



### FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- High efficiency up to 83%
- Wide 4:1 input range
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500 or 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)	Max Capacitive Load (uF)	Efficiency (%)
AM4TW-2403SZ	9-36	3.3	1200	1500	1000	77
AM4TW-2405SZ	9-36	5	800	1500	680	80
AM4TW-2407SZ	9-36	7.2	550	1500	100	80
AM4TW-2409SZ	9-36	9	440	1500	100	80
AM4TW-2412SZ	9-36	12	330	1500	100	83
AM4TW-2415SZ	9-36	15	265	1500	100	83
AM4TW-2418SZ	9-36	18	220	1500	100	80
AM4TW-2424SZ	9-36	24	165	1500	100	81
AM4TW-4803SZ	18-72	3.3	1200	1500	1000	77
AM4TW-4805SZ	18-72	5	800	1500	680	80
AM4TW-4807SZ	18-72	7.2	550	1500	100	78
AM4TW-4809SZ	18-72	9	440	1500	100	82
AM4TW-4812SZ	18-72	12	330	1500	100	81
AM4TW-4815SZ	18-72	15	265	1500	100	81
AM4TW-4818SZ	18-72	18	220	1500	100	81
AM4TW-4824SZ	18-72	24	165	1500	100	82
AM4TW-2403SH35Z	9-36	3.3	1200	3500	1000	77
AM4TW-2405SH35Z	9-36	5	800	3500	680	80
AM4TW-2407SH35Z	9-36	7.2	550	3500	100	80
AM4TW-2409SH35Z	9-36	9	440	3500	100	82
AM4TW-2412SH35Z	9-36	12	330	3500	100	83
AM4TW-2415SH35Z	9-36	15	265	3500	100	83
AM4TW-2418SH35Z	9-36	18	220	3500	100	80
AM4TW-2424SH35Z	9-36	24	165	3500	100	81
AM4TW-4803SH35Z	18-72	3.3	1200	3500	1000	77
AM4TW-4805SH35Z	18-72	5	800	3500	680	80
AM4TW-4807SH35Z	18-72	7.2	550	3500	100	80
AM4TW-4809SH35Z	18-72	9	440	3500	100	82
AM4TW-4812SH35Z	18-72	12	330	3500	100	81
AM4TW-4815SH35Z	18-72	15	265	3500	100	81
AM4TW-4818SH35Z	18-72	18	220	3500	100	81
AM4TW-4824SH35Z	18-72	24	165	3500	100	82

### Models

#### Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM4TW-2403DZ	9-36	±3.3	±600	1500	±470	76
AM4TW-2405DZ	9-36	±5	±400	1500	±330	78
AM4TW-2407DZ	9-36	±7.2	±275	1500	±47	80
AM4TW-2409DZ	9-36	±9	±220	1500	±47	80
AM4TW-2412DZ	9-36	±12	±165	1500	±47	82
AM4TW-2415DZ	9-36	±15	±125	1500	±22	80
AM4TW-2418DZ	9-36	±18	±100	1500	±10	80
AM4TW-2424DZ	9-36	±24	±84	1500	±10	80

## Models

### Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM4TW-4803DZ	18-72	±3.3	±600	1500	±470	75
AM4TW-4805DZ	18-72	±5	±400	1500	±330	79
AM4TW-4807DZ	18-72	±7.2	±275	1500	±47	80
AM4TW-4809DZ	18-72	±9	±220	1500	±47	81
AM4TW-4812DZ	18-72	±12	±165	1500	±47	82
AM4TW-4815DZ	18-72	±15	±125	1500	±22	81
AM4TW-4818DZ	18-72	±18	±100	1500	±10	80
AM4TW-4824DZ	18-72	±24	±84	1500	±10	80
AM4TW-2403DH35Z	9-36	±3.3	±600	3500	±470	76
AM4TW-2405DH35Z	9-36	±5	±400	3500	±330	78
AM4TW-2407DH35Z	9-36	±7.2	±275	3500	±47	80
AM4TW-2409DH35Z	9-36	±9	±220	3500	±47	80
AM4TW-2412DH35Z	9-36	±12	±165	3500	±47	82
AM4TW-2415DH35Z	9-36	±15	±125	3500	±22	80
AM4TW-2418DH35Z	9-36	±18	±100	3500	±10	80
AM4TW-2424DH35Z	9-36	±24	±84	3500	±10	80
AM4TW-4803DH35Z	18-72	±3.3	±600	3500	±470	75
AM4TW-4805DH35Z	18-72	±5	±400	3500	±330	79
AM4TW-4807DH35Z	18-72	±7.2	±275	3500	±47	80
AM4TW-4809DH35Z	18-72	±9	±220	3500	±47	81
AM4TW-4812DH35Z	18-72	±12	±165	3500	±47	82
AM4TW-4815DH35Z	18-72	±15	±125	3500	±22	81
AM4TW-4818DH35Z	18-72	±18	±100	3500	±10	80
AM4TW-4824DH35Z	18-72	±24	±84	3500	±10	80

