

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 |

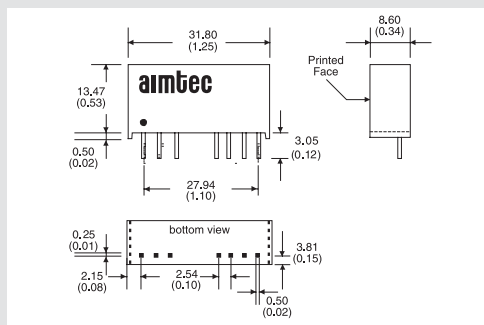
Physical Specifications:

| | |
|---------------|--|
| Dimensions | 31.80x8.60x13.47mm 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 |