AM5TW Series



5 watt dc-dc converters

- 24 PIN DIL PACKAGE
- LOW PROFILE METAL PACKAGE
- HIGH EFFICIENCY UP TO 80%
- WIDE 4:1 INPUT RANGE
- INPUT/OUTPUT ISOLATION: 1500 or 3500VDC
- OPERATING TEMPERATURE: -40˚C ... +85˚C
- PIN-COMPATIBLE WITH OTHER MANUFACTURERS
- CONTINUOUS SHORT CIRCUIT PROTECTION

GENERAL DESCRIPTION

The AM5TW series is a family of cost effective 5W single and dual outputs DC-DC converters. These converters combine nickel-coated copper package in a 24-pin DIL compatible case with high performance features such as 1500VDC or 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 and 48VDC with output voltages of 3.3, 5, 7.2, 9, 12, 15, 18, 24, ±3.3, ±5, ±7.2, ±9, ±12, ±15, ±18 or ±24VDC. High performance features include high efficiency operation up to 80% and output voltage accuracy of ±1% maximum.
All models are packaged in a low profile 31.75x20.32x10.16mm 24 pin DIL nickel-coated copper case. Operation is specified over the full operating temperature range of -40ºC to +85ºC with no derating required. Cooling is by free-air convection.

ELECTRICAL SPECIFICATIONS

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

Input Specifications:	
Voltage range	24 VDC, 9~36VDC 48 VDC, 18~72VDC
Filter	π (Pi) Network

Isolation Specifications:	
Rated voltage	1500, 3500VDC
Leakage current	1mA
Resistance	> 1000MOhm
Capacitance	80pF, typ

General Specifications:	
Efficiency	74% to 80%
Switching frequency	250KHz, typ

Physical Specifications	
Dimensions	31.75x20.32x10.16mm 1.25x0.80x0.40inches
Weight	26g
Case material	Nickel-Coated Copper

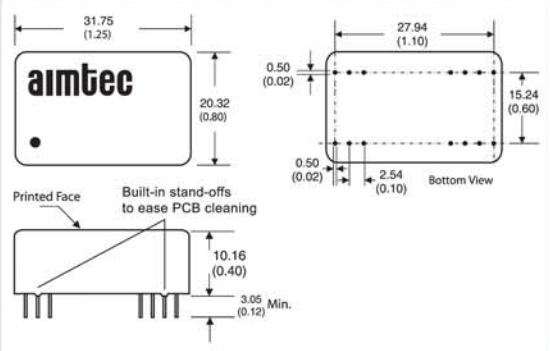
Output Specifications:	
Voltage accuracy	±1%, max
Voltage balance (dual outputs)	±1%
Ripple and noise (at 20MHz BW)	60mVp-p, max
Short circuit protection	Continuous
Short circuit restart	Automatic
Line voltage regulation	±0.5%, max
Load voltage regulation	±0.5%, max
Temperature coefficient	±0.02%/ºC

Environmental Specifications:	
Operating temperature (ambient)	-40ºC ... +85ºC
Storage temperature	-55ºC ... +125ºC
Derating	None required
Humidity (non-condensing)	Up to 90%
Cooling	Free-air Convection

MTBF: >1 112 000 hrs (MIL-HDBK-217F, Ground Benign, t=+25ºC)

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*

MODELS

Single output

Models		Input voltage	Output voltage	Output current max.
Isolation 1500VDC	Isolation 3500VDC			
AM5TW-2403S	AM5TW-2403SH35	9VDC - 36VDC	3.3VDC	1200mA
AM5TW-2405S	AM5TW-2405SH35		5VDC	1000mA
AM5TW-2407S	AM5TW-2407SH35		7.2VDC	694mA
AM5TW-2409S	AM5TW-2409SH35		9VDC	556mA
AM5TW-2412S	AM5TW-2412SH35		12VDC	417mA
AM5TW-2415S	AM5TW-2415SH35		15VDC	333mA
AM5TW-2418S	AM5TW-2418SH35		18VDC	278mA
AM5TW-2424S	AM5TW-2424SH35		24VDC	208mA
AM5TW-4803S	AM5TW-4803SH35	18VDC - 72VDC	3.3VDC	1200mA
AM5TW-4805S	AM5TW-4805SH35		5VDC	1000mA
AM5TW-4807S	AM5TW-4807SH35		7.2VDC	694mA
AM5TW-4809S	AM5TW-4809SH35		9VDC	556mA
AM5TW-4812S	AM5TW-4812SH35		12VDC	417mA
AM5TW-4815S	AM5TW-4815SH35		15VDC	333mA
AM5TW-4818S	AM5TW-4818SH35		18VDC	278mA
AM5TW-4824S	AM5TW-4824SH35		24VDC	208mA

Dual output

Models		Input voltage	Output voltage	Output current max.
Isolation 1500VDC	Isolation 3500VDC			
AM5TW-2403D	AM5TW-2403DH35	9VDC - 36VDC	±3.3VDC	±600mA
AM5TW-2405D	AM5TW-2405DH35		±5VDC	±500mA
AM5TW-2407D	AM5TW-2407DH35		±7.2VDC	±347mA
AM5TW-2409D	AM5TW-2409DH35		±9VDC	±278mA
AM5TW-2412D	AM5TW-2412DH35		±12VDC	±209mA
AM5TW-2415D	AM5TW-2415DH35		±15VDC	±167mA
AM5TW-2418D	AM5TW-2418DH35		±18VDC	±139mA
AM5TW-2424D	AM5TW-2424DH35		±24VDC	±104mA
AM5TW-4803D	AM5TW-4803DH35	18VDC - 72VDC	±3.3VDC	±600mA
AM5TW-4805D	AM5TW-4805DH35		±5VDC	±500mA
AM5TW-4807D	AM5TW-4807DH35		±7.2VDC	±347mA
AM5TW-4809D	AM5TW-4809DH35		±9VDC	±278mA
AM5TW-4812D	AM5TW-4812DH35		±12VDC	±209mA
AM5TW-4815D	AM5TW-4815DH35		±15VDC	±167mA
AM5TW-4818D	AM5TW-4818DH35		±18VDC	±139mA
AM5TW-4824D	AM5TW-4824DH35		±24VDC	±104mA

INPUT CURRENT

No Load / Full Load

24 Vin models	17 / 270mA, typ
48 Vin models	18 / 135mA, typ

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