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 48	9-36 18-72		VDC
Filter	π (Pi) Network			
Turn on transient process time			350	ms
Start up time		500		ms
Absolute maximum rating	24 Vin 48 Vin	-0.7 - 40 -0.7 - 80		VDC
Peak input voltage time		100		ms

## Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1500 or 3500	VDC
Resistance		> 1000		MOhm
Capacitance		470		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Voltage balance		±1		%
Short Circuit protection		Continuous		
Short circuit restart		Auto-recovery		
Line voltage regulation (Single)		±0.5		%
Line voltage regulation (Dual)		±0.5		%
Load voltage regulation (Single)		±0.5		%
Load voltage regulation (Single) 3.3V output models		±1.5		%

### Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Load voltage regulation (Dual)		±0.5		%
Load voltage regulation (Dual) ±3.3V output model		±1.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20 MHz Bandwidth	60		mV p-p
Rising time		10		ms

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	260		KHz
Operating temperature	Without derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Max Case temperature			100	°C
Cooling	Free air convection			
Humidity			90	%
Case material	Nickel-coated copper			
Weight		26		g
Dimensions(L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.28 x 0.84 x 0.41 inches	32.25 x 21.35 x 10.50 mm	
MTBF	>960 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

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

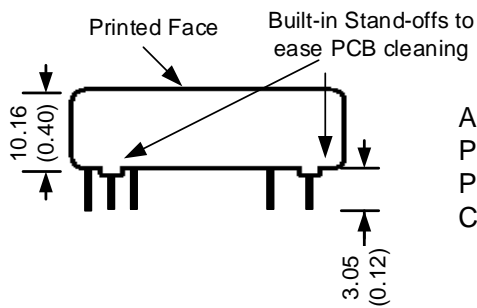
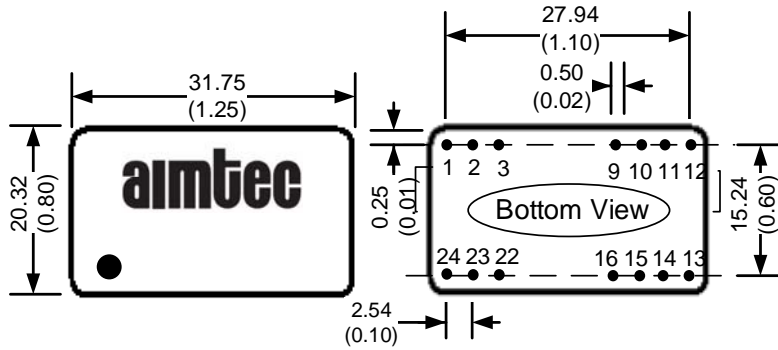
### Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55022 Class A, EN55024
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	NOTE: Also designed to meet IEC60950-1:2001

