

## 2 watt dc-dc converters

- REGULATED SINGLE OUTPUT
- 12 PIN SIP PACKAGE
- LOW RIPPLE & NOISE
- HIGH EFFICIENCY UP TO 68%
- INPUT/OUTPUT ISOLATION: 1000, 3000 & 5200VDC
- OPERATING TEMPERATURE: -25°C ... +71°C
- PIN-COMPATIBLE WITH MULTIPLE MANUFACTURERS

## GENERAL DESCRIPTION

Our AM2F series is a family of cost effective 2W single output DC-DC converters. These converters combine miniature package in a 12-pin SIP compatible case with high performance features such as 1000VDC, 3000VDC & 5200VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation. Input voltages of 5, 12 & 24VDC with producing output voltage levels of 3.3, 5, 7.2, 9, 12, 15, 18, 24VDC. High

performance features include high efficiency operation up to 68% and output voltage accuracy of  $\pm 2\%$  maximum. Standard features include an input range of  $\pm 10\%$  tolerance and low output noise and ripple. All models are package in a low profile 31.80x8.60x13.47mm 12 pin SIP non-conductive black plastic case. Operation is specified over the full operating temperature range of -25°C to +71°C with no derating required. Cooling is by free-air convection.

## ELECTRICAL SPECIFICATIONS

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

### Input Specifications:

|               |                |
|---------------|----------------|
| Voltage range | $\pm 10\%$     |
| Filter        | p (Pi) Network |

### Isolation Specifications:

|                        |                      |
|------------------------|----------------------|
| Rated voltage (60 sec) | 1000, 3000 & 5200VDC |
| Resistance             | > 1000MOhm           |
| Capacitance            | 60pF, typ.           |

### Output Specifications:

|                              |                                      |
|------------------------------|--------------------------------------|
| Voltage accuracy             | $\pm 2\%$ , max.                     |
| Ripple & noise (at 20MHz BW) | 75mVp-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      | $\pm 0.02\%/^{\circ}\text{C}$ , typ. |

### General Specifications:

|                     |                        |
|---------------------|------------------------|
| Efficiency          | 64% to 68%             |
| Switching frequency | 125KHz, typ. 100% load |

### Environmental Specifications:

|                                 |                     |
|---------------------------------|---------------------|
| Operating temperature (ambient) | -25°C ... +71°C     |
| Storage temperature             | -40°C ... +125°C    |
| Case temperature                | +90°C, max.         |
| Derating                        | None required       |
| Humidity (non-condensing)       | Up to 90%           |
| Cooling                         | Free-air Convection |

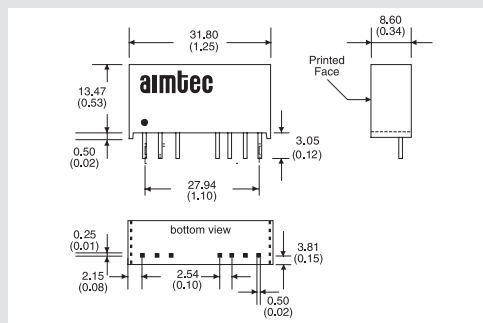
### Physical Specifications:

|               |                                            |
|---------------|--------------------------------------------|
| Dimensions    | 31.80x8.60x13.47mm<br>1.25x0.34x0.53inches |
| Weight        | 10.7g                                      |
| Case material | Non-conductive black plastic               |

MTBF: > 1,024,000 hrs (MIL-HDBK-217F, Ground Benign,  $t=+25^{\circ}\text{C}$ )

Specifications are subject to change without notification

## OUTLINE DIMENSIONS & PIN CONNECTIONS



| Pin | 1000, 3000 & 5200VDC |
|-----|----------------------|
|     | Single               |
| 1   | +V Input             |
| 2   | N.C.                 |
| 3   | N.C.                 |
| 9   | N.C.                 |
| 10  | -V Output            |
| 11  | +V Output            |
| 12  | -V Input             |

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# AM2F Series

## MODELS

Single regulated output

DC-DC CONVERTERS

| Models            |                   |                   | Input Voltage | Output Voltage | Output Current max. |
|-------------------|-------------------|-------------------|---------------|----------------|---------------------|
| Isolation 1000VDC | Isolation 3000VDC | Isolation 5200VDC |               |                |                     |
| AM2F-0503S        | AM2F-0503SH30     | AM2F-0503SH52     | 5V±10%        | 3.3VDC         | 600mA               |
| AM2F-0505S        | AM2F-0505SH30     | AM2F-0505SH52     |               | 5VDC           | 400mA               |
| AM2F-0507S        | AM2F-0507SH30     | AM2F-0507SH52     |               | 7.2VDC         | 278mA               |
| AM2F-0509S        | AM2F-0509SH30     | AM2F-0509SH52     |               | 9VDC           | 222mA               |
| AM2F-0512S        | AM2F-0512SH30     | AM2F-0512SH52     |               | 12VDC          | 167mA               |
| AM2F-0515S        | AM2F-0515SH30     | AM2F-0515SH52     |               | 15VDC          | 134mA               |
| AM2F-0518S        | AM2F-0518SH30     | AM2F-0518SH52     |               | 18VDC          | 111mA               |
| AM2F-0524S        | AM2F-0524SH30     | AM2F-0524SH52     |               | 24VDC          | 83mA                |
| AM2F-1203S        | AM2F-1203SH30     | AM2F-1203SH52     | 12V±10%       | 3.3VDC         | 600mA               |
| AM2F-1205S        | AM2F-1205SH30     | AM2F-1205SH52     |               | 5VDC           | 400mA               |
| AM2F-1207S        | AM2F-1207SH30     | AM2F-1207SH52     |               | 7.2VDC         | 278mA               |
| AM2F-1209S        | AM2F-1209SH30     | AM2F-1209SH52     |               | 9VDC           | 222mA               |
| AM2F-1212S        | AM2F-1212SH30     | AM2F-1212SH52     |               | 12VDC          | 167mA               |
| AM2F-1215S        | AM2F-1215SH30     | AM2F-1215SH52     |               | 15VDC          | 134mA               |
| AM2F-1218S        | AM2F-1218SH30     | AM2F-1218SH52     |               | 18VDC          | 111mA               |
| AM2F-1224S        | AM2F-1224SH30     | AM2F-1224SH52     |               | 24VDC          | 83mA                |
| AM2F-2403S        | AM2F-2403SH30     | AM2F-2403SH52     | 24V±10%       | 3.3VDC         | 600mA               |
| AM2F-2405S        | AM2F-2405SH30     | AM2F-2405SH52     |               | 5VDC           | 400mA               |
| AM2F-2407S        | AM2F-2407SH30     | AM2F-2407SH52     |               | 7.2VDC         | 278mA               |
| AM2F-2409S        | AM2F-2409SH30     | AM2F-2409SH52     |               | 9VDC           | 222mA               |
| AM2F-2412S        | AM2F-2412SH30     | AM2F-2412SH52     |               | 12VDC          | 167mA               |
| AM2F-2415S        | AM2F-2415SH30     | AM2F-2415SH52     |               | 15VDC          | 134mA               |
| AM2F-2418S        | AM2F-2418SH30     | AM2F-2418SH52     |               | 18VDC          | 111mA               |
| AM2F-2424S        | AM2F-2424SH30     | AM2F-2424SH52     |               | 24VDC          | 83mA                |