

Series AM3TW-Z

3 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- Low profile metal package
- High efficiency up to 82%
- Wide 4:1 input range
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500 and 3500VDC
- 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)	Capacitive load, max (μF)	Efficiency (%)
AM3TW-2403SZ	9-36	3.3	900	1500	680	75
AM3TW-2405SZ	9-36	5	600	1500	470	78
AM3TW-2407SZ	9-36	7.2	417	1500	330	80
AM3TW-2409SZ	9-36	9	333	1500	100	80
AM3TW-2412SZ	9-36	12	250	1500	68	80
AM3TW-2415SZ	9-36	15	200	1500	47	80
AM3TW-2418SZ	9-36	18	167	1500	22	81
AM3TW-2424SZ	9-36	24	125	1500	22	80
AM3TW-4803SZ	18-72	3.3	900	1500	680	75
AM3TW-4805SZ	18-72	5	600	1500	470	78
AM3TW-4807SZ	18-72	7.2	417	1500	470	80
AM3TW-4809SZ	18-72	9	333	1500	100	80
AM3TW-4812SZ	18-72	12	250	1500	68	80
AM3TW-4815SZ	18-72	15	200	1500	47	80
AM3TW-4818SZ	18-72	18	167	1500	68	81
AM3TW-4824SZ	18-72	24	125	1500	22	80
AM3TW-2403SH35Z	9-36	3.3	900	3500	680	75
AM3TW-2405SH35Z	9-36	5	600	3500	470	78
AM3TW-2409SH35Z	9-36	9	333	3500	100	80
AM3TW-2412SH35Z	9-36	12	250	3500	68	80
AM3TW-2415SH35Z	9-36	15	200	3500	47	80
AM3TW-2424SH35Z	9-36	24	125	3500	22	80
AM3TW-4803SH35Z	18-72	3.3	900	3500	680	75
AM3TW-4805SH35Z	18-72	5	600	3500	470	78
AM3TW-4807SH35Z	18-72	7.2	417	3500	470	80
AM3TW-4809SH35Z	18-72	9	333	3500	100	80
AM3TW-4812SH35Z	18-72	12	250	3500	68	80
AM3TW-4815SH35Z	18-72	15	200	3500	47	80
AM3TW-4824SH35Z	18-72	24	125	3500	22	80

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3TW-2403DZ	9-36	±3.3	±454	1500	±330	75
AM3TW-2405DZ	9-36	±5	±300	1500	±220	78
AM3TW-2407DZ	9-36	±7.2	±208	1500	±220	79
AM3TW-2409DZ	9-36	±9	±166	1500	±47	80
AM3TW-2412DZ	9-36	±12	±125	1500	±33	80
AM3TW-2415DZ	9-36	±15	±100	1500	±22	80
AM3TW-2418DZ	9-36	±18	±84	1500	±10	77

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3TW-2424DZ	9-36	±24	±63	1500	±10	80
AM3TW-4803DZ	18-72	±3.3	±454	1500	±330	75
AM3TW-4805DZ	18-72	±5	±300	1500	±220	78
AM3TW-4807DZ	18-72	±7.2	±208	1500	±100	78
AM3TW-4809DZ	18-72	±9	±166	1500	±47	80
AM3TW-4812DZ	18-72	±12	±125	1500	±33	80
AM3TW-4815DZ	18-72	±15	±100	1500	±22	80
AM3TW-4818DZ	18-72	±18	±84	1500	±22	76
AM3TW-4824DZ	18-72	±24	±63	1500	±10	80
AM3TW-2403DH35Z	9-36	±3.3	±454	3500	±330	75
AM3TW-2405DH35Z	9-36	±5	±300	3500	±220	78
AM3TW-2407DH35Z	9-36	±7.2	±208	3500	±220	79
AM3TW-2409DH35Z	9-36	±9	±166	3500	±47	80
AM3TW-2412DH35Z	9-36	±12	±125	3500	±33	80
AM3TW-2415DH35Z	9-36	±15	±100	3500	±22	80
AM3TW-2424DH35Z	9-36	±24	±63	3500	±10	80
AM3TW-4803DH35Z	18-72	±3.3	±454	3500	±330	75
AM3TW-4805DH35Z	18-72	±5	±300	3500	±220	78
AM3TW-4809DH35Z	18-72	±9	±166	3500	±47	80
AM3TW-4812DH35Z	18-72	±12	±125	3500	±33	80
AM3TW-4815DH35Z	18-72	±15	±100	3500	±22	80
AM3TW-4824DH35Z	18-72	±24	±63	3500	±10	80