### Pin Out Specifications

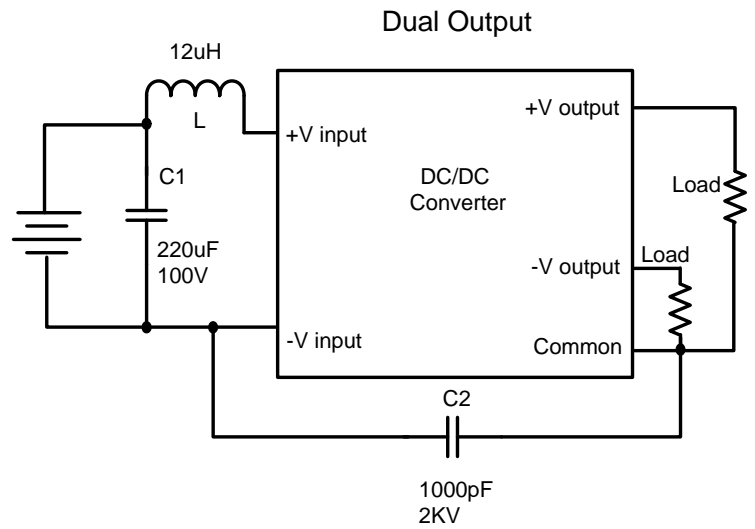
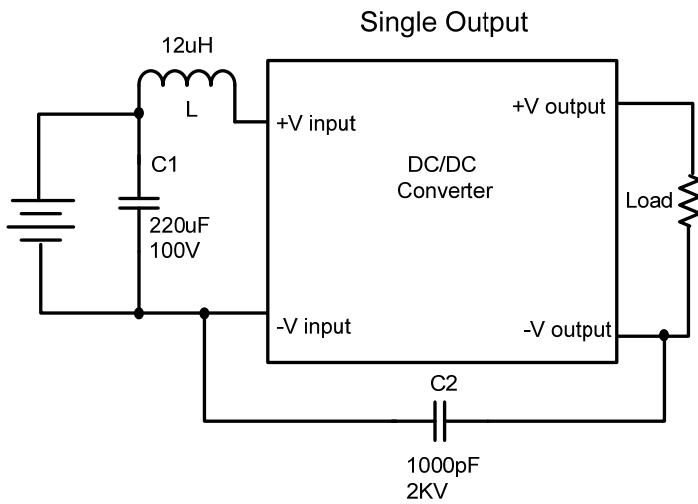
Pin	1500VDC		3500VDC	
	Single	Dual	Single	Dual
1	+V Input	+V Input	No Pin	No Pin
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	No Pin	No Pin	No Pin	Common
10	-V Output	Common	No Pin	No Pin
11	+V Output	+V Output	N.C.	-V Output
12/13	-V Input	-V Input	No Pin	No Pin
14	+V Output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

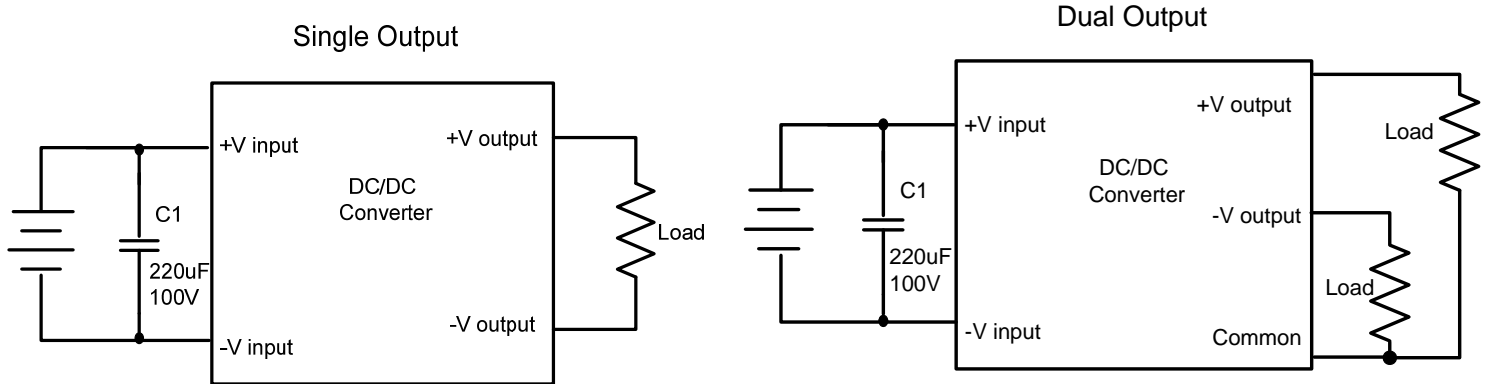


All dimensions are typical: millimeters (inches)  
 Pin Diameter:  $0.50 \pm 0.05$  ( $0.02 \pm 0.002$ )  
 Pin Pitch Tolerance:  $\pm 0.35$  ( $\pm 0.014$ )  
 Case Tolerance:  $\pm 0.5$  ( $\pm 0.02$ )

**Conducted Emissions:**



**Surge:**



**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](http://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](http://www.aimtec.com).