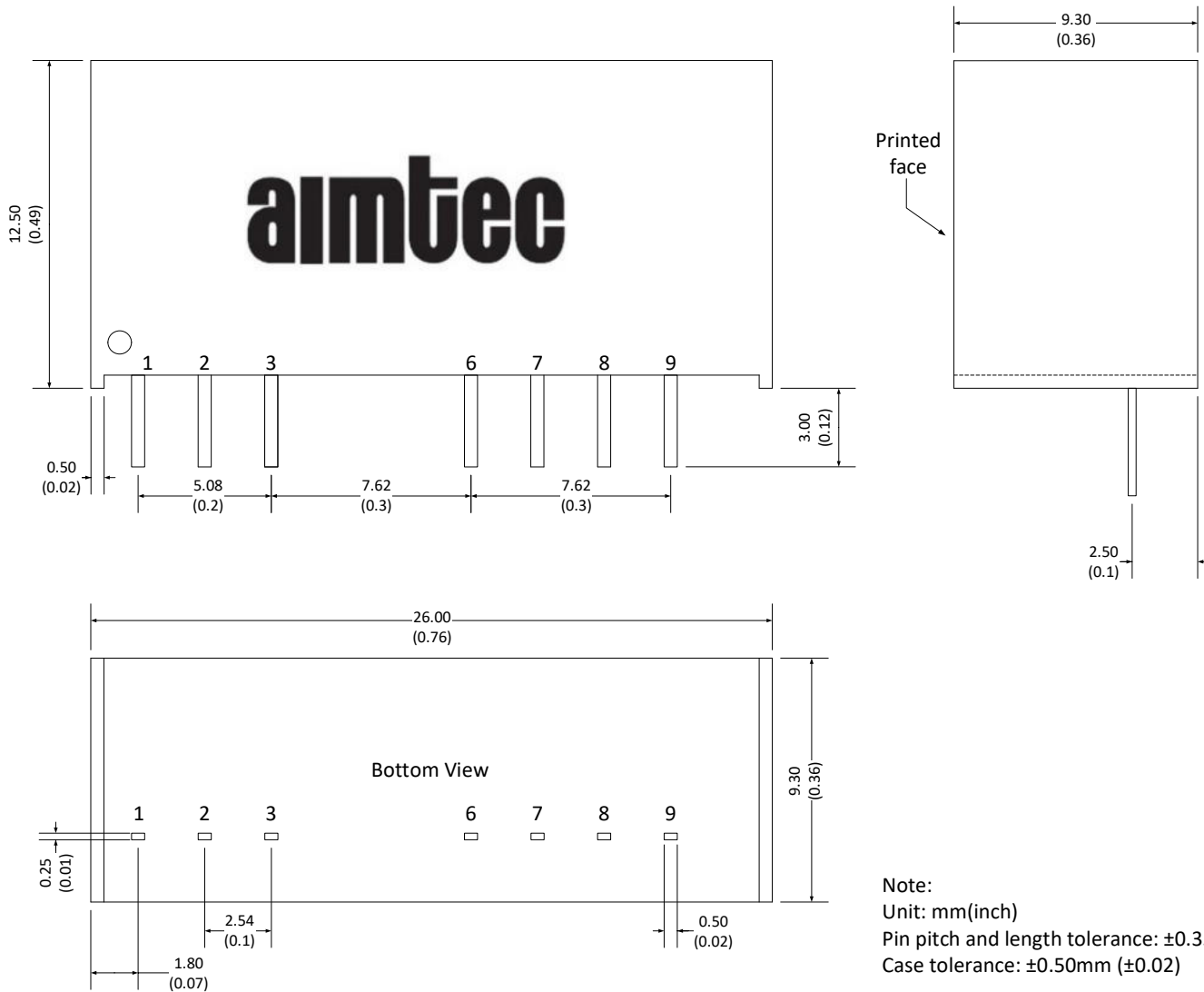
### Safety Specifications

| Parameters      |                                                                   |
|-----------------|-------------------------------------------------------------------|
| Agency Approval | CE, UL                                                            |
| Standards       | UL60950-1:2001; UL62368-1                                         |
|                 | EN55032 Class A, with the recommended 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 B (external 220uF/100V cap required) |
|                 | IEC61000-4-6, Perf. Criteria A                                    |
|                 | IEC61000-4-8, Perf. Criteria A                                    |