NOTE: All specifications 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.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 48	9-36 18-72		VDC
Filter		π (Pi) Network		
Absolute Maximum Rating	24 Vin 48 Vin	-0.7-40 -0.7-80		VDC
Peak Input Voltage time		100		ms
Input Reflected ripple current *		35		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500 and 3500	VDC
Tested Case/ I, O voltage	60 sec		1000	VDC
Resistance		> 1000		MOhm
Capacitance		470		pF

Output Specifications

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

* Measured with a 1μF CC.

General Specifications

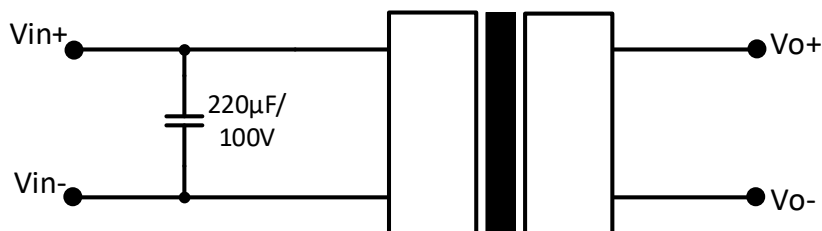
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	266		KHz
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Case temperature			100	°C
Cooling	Free air convection			
Humidity	Non condensing		95	%
Case material	Nickel-coated copper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

Safety Specifications

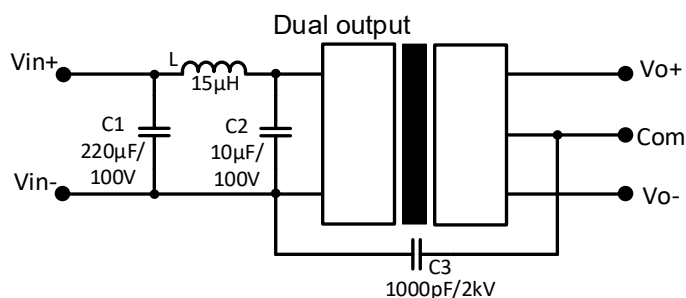
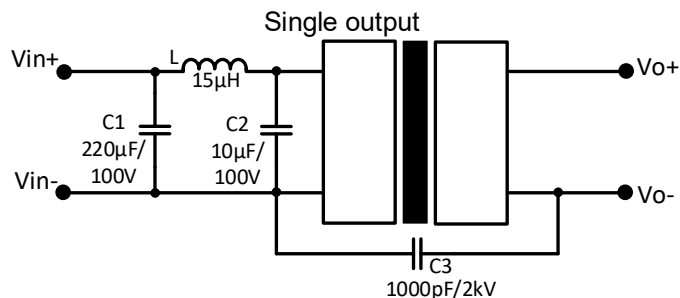
Parameters	
Standards	Designed to meet IEC/EN/UL60950-1, 62368-1
	EN55032 Class A, with recommended EMI circuit
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required)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

