aimtec
Your Power Partner

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 -40ºC to + 85ºC
- Input / Output Isolation 1500 and 3500VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection

Models
Single output

RoHS

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

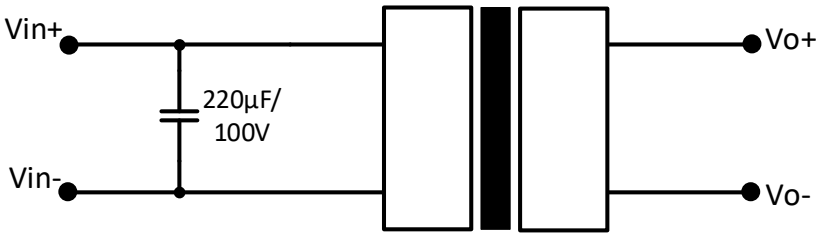
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	266		KHz
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Case temperature			100	°C
Cooling	Free air convection			
Humidity	Non condensing		95	%
Case material	Nickel-coated copper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

Safety Specifications

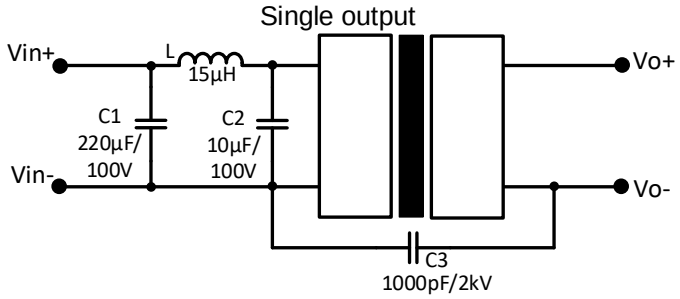
Parameters	
Standards	Designed to meet IEC/EN/UL60950-1, 62368-1
	EN55032 Class A, with recommended EMI circuit
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required)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

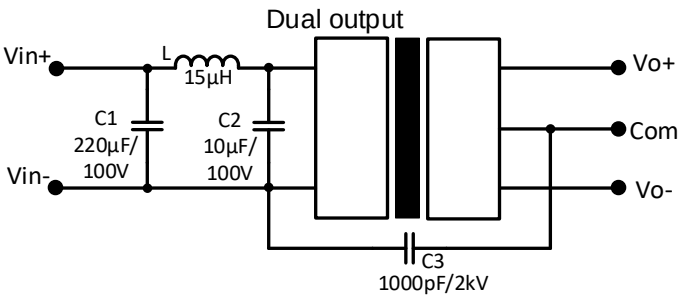
Recommended Circuits

Surge/EFT



EMI

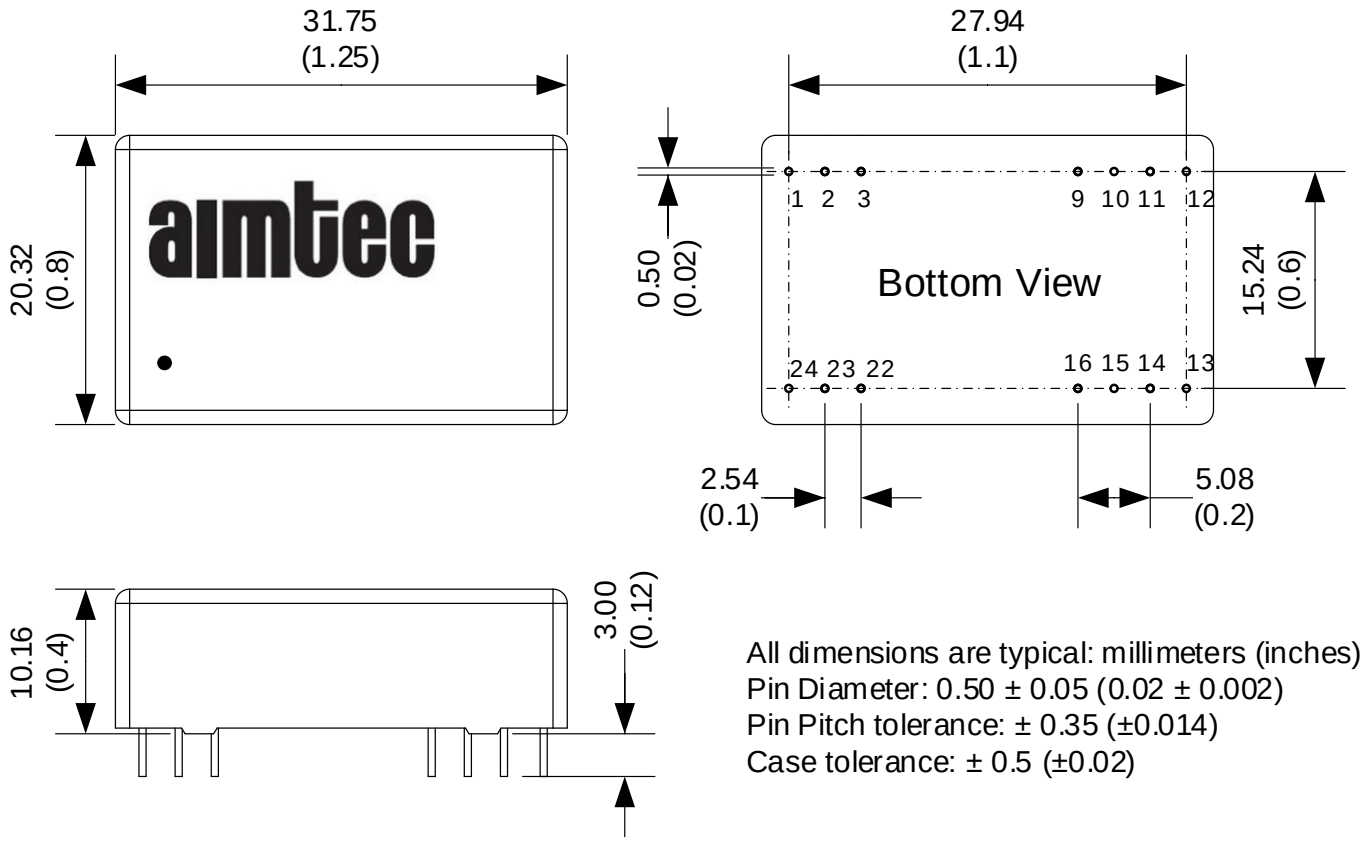




Pin Out Specifications

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



All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch tolerance: ± 0.35 (±0.014)
Case tolerance: ± 0.5 (±0.02)

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. **2.** Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. **3.** Mechanical drawings and specifications are for reference only. **4.** All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. **5.** Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. **6.** This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.