

## Series AM8T-IZ

### 8 Watt | DC-DC Converter



#### FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- Wide 2:1 input range
- Power modules for PCB mounting
- Operating temperature -40°C to + 75°C
- Regulated output
- Low ripple and noise
- Input/output Isolation voltage 1500VDC



#### Models Single output

| Model        | Input Voltage (V) | Input Current FL   NL (mA) | Output Voltage (V) | Output Current max (mA) | Max Capacitive Load (uF) | Ripple & Noise max (mV p-p) | Efficiency (%) |
|--------------|-------------------|----------------------------|--------------------|-------------------------|--------------------------|-----------------------------|----------------|
| AM8T-0503SIZ | 4.5-9             | 1427   50                  | 3.3                | 1600                    | 2200                     | 80                          | 74             |
| AM8T-0505SIZ | 4.5-9             | 2133   50                  | 5                  | 1600                    | 1000                     | 80                          | 75             |
| AM8T-0512SIZ | 4.5-9             | 2084   30                  | 12                 | 660                     | 330                      | 120                         | 76             |
| AM8T-0515SIZ | 4.5-9             | 2092   30                  | 15                 | 530                     | 220                      | 150                         | 76             |
| AM8T-1203SIZ | 9-18              | 579   50                   | 3.3                | 1600                    | 2200                     | 80                          | 76             |
| AM8T-1205SIZ | 9-18              | 833   50                   | 5                  | 1600                    | 1000                     | 80                          | 80             |
| AM8T-1212SIZ | 9-18              | 805   30                   | 12                 | 660                     | 330                      | 120                         | 82             |
| AM8T-1215SIZ | 9-18              | 808   30                   | 15                 | 530                     | 220                      | 150                         | 82             |
| AM8T-2403SIZ | 18-36             | 278   40                   | 3.3                | 1600                    | 2200                     | 80                          | 79             |
| AM8T-2405SIZ | 18-36             | 407   40                   | 5                  | 1600                    | 1000                     | 80                          | 82             |
| AM8T-2412SIZ | 18-36             | 388   30                   | 12                 | 660                     | 330                      | 120                         | 85             |
| AM8T-2415SIZ | 18-36             | 399   30                   | 15                 | 530                     | 220                      | 150                         | 83             |
| AM8T-4803SIZ | 36-75             | 141   30                   | 3.3                | 1600                    | 2200                     | 80                          | 78             |
| AM8T-4805SIZ | 36-75             | 203   30                   | 5                  | 1600                    | 1000                     | 80                          | 82             |
| AM8T-4812SIZ | 36-75             | 201   20                   | 12                 | 660                     | 330                      | 120                         | 82             |
| AM8T-4815SIZ | 36-75             | 200   20                   | 15                 | 530                     | 220                      | 150                         | 83             |

#### Models Dual output

| Model        | Input Voltage (V) | Input Current FL   NL (mA) | Output Voltage (V) | Output Current max (mA) | Max Capacitive Load (uF) | Ripple & Noise max (mV p-p) | Efficiency (%) |
|--------------|-------------------|----------------------------|--------------------|-------------------------|--------------------------|-----------------------------|----------------|
| AM8T-0505DIZ | 4.5-9             | 2162   30                  | ±5                 | ±800                    | ±680                     | 80                          | 74             |
| AM8T-0512DIZ | 4.5-9             | 2057   30                  | ±12                | ±330                    | ±220                     | 120                         | 77             |
| AM8T-0515DIZ | 4.5-9             | 1975   30                  | ±15                | ±260                    | ±100                     | 150                         | 79             |
| AM8T-1205DIZ | 9-18              | 844   30                   | ±5                 | ±800                    | ±330                     | 80                          | 79             |
| AM8T-1212DIZ | 9-18              | 795   30                   | ±12                | ±330                    | ±220                     | 120                         | 83             |
| AM8T-1215DIZ | 9-18              | 802   30                   | ±15                | ±260                    | ±100                     | 150                         | 81             |
| AM8T-2405DIZ | 18-36             | 422   30                   | ±5                 | ±800                    | ±330                     | 80                          | 79             |
| AM8T-2412DIZ | 18-36             | 398   30                   | ±12                | ±330                    | ±220                     | 120                         | 83             |
| AM8T-2415DIZ | 18-36             | 392   30                   | ±15                | ±260                    | ±100                     | 150                         | 83             |
| AM8T-4805DIZ | 36-75             | 216   20                   | ±5                 | ±800                    | ±330                     | 80                          | 77             |
| AM8T-4812DIZ | 36-75             | 201   20                   | ±12                | ±330                    | ±220                     | 120                         | 82             |
| AM8T-4815DIZ | 36-75             | 203   20                   | ±15                | ±260                    | ±100                     | 150                         | 80             |

