# Series AM2Q-Z

## 2 Watt | DC-DC Converter


### FEATURES:

- RoHS Compliant
- Wide 2:1 input range
- High Efficiency up to 83%
- Continuous short circuit
- Operating Temperature -40ºC to 85ºC
- Input / Output Isolation of 500VAC
- No Tantalum capacitors used inside
- Over voltage protection

RoHS

## Models

### Dual output

| Model | Input Voltage (V) | Output Voltage (V) | Output Current max (mA) | Isolation (VAC) | Efficiency (%) |
|---|---|---|---|---|---|
| AM2Q-0512DZ | 4.5-9 | ±12 | ±65 | 500 | 82 |
| AM2Q-0515DZ | 4.5-9 | ±15 | ±50 | 500 | 81 |
| AM2Q-1212DZ | 9-18 | ±12 | ±65 | 500 | 83 |
| AM2Q-1215DZ | 9-18 | ±15 | ±50 | 500 | 83 |
| AM2Q-2412DZ | 18-36 | ±12 | ±65 | 500 | 81 |
| AM2Q-2415DZ | 18-36 | ±15 | ±50 | 500 | 82 |
| AM2Q-4812DZ | 36-75 | ±12 | ±65 | 500 | 80 |
| AM2Q-4815DZ | 36-75 | ±15 | ±50 | 500 | 79 |

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 | 4.5-9 | VDC |
| | 12 | 9-18 | 9-18 | |
| | 24 | 18-36 | 18-36 | |
| | 48 | 36-75 | 36-75 | |
| Filter | | LC Type | | |
| Start up time | | 20 | | ms |
| No Load Input Current | | 30 | | mA |
| Input reflected current | | 20 | | mA |

## Isolation Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Tested I/O voltage | 3sec | 500 | | VAC |
| Resistance | | 50 | | 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 the other output | ±5 | | % |
| Over voltage protection | Zener Diode Clamp | ±12 | ±15 | V |
| | | ±15 | ±18 | |
| Short Circuit protection | | Continuous | | |
| Short circuit restart | | Auto Recovery | | |
| Line voltage regulation (Dual) | LL-HL | ±0.5 | | % of Vin |
| Load voltage regulation (Dual) | Load:0-100% unbalanced | ±1 | | % |
| Temperature coefficient | | ±0.02 | | %/°C |
| Ripple & Noise | 20MHz Bandwidth | 50 | | mV p-p |
| Minimum Load Current | | 0 | | % of Max |

## General Specifications

| Parameters | Conditions | Typical | Maximum | Units |
|---|---|---|---|---|
| Switching frequency | 100% load | 100 | | KHz |
| Operating temperature | Derating above 60ºC | -40 to +85 | | °C |
| Storage temperature | | -40 to +125 | | °C |
| Maximum case temperature | | | 100 | °C |
| Cooling | | Free Air Convection | | |
| Humidity | | | 95 | % RH |
| Case material | | Nickel Coated Copper | | |
| Weight | | 10 | | g |
| Dimensions (L x W x H) | | 1.08 x 0.70x 0.28 inches 27.50 x 18.00 x 7.00 mm | | |
| MTBF | | >1.6Mhrs ( MIL-HDBK -217F, Ground Benign, t=+25°C ) | | |
| Transient recovery deviation | | ±3 | | % |

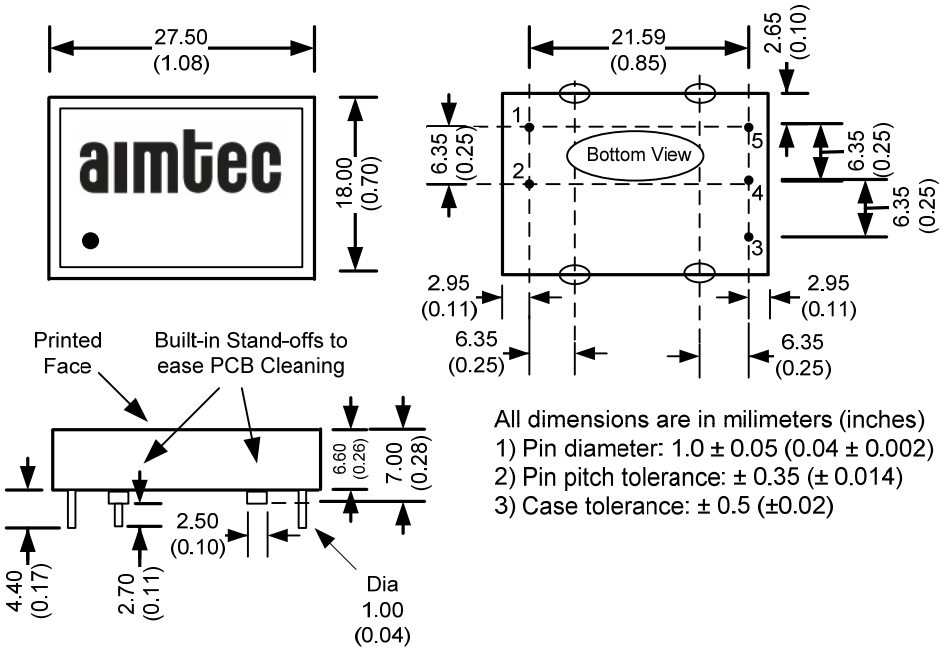
## Safety Specifications

| Parameters | |
|---|---|
| Standards | Designed to meet IEC/EN 60950-1 |

## Pin Out Specifications

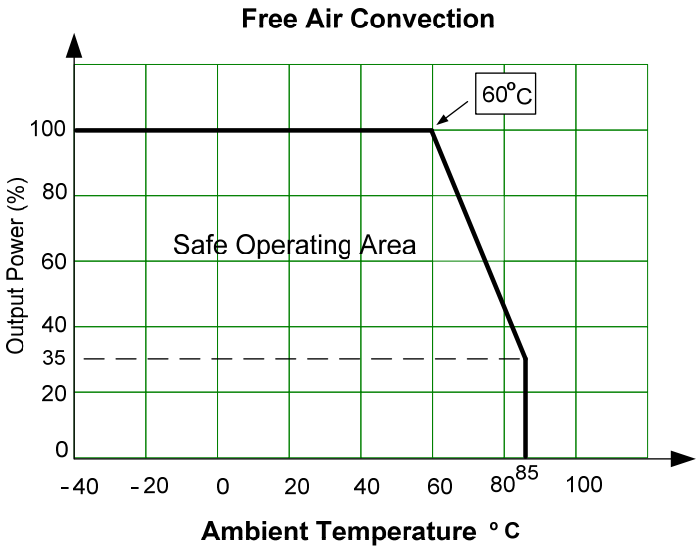
| Pin | 500 VDC |
|---|---|
| | Dual |
| 1 | -V Input |
| 2 | +V Input |
| 3 | +V Output |
| 4 | Common |
| 5 | -V Output |

## Dimensions




All dimensions are in milimeters (inches)
1) Pin diameter: 1.0 ± 0.05 (0.04 ± 0.002)
2) Pin pitch tolerance: ± 0.35 (± 0.014)
3) Case tolerance: ± 0.5 (±0.02)

## Derating




**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 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. **5.** 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.