

# AM5T Series



## 5 watt dc-dc converters

- 24-PIN DIP PACKAGE
- WIDE 2:1 INPUT RANGE
- HIGH EFFICIENCY UP TO 80%
- LOW PROFILE METAL PACKAGE
- INPUT/OUTPUT ISOLATION: 1500 & 3500 VDC
- CONTINUOUS SHORT CIRCUIT PROTECTION
- OPERATING TEMPERATURE: -40°C ... +85°C
- PIN-COMPATIBLE WITH MULTIPLE MANUFACTURERS

### GENERAL DESCRIPTION

Our AM5T series is a family of cost effective 5W single and dual output DC-DC converters. Input voltages of 12, 24 & 48 VDC with output voltages of 3.3, 5, 7.2, 9, 12, 15,

18, 24,  $\pm 3.3$ ,  $\pm 5$ ,  $\pm 7.2$ ,  $\pm 9$ ,  $\pm 12$ ,  $\pm 15$ ,  $\pm 18$  &  $\pm 24$ VDC. Full SMD-design and a 100% production test of parameters ensures a high reliability in this product.

### ELECTRICAL SPECIFICATIONS

Specifications typical at +25°C, nominal input voltage, rated output current unless otherwise stated.

#### Input Specifications:

|               |   |
|---------------|---|
| Voltage range | 12VDC, 9~18 VDC<br>24VDC, 18~36 VDC<br>48VDC, 36~72 VDC |
| Filter        | $\pi$ (Pi) Network                                      |

#### Isolation Specifications:

|                        |                  |
|------------------------|------------------|
| Rated voltage (60 sec) | 1500 & 3500VDC   |
| Resistance             | > 1000M $\Omega$ |
| Capacitance            | 120pF, typ.      |

#### Environmental Specifications:

|                                 |                     |
|---------------------------------|---------------------|
| Operating temperature (ambient) | -40°C ... +85°C     |
| Storage temperature             | -55°C ... +125°C    |
| Case temperature                | +100°C, max.        |
| Derating                        | None required       |
| Humidity (non-condensing)       | Up to 90%           |
| Cooling                         | Free-air convection |

#### General Specifications:

|                     |                        |
|---------------------|------------------------|
| Efficiency          | 74% to 80%             |
| Switching Frequency | 250KHz, typ. 100% load |

#### Output Specifications:

|                               |                        |
|-------------------------------|------------------------|
| Voltage accuracy              | $\pm 1\%$ max.         |
| Voltage balance (Dual Output) | $\pm 1\%$              |
| Ripple & Noise (at 20MHz BW)  | 60m Vp-p, max.         |
| Short circuit protection      | Continuous             |
| Short circuit restart         | Automatic              |
| Line voltage regulation       | $\pm 0.5\%$ , max.     |
| Load voltage regulation       | $\pm 0.5\%$ , max.     |
| Temperature coefficient       | $\pm 0.02\%$ /°C, typ. |

#### Physical Specifications:

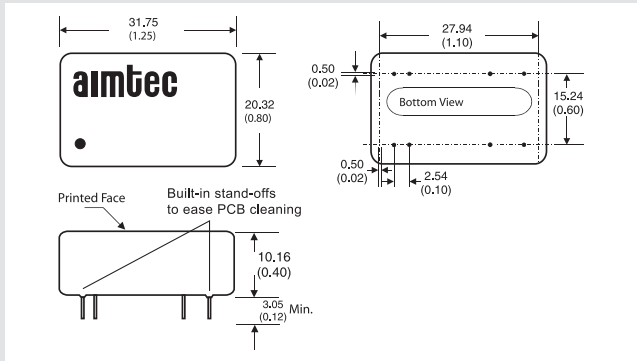
|               |  |
|---------------|--|
| Dimensions    | 31.75x20.32x10.16mm<br>1.25x0.8x0.4 inches |
| Weight        | 19g  |
| Case material | Nickel-Coated Copper                       |

MTBF: > 1,009,000 hrs (MIL-HDBK-217F, Ground Benign, t=+25°C)

Specifications are subject to change without notification

# AM5T Series

## OUTLINE DIMENSIONS & PIN CONNECTIONS



| Pin | 1500 & 3500 VDC |           |
|-----|-----------------|-----------|
|     | Single          | Dual      |
| 2   | -V Input        | -V Input  |
| 3   | -V Input        | -V Input  |
| 9   | N.C.            | Common    |
| 11  | N.C.            | -V Output |
| 14  | +V Output       | +V Output |
| 16  | -V Output       | Common    |
| 22  | +V Input        | +V Input  |
| 23  | +V Input        | +V Input  |