#### Input Specifications

| Parameters    | Nominal             | Typical                         | Maximum | Units |
|---------------|---------------------|---------------------------------|---------|-------|
| Voltage range | 5<br>12<br>24<br>48 | 4.5-9<br>9-18<br>18-36<br>36-75 |         | VDC   |
| Filter        | $\pi$ (Pi) Network  |                                 |         |       |

|                                       |                                     |  |                       |     |
|---------------------------------------|-------------------------------------|--|-----------------------|-----|
| Absolute Maximum Rating               | 5 Vin<br>12 Vin<br>24 Vin<br>48 Vin |  | 16<br>25<br>50<br>100 | VDC |
| Permissible absolute maximum duration |                                     |  | 100                   | ms  |

### Isolation Specifications

| Parameters         | Conditions | Typical | Rated | Units |
|--------------------|------------|---------|-------|-------|
| Tested I/O voltage | 60 sec     |         | 1500  | VDC   |
| Resistance         |            | > 1000  |       | MOhm  |
| Capacitance        |            | 256     |       | pF    |

### Output Specifications

| Parameters                       | Conditions     | Typical             | Maximum | Units |
|----------------------------------|----------------|---------------------|---------|-------|
| Voltage accuracy                 |                | ±2                  |         | %     |
| Short Circuit protection         |                | Continuous          |         |       |
| Short Circuit restart            |                | Auto recovery       |         |       |
| Over voltage protection          |                | Zener diode clamp   |         |       |
| Over load protection             | Auto recovery  | Over 110% full load |         |       |
| Line voltage regulation (Single) | HL-LL          | ±0.5                |         | %     |
| Line voltage regulation (Dual)   | HL-LL          | ±0.5                |         | %     |
| Load voltage regulation (Single) | 25 – 100% load | ±0.5                |         | %     |
| Load voltage regulation (Dual)   | 25 – 100% load | ±2                  |         | %     |
| Temperature coefficient          |                | ±0.05               |         | %/°C  |

### General Specifications

| Parameters               | Conditions                   | Typical                                                | Maximum                  | Units |
|--------------------------|------------------------------|--------------------------------------------------------|--------------------------|-------|
| Switching frequency      | 100% load                    | 300                                                    |                          | KHz   |
| Operating temperature    | Derating above +70 °C        | -40 to +75                                             |                          | °C    |
| Storage temperature      |                              | -55 to +115                                            |                          | °C    |
| Maximum Case temperature |                              |                                                        | +95                      | °C    |
| Cooling                  |                              | Free air convection                                    |                          |       |
| Humidity                 |                              |                                                        | 95                       | %     |
| Case material            |                              | Nickel coated cooper                                   |                          |       |
| Weight                   |                              | 33                                                     |                          | g     |
| Dimensions (L x W x H)   | Tolerance ±0.02 inch, ±0.5mm | 1.25 x 0.80 x 0.42 inches                              | 31.80 x 20.30 x 10.80 mm |       |
| MTBF                     |                              | > 800 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°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.