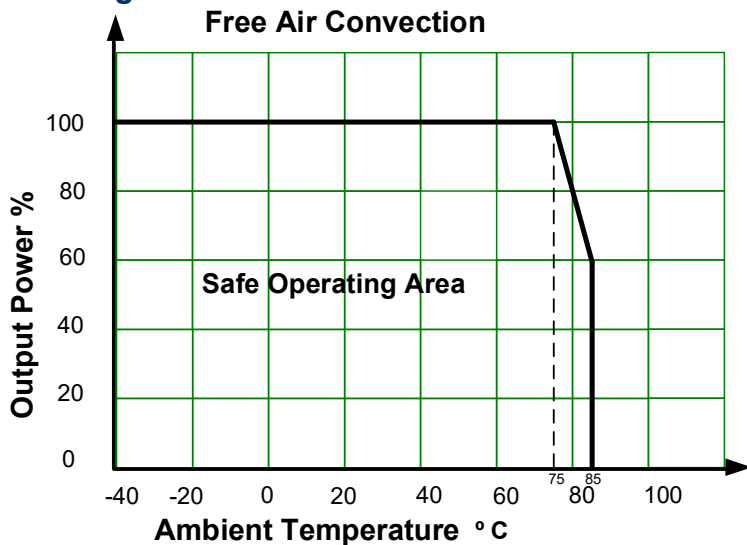
### Pin Out Specifications

| 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      |

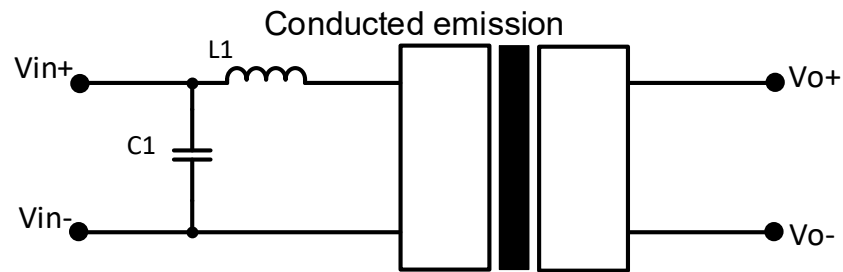
## Dimensions



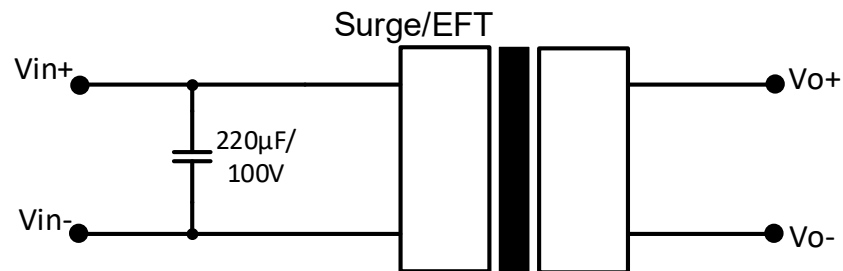
## Derating



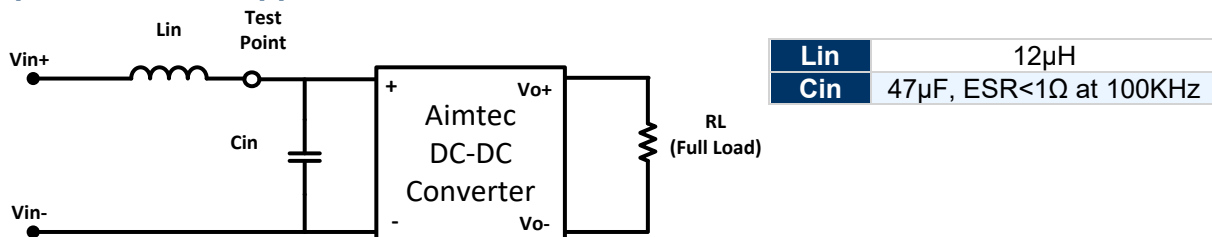
## Recommended Circuits



| Vin | C1                     | L1          |
|-----|------------------------|-------------|
| 24  | 2.2 $\mu$ F/100V, 2pcs | 6.8 $\mu$ H |
| 48  | 1 $\mu$ F/100V         | 56 $\mu$ H  |