Recommended Circuits

Surge/EFT



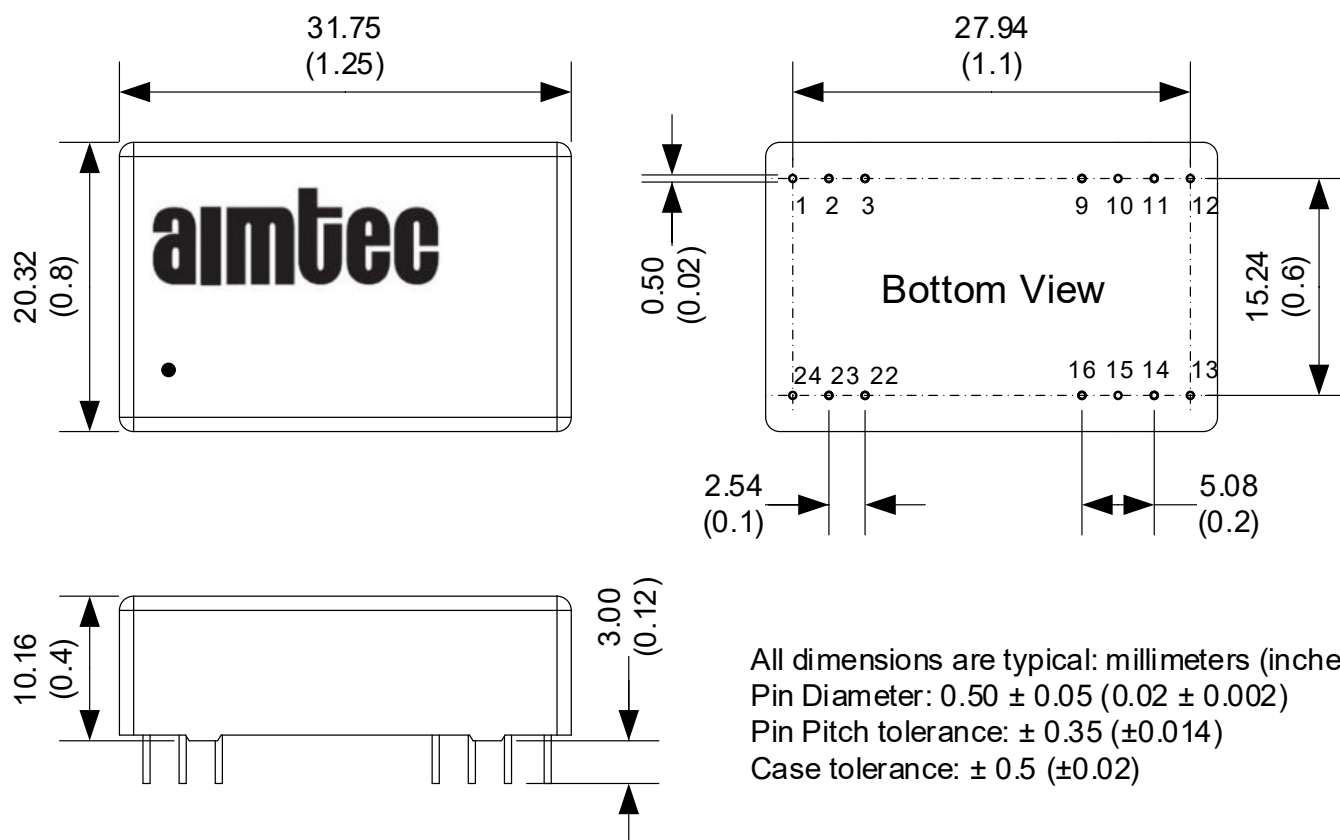
EMI



Pin Out Specifications

Pin	1500VDC		3500VDC	
	Single	Dual	Single	Dual
1	+V Input	+V Input	No pin	No pin
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	No pin	No pin	No Pin	Common
10	-V Output	Common	No pin	No pin
11	+V Output	+V Output	N.C.	-V Output
12/13	-V Input	-V Input	No pin	No pin
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	No pin	No pin
16	No pin	No pin	-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	No pin	No pin

Dimensions



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