AM3TW Series



3 watt dc-dc converters

- 24-PIN DIP PACKAGE
- LOW PROFILE METAL PACKAGE
- HIGH EFFICIENCY UP TO 79%
- WIDE 4:1 INPUT RANGE
- INPUT/OUTPUT ISOLATION: 1500 & 3500VDC
- OPERATING TEMPERATURE: -40°C ... +85°C
- PIN-COMPATIBLE WITH MULTIPLE MANUFACTURERS
- CONTINUOUS SHORT CIRCUIT PROTECTION

GENERAL DESCRIPTION

Our AM3TW series is a family of cost effective 3W single and dual output DC-DC converters. These converters combine nickel-coated copper package in a 24-pin DIP compatible case with high performance features such as 1500 & 3500VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation. Wide range devices operate over 4:1 input voltage range providing stable output voltage. Devices are encapsulated using flame retardant resin. Input voltages of 24 & 48VDC with output voltages of 3.3, 5, 7.2, 9, 12, 15, 18, 24, ±3.3, ±5, ±7.2, ±9, ±12, ±15, ±18 & ±24VDC. High performance features include high efficiency operation up to 79% and output voltage accuracy of ±1% maximum. All models are packaged in a low profile 31.75x20.32x10.16mm 24 pin DIP nickel-coated copper case. Operation is specified over the full operating temperature range of -40°C to +85°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	24 VDC, 9~36VDC 48 VDC, 18~72VDC
Filter	p (Pi) Network

Isolation Specifications:

Rated voltage	1500 & 3500VDC
Resistance	> 1000MOhm
Capacitance	80pF, typ.

General Specifications:

Efficiency	75% to 79%
Switching Frequency	250KHz, typ. 100% load

Physical Specifications:

Dimensions	31.75x20.32x10.16mm 1.25x0.8x0.4 inches
Weight	21g
Case material	Nickel-Coated Copper

Output Specifications:

Voltage accuracy	±1%, max.
Voltage balance (Dual Output)	±1%
Ripple & noise (at 20MHz BW)	60mVp-p, max.
Short circuit protection	Continuous
Short circuit restart	Automatic
Line voltage regulation	±0.5%, max.
Load voltage regulation	±0.5%, max.
Temperature Coefficient	±0.02%/°C, typ.

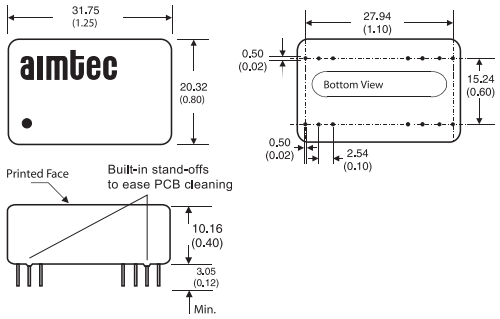
Environmental Specifications:

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

MTBF: >1 222000 hrs (MIL-HDBK-217F, Ground Benign, t=+25°C)

Specifications are subject to change without notification

OUTLINE DIMENSIONS & PIN CONNECTIONS



Pin	1500VDC		3500VDC	
	Single	Dual	Single	Dual
1	+V Input	+V Input	Omitted	Omitted
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	Omitted	Omitted	N.C.	Common
10	-V Output	Common	Omitted	Omitted
11	+V Output	+V Output	N.C.	-V Output
12/13	-V Input	-V Input	Omitted	Omitted
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	Omitted	Omitted
16	Omitted	Omitted	-V Output	Common
22	N.C.	Common	+V Input	+V Input
23	N.C.	-V Output	+V Input	+V Input
24	+V Input	+V Input	Omitted	Omitted

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MODELS

Single output

Models		Input Voltage	Ouput Voltage	Ouput Current max.
Isolation 1500VDC	Isolation 3500VDC			
AM3TW-2403S	AM3TW-2403SH35	9VDC - 36VDC	3.3VDC	800mA
AM3TW-2405S	AM3TW-2405SH35		5VDC	600mA
AM3TW-2407S	AM3TW-2407SH35		7.2VDC	417mA
AM3TW-2409S	AM3TW-2409SH35		9VDC	333mA
AM3TW-2412S	AM3TW-2412SH35		12VDC	250mA
AM3TW-2415S	AM3TW-2415SH35		15VDC	200mA
AM3TW-2418S	AM3TW-2418SH35		18VDC	167mA
AM3TW-2424S	AM3TW-2424SH35		24VDC	125mA
AM3TW-4803S	AM3TW-4803SH35	18VDC - 72VDC	3.3VDC	800mA
AM3TW-4805S	AM3TW-4805SH35		5VDC	600mA
AM3TW-4807S	AM3TW-4807SH35		7.2VDC	417mA
AM3TW-4809S	AM3TW-4809SH35		9VDC	333mA
AM3TW-4812S	AM3TW-4812SH35		12VDC	250mA
AM3TW-4815S	AM3TW-4815SH35		15VDC	200mA
AM3TW-4818S	AM3TW-4818SH35		18VDC	167mA
AM3TW-4824S	AM3TW-4824SH35		24VDC	125mA

Dual output

Models		Input Voltage	Ouput Voltage	Ouput Current max.
Isolation 1500VDC	Isolation 3500VDC			
AM3TW-2403D	AM3TW-2403DH35	9VDC - 36VDC	±3.3VDC	±400mA
AM3TW-2405D	AM3TW-2405DH35		±5VDC	±300mA
AM3TW-2407D	AM3TW-2407DH35		±7.2VDC	±208mA
AM3TW-2409D	AM3TW-2409DH35		±9VDC	±167mA
AM3TW-2412D	AM3TW-2412DH35		±12VDC	±125mA
AM3TW-2415D	AM3TW-2415DH35		±15VDC	±100mA
AM3TW-2418D	AM3TW-2418DH35		±18VDC	±84mA
AM3TW-2424D	AM3TW-2424DH35		±24VDC	±63mA
AM3TW-4803D	AM3TW-4803DH35	18VDC - 72VDC	±3.3VDC	±400mA
AM3TW-4805D	AM3TW-4805DH35		±5VDC	±300mA
AM3TW-4807D	AM3TW-4807DH35		±7.2VDC	±208mA
AM3TW-4809D	AM3TW-4809DH35		±9VDC	±167mA
AM3TW-4812D	AM3TW-4812DH35		±12VDC	±125mA
AM3TW-4815D	AM3TW-4815DH35		±15VDC	±100mA
AM3TW-4818D	AM3TW-4818DH35		±18VDC	±84mA
AM3TW-4824D	AM3TW-4824DH35		±24VDC	±63mA