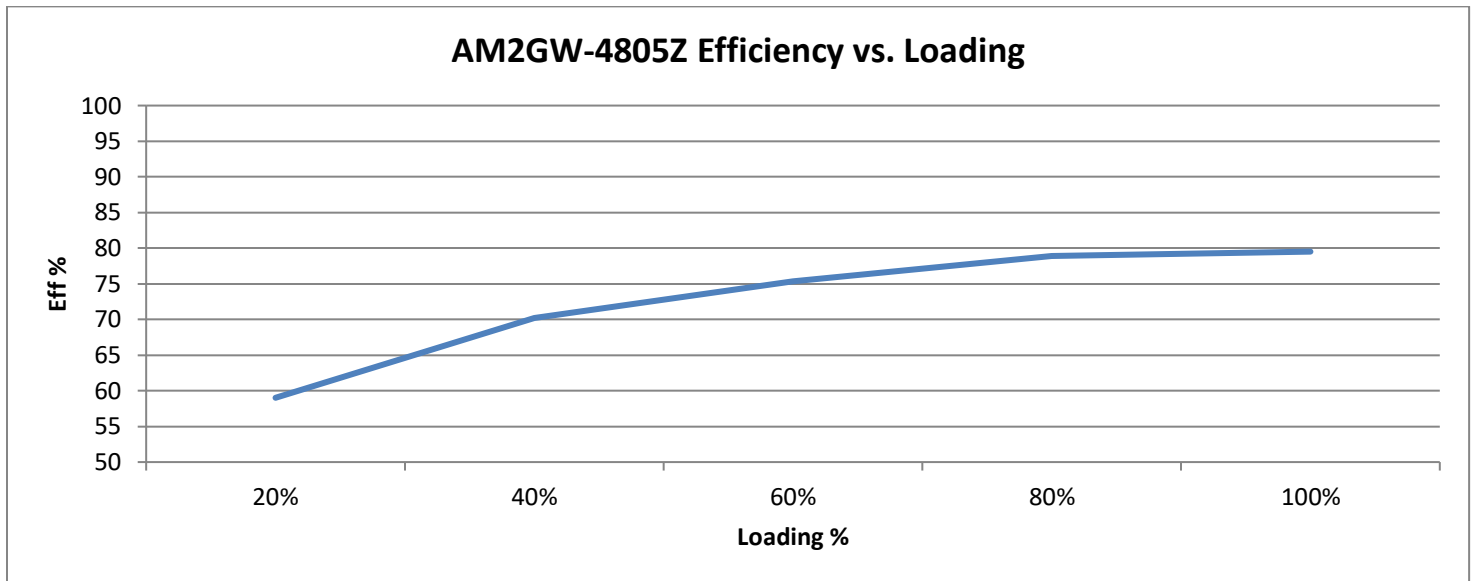
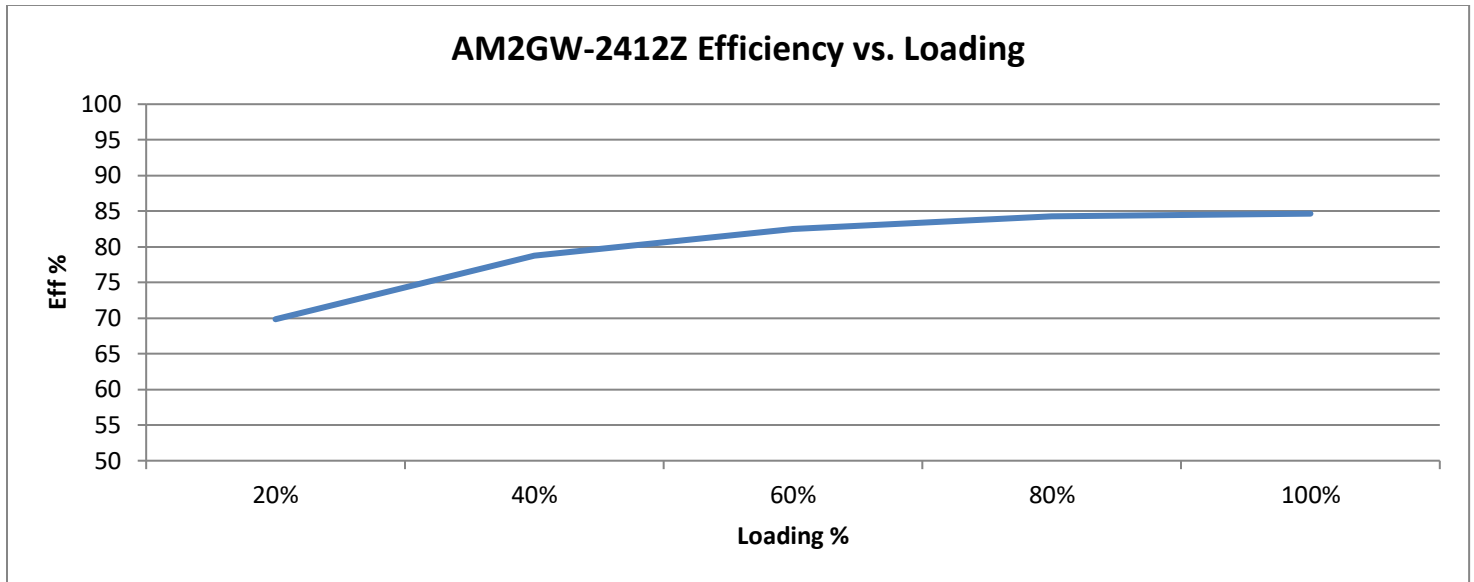


## Input Reflected Ripple current:



Measurement taken at nominal input and full load.

## Typical Efficiency Example Charts



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