## MODELS

Single output

| Models            |                   | Input Voltage  | Output Voltage | Output Current max. |
|-------------------|-------------------|----------------|----------------|---------------------|
| Isolation 1500VDC | Isolation 3500VDC |                |                |                     |
| AM5T-1203S        | AM5T-1203SH35     | 9VDC - 18VDC   | 3.3VDC         | 1250mA              |
| AM5T-1205S        | AM5T-1205SH35     |                | 5VDC           | 1000mA              |
| AM5T-1207S        | AM5T-1207SH35     |                | 7.2VDC         | 694mA               |
| AM5T-1209S        | AM5T-1209SH35     |                | 9VDC           | 556mA               |
| AM5T-1212S        | AM5T-1212SH35     |                | 12VDC          | 417mA               |
| AM5T-1215S        | AM5T-1215SH35     |                | 15VDC          | 333mA               |
| AM5T-1218S        | AM5T-1218SH35     |                | 18VDC          | 278mA               |
| AM5T-1224S        | AM5T-1224SH35     |                | 24VDC          | 208mA               |
| AM5T-2403S        | AM5T-2403SH35     |                | 18VDC - 36VDC  | 3.3VDC              |
| AM5T-2405S        | AM5T-2405SH35     | 5VDC           |                | 1000mA              |
| AM5T-2407S        | AM5T-2407SH35     | 7.2VDC         |                | 694mA               |
| AM5T-2409S        | AM5T-2409SH35     | 9VDC           |                | 556mA               |
| AM5T-2412S        | AM5T-2412SH35     | 12VDC          |                | 417mA               |
| AM5T-2415S        | AM5T-2415SH35     | 15VDC          |                | 333mA               |
| AM5T-2418S        | AM5T-2418SH35     | 18VDC          |                | 278mA               |
| AM5T-2424S        | AM5T-2424SH35     | 24VDC          |                | 208mA               |
| AM5T-4803S        | AM5T-4803SH35     | 36VDC - 72 VDC |                | 3.3VDC              |
| AM5T-4805S        | AM5T-4805SH35     |                | 5VDC           | 1000mA              |
| AM5T-4807S        | AM5T-4807SH35     |                | 7.2VDC         | 694mA               |
| AM5T-4809S        | AM5T-4809SH35     |                | 9VDC           | 556mA               |
| AM5T-4812S        | AM5T-4812SH35     |                | 12VDC          | 417mA               |
| AM5T-4815S        | AM5T-4815SH35     |                | 15VDC          | 333mA               |
| AM5T-4818S        | AM5T-4818SH35     |                | 18VDC          | 278mA               |
| AM5T-4824S        | AM5T-4824SH35     |                | 24VDC          | 208mA               |

DC-DC CONVERTERS

# AM5T Series

## MODELS Dual output

DC-DC CONVERTERS

| Models            |                   | Input Voltage | Ouput Voltage | Ouput Current max. |
|-------------------|-------------------|---------------|---------------|--------------------|
| Isolation 1500VDC | Isolation 3500VDC |               |               |                    |
| AM5T-1203D        | AM5T-1203DH35     | 9VDC - 18VDC  | ±3.3VDC       | ±625mA             |
| AM5T-1205D        | AM5T-1205DH35     |               | ±5VDC         | ±500mA             |
| AM5T-1207D        | AM5T-1207DH35     |               | ±7.2VDC       | ±347mA             |
| AM5T-1209D        | AM5T-1209DH35     |               | ±9VDC         | ±278mA             |
| AM5T-1212D        | AM5T-1212DH35     |               | ±12VDC        | ±209mA             |
| AM5T-1215D        | AM5T-1215DH35     |               | ±15VDC        | ±167mA             |
| AM5T-1218D        | AM5T-1218DH35     |               | ±18VDC        | ±139mA             |
| AM5T-1224D        | AM5T-1224DH35     |               | ±24VDC        | ±104mA             |
| AM5T-2403D        | AM5T-2403DH35     |               | 18VDC - 36VDC | ±3.3VDC            |
| AM5T-2405D        | AM5T-2405DH35     | ±5VDC         |               | ±500mA             |
| AM5T-2407D        | AM5T-2407DH35     | ±7.2VDC       |               | ±347mA             |
| AM5T-2409D        | AM5T-2409DH35     | ±9VDC         |               | ±278mA             |
| AM5T-2412D        | AM5T-2412DH35     | ±12VDC        |               | ±209mA             |
| AM5T-2415D        | AM5T-2415DH35     | ±15VDC        |               | ±167mA             |
| AM5T-2418D        | AM5T-2418DH35     | ±18VDC        |               | ±139mA             |
| AM5T-2424D        | AM5T-2424DH35     | ±24VDC        |               | ±104mA             |
| AM5T-4803D        | AM5T-4803DH35     | 36VDC - 72VDC |               | ±3.3VDC            |
| AM5T-4805D        | AM5T-4805DH35     |               | ±5VDC         | ±500mA             |
| AM5T-4807D        | AM5T-4807DH35     |               | ±7.2VDC       | ±347mA             |
| AM5T-4809D        | AM5T-4809DH35     |               | ±9VDC         | ±278mA             |
| AM5T-4812D        | AM5T-4812DH35     |               | ±12VDC        | ±209mA             |
| AM5T-4815D        | AM5T-4815DH35     |               | ±15VDC        | ±167mA             |
| AM5T-4818D        | AM5T-4818DH35     |               | ±18VDC        | ±139mA             |
| AM5T-4824D        | AM5T-4824DH35     |               | ±24VDC        | ±104mA             |