

Series AM5TW-RZ

5 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- High efficiency up to 84%
- Wide 4:1 input range
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection

Models

Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM5TW-2403S-RZ	9-36	3.3	1300	1500	1000	75
AM5TW-2405S-RZ	9-36	5	1000	1500	680	80
AM5TW-2407S-RZ	9-36	7.2	694	1500	470	80
AM5TW-2409S-RZ	9-36	9	555	1500	220	81
AM5TW-2412S-RZ	9-36	12	416	1500	100	82
AM5TW-2415S-RZ	9-36	15	333	1500	100	83
AM5TW-2418S-RZ	9-36	18	277	1500	68	80
AM5TW-2424S-RZ	9-36	24	208	1500	47	80
AM5TW-4803S-RZ	18-72	3.3	1300	1500	1000	75
AM5TW-4805S-RZ	18-72	5	1000	1500	680	80
AM5TW-4807S-RZ	18-72	7.2	694	1500	470	80
AM5TW-4809S-RZ	18-72	9	555	1500	220	81
AM5TW-4812S-RZ	18-72	12	416	1500	100	84
AM5TW-4815S-RZ	18-72	15	333	1500	100	83
AM5TW-4818S-RZ	18-72	18	277	1500	68	80
AM5TW-4824S-RZ	18-72	24	208	1500	47	80

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM5TW-2403D-RZ	9-36	±3.3	±757	1500	±470	74
AM5TW-2405D-RZ	9-36	±5	±500	1500	±330	80
AM5TW-2407D-RZ	9-36	±7.2	±347	1500	±100	80
AM5TW-2409D-RZ	9-36	±9	±277	1500	±68	81
AM5TW-2412D-RZ	9-36	±12	±208	1500	±47	82
AM5TW-2415D-RZ	9-36	±15	±166	1500	±47	82
AM5TW-2418D-RZ	9-36	±18	±138	1500	±22	80
AM5TW-2424D-RZ	9-36	±24	±104	1500	±22	80
AM5TW-4803D-RZ	18-72	±3.3	±757	1500	±470	74
AM5TW-4805D-RZ	18-72	±5	±500	1500	±330	80
AM5TW-4807D-RZ	18-72	±7.2	±347	1500	±100	80
AM5TW-4809D-RZ	18-72	±9	±277	1500	±68	81
AM5TW-4812D-RZ	18-72	±12	±208	1500	±47	83
AM5TW-4815D-RZ	18-72	±15	±166	1500	±47	83
AM5TW-4818D-RZ	18-72	±18	±138	1500	±22	80
AM5TW-4824D-RZ	18-72	±24	±104	1500	±22	80

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 48	9-36 18-72		VDC
Filter	π (Pi) Network			
Input Reflected ripple current *		35		mA p-p

Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
Absolute Maximum Rating	24 Vin 48 Vin	-0.7-40 -0.7-80		VDC
Peak Input Voltage time		100		ms

* The input reflected ripple current should be measured with connected 12μH inductor and a 47μF capacitor.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Tested case/Input & Output	60 sec		1000	VDC
Resistance		>1000		MOhm
Capacitance		500		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Short Circuit protection	Continuous			
Short circuit restart	Auto Recovery			
Line voltage regulation		±0.5		%
Load voltage regulation	3.3/±3.3Vout models	±1.5		%
	Other models	±0.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise*	At 20MHz Bandwidth	60		mV p-p

* Measured with a 1μF CC.