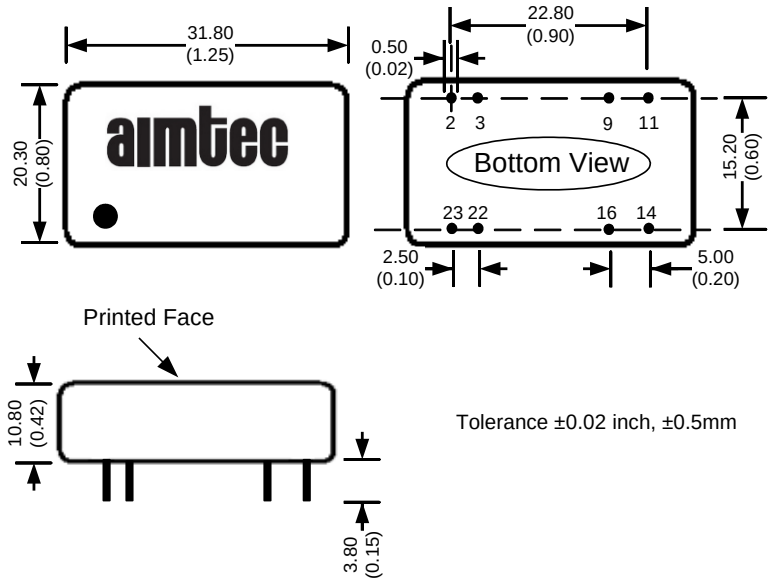
### Safety Specifications

| Standards        |                                    |
|------------------|------------------------------------|
| Agency approvals | CE                                 |
| Safety           | EN 55022: 2006 + A1: 2007          |
|                  | EN 55024: 1998 + A1:2001 + A2:2003 |
|                  | IEC 61000-4-2: 2008                |
|                  | IEC 61000-4-3: 2006 + A1: 2007     |
|                  | IEC 61000-4-4: 2004                |
|                  | IEC 61000-4-6: 2008                |
|                  | IEC 61000-4-8: 2009                |

## Pin Out Specifications

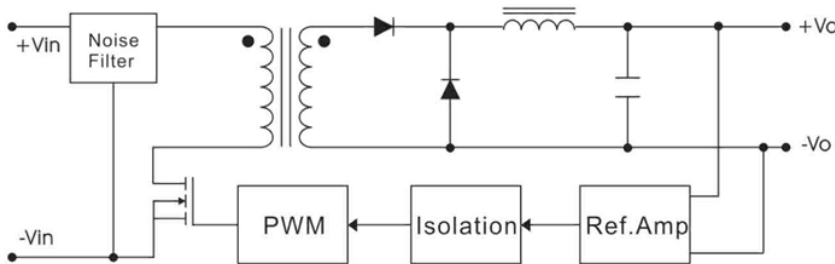
| Pin | Single    | Dual       |
|-----|-----------|------------|
| 2   | -V Input  | -V Input   |
| 3   | -V Input  | -V Input   |
| 9   | N.C.      | Common     |
| 10  | Omitted   | Omitted    |
| 11  | N.C.      | -V Output  |
| 14  | +V Output | + V Output |
| 15  | Omitted   | Omitted    |
| 16  | -V Output | Common     |
| 22  | +V Input  | +V Input   |
| 23  | +V Input  | +V Input   |

## Dimensions

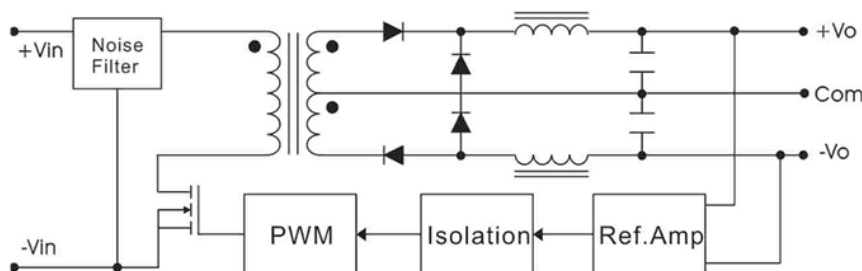


## Block Diagrams

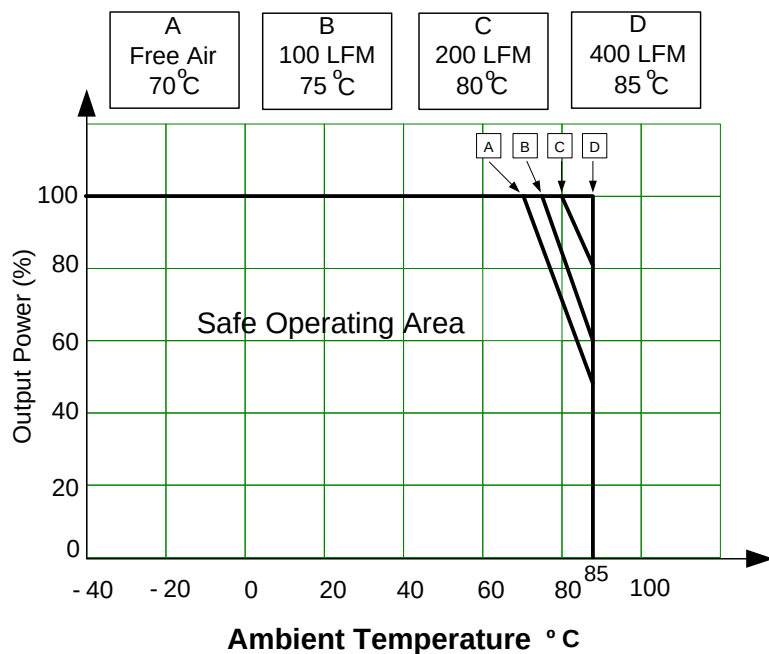
### Single Output



### Dual Output



## Derating



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