

AM5TW-C Series



5 watt dc-dc converters

- 24 PIN DIP PACKAGE
- PLASTIC ENCAPSULATED CASE
- POWER MODULES FOR PCB MOUNTING
- 4:1 WIDE INPUT RANGE
- REGULATED OUTPUT
- LOW RIPPLE & NOISE
- OPERATING TEMPERATURE : -25 ... +71°C



GENERAL DESCRIPTION

Our AM5TW-C series is a family of cost effective 5W single and dual output DC-DC converters. These shielded converters are aluminum encapsulated on all six sides, have a non-conductive base & retain an anodized black DIP24 compatible plastic case (31.8x20.3x10.2mm). The high performance features of AM5TW-C series include current limit auto recovery short circuit protection, tight line regulation and high efficiency operation coefficient up to 78%.

These wide range devices operate over 4:1 input voltage range, providing a continuously stable output voltage. Input voltage range of 24 & 48VDC converts in output voltages of 3.3, 5, 12, 15, 24, ± 5 , ± 12 & ± 15 VDC. The normal operation is specified over the full operating temperature range of -25°C to +71°C with no derating required. Cooling is done by free air convection.

ELECTRICAL SPECIFICATIONS

All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

Input Specifications:

Voltage range	24VDC, 9~36VDC 48 VDC, 18~75VDC
Filter	p (Pi) Network

Isolation Specifications:

Rated voltage	1500VDC
Resistance	>1000Mohms
Capacitance	1000pF, typ.

General Specifications:

Efficiency	73% to 78%
Switching frequency	300KHz, typ. 100% load

Environmental Specifications:

Operating temperature	-25°C ...+71°C
Storage temperature	-55°C ...+105°C
Case temperature	+95°C, max.
Humidity (non-condensing)	Up to 95%
Cooling	Free-air convection

Physical Specifications:

Dimensions	31.8x20.3x10.2mm, tolerance ± 0.5 mm 1.25x0.8x0.4inches
Weight	13g
Case material	Six-side shielded Aluminum with Non-Conductive base, Black Anodize

Output Specifications:

Voltage accuracy	$\pm 2\%$, max.
Ripple	$< 0.2\%$ Vout +20mVmax (Vp-p)
Noise	$< 0.5\%$ Vout +50mVmax (Vp-p)
Short circuit protection	Current limit, auto-recovery
Over current protection	Works over 120% of rating and recovers automatically
Line regulation (HL-LL)	$\pm 0.5\%$, typ.
Load regulation(10-100%)	$\pm 2\%$, typ.
Temperature coefficient	$\pm 0.02\%/^{\circ}\text{C}$, typ.

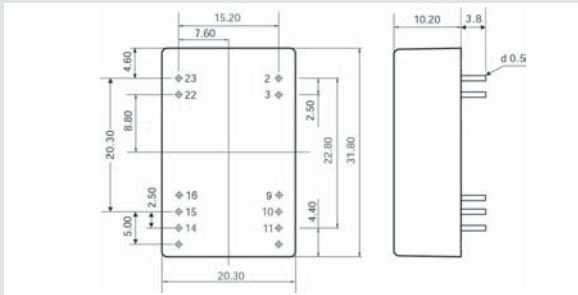
MTBF: > 800,000 hrs (MIL-HDBK-217F, Ground Benign, $t=+25^{\circ}\text{C}$)

Specifications are subject to change without notification

AM5TW-C Series

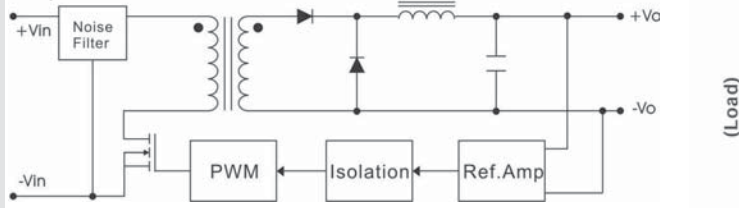
OUTLINE DIMENSIONS & PIN CONNECTIONS

MECHANICAL DIMENSION (Bottom View)



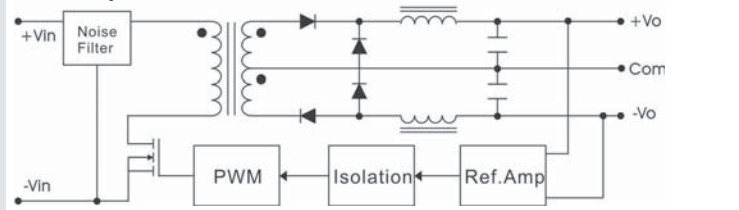
BLOCK DIAGRAM

Single Output



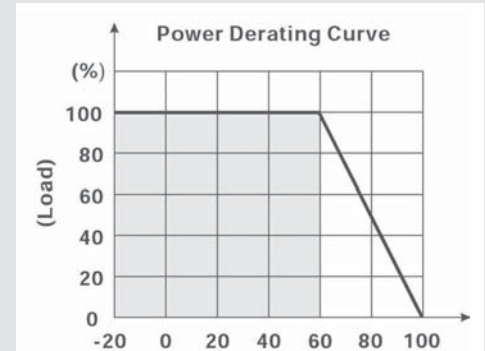
BLOCK DIAGRAM

Dual Output



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

DERATING



MODELS Single output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM5TW-2403SC	9VDC - 36VDC	3.3VDC	1200mA
AM5TW-2405SC		5VDC	1000mA
AM5TW-2412SC		12VDC	500mA
AM5TW-2415SC		15VDC	400mA
AM5TW-2424SC		24VDC	250mA
AM5TW-4803SC	18VDC - 75VDC	3.3VDC	1200mA
AM5TW-4805SC		5VDC	1000mA
AM5TW-4812SC		12VDC	500mA
AM5TW-4815SC		15VDC	400mA
AM5TW-4824SC		24VDC	250mA

Dual output

Models	Input Voltage	Ouput Voltage	Ouput Current max.
AM5TW-2405DC	9VDC - 36VDC	±5VDC	±500mA
AM5TW-2412DC		±12VDC	±250mA
AM5TW-2415DC		±15VDC	±200mA
AM5TW-4805DC	18VDC - 75VDC	±5VDC	±500mA
AM5TW-4812DC		±12VDC	±250mA
AM5TW-4815DC		±15VDC	±200mA