General Specifications

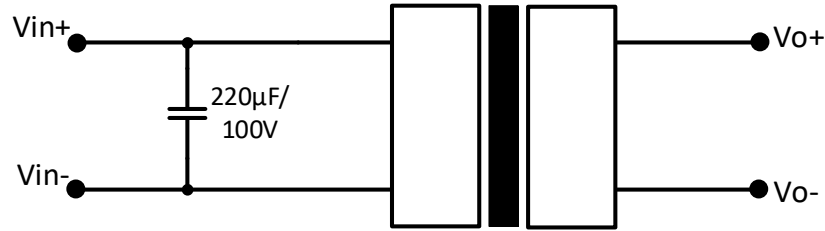
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	266		KHz
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Max Case temperature			100	°C
Cooling	Free air convection			
Humidity			95	%
Case material	Nickel coated copper			
Weight		17		g
Dimensions (L x W x H)	Tolerance ±0.5 mm or ±0.02 inches 1.25 x 0.8 x 0.4inches (31.75 x 20.32 x 10.16mm)			
MTBF	>1 121 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

NOTE: All specifications noted in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

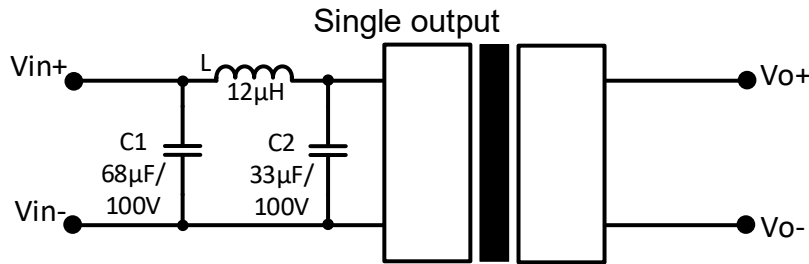
Safety Specifications

Parameters	
Agency Approval	CE
Standards	Designed to meet IEC/EN/UL60950-1, 62368-1
	EN55032 Class A with recommended EMI circuit
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A
	IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

Recommended Circuits Surge



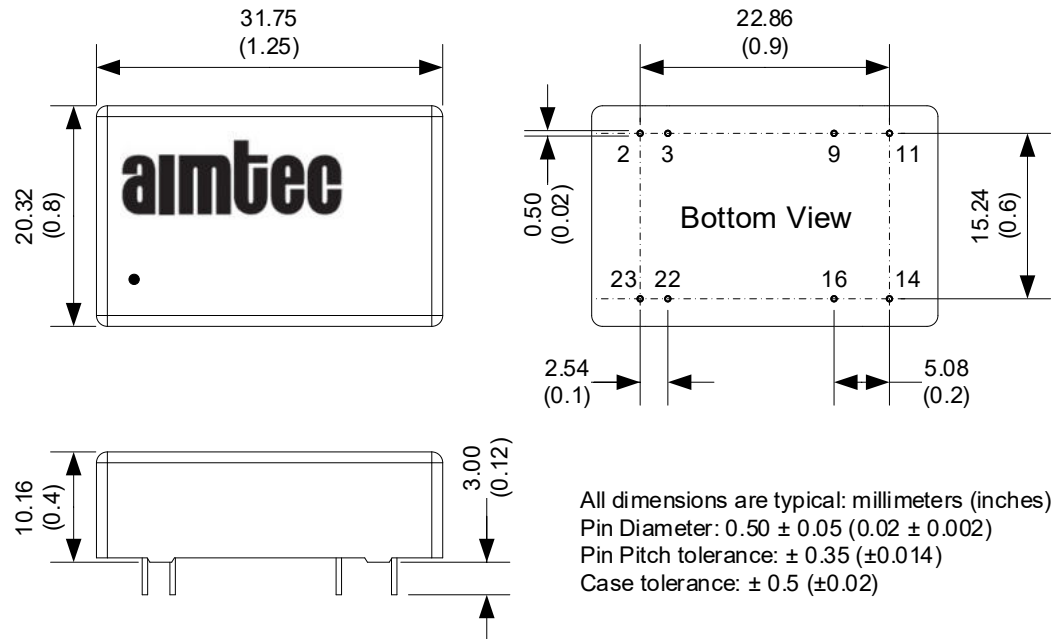
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Pin Out Specifications

Pin	Single	Dual
2	-V Input	-V Input
3	-V Input	-V Input
9	No pin	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

Dimensions



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