

Series AM5TW-Z

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 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 (%)
AM5TW-2403SZ	9-36	3.3	1300	1500	1000	75
AM5TW-2405SZ	9-36	5	1000	1500	1000	80
AM5TW-2407SZ	9-36	7.2	690	1500	470	78
AM5TW-2409SZ	9-36	9	550	1500	470	80
AM5TW-2412SZ	9-36	12	410	1500	220	81
AM5TW-2415SZ	9-36	15	330	1500	68	84
AM5TW-2418SZ	9-36	18	270	1500	68	82
AM5TW-2424SZ	9-36	24	200	1500	68	82
AM5TW-4803SZ	18-72	3.3	1300	1500	1000	75
AM5TW-4805SZ	18-72	5	1000	1500	1000	81
AM5TW-4807SZ	18-72	7.2	690	1500	470	80
AM5TW-4809SZ	18-72	9	550	1500	470	82
AM5TW-4812SZ	18-72	12	410	1500	220	83
AM5TW-4815SZ	18-72	15	330	1500	68	84
AM5TW-4818SZ	18-72	18	270	1500	68	83
AM5TW-4824SZ	18-72	24	200	1500	68	83
AM5TW-2403SH35Z	9-36	3.3	1300	3500	1000	75
AM5TW-2405SH35Z	9-36	5	1000	3500	1000	80
AM5TW-2407SH35Z	9-36	7.2	690	3500	470	78
AM5TW-2409SH35Z	9-36	9	550	3500	470	80
AM5TW-2412SH35Z	9-36	12	410	3500	220	81
AM5TW-2415SH35Z	9-36	15	330	3500	68	84
AM5TW-2418SH35Z	9-36	18	270	3500	68	82
AM5TW-2424SH35Z	9-36	24	200	3500	68	82
AM5TW-4803SH35Z	18-72	3.3	1300	3500	1000	75
AM5TW-4805SH35Z	18-72	5	1000	3500	1000	81
AM5TW-4807SH35Z	18-72	7.2	690	3500	470	80
AM5TW-4809SH35Z	18-72	9	550	3500	470	82
AM5TW-4812SH35Z	18-72	12	410	3500	220	83
AM5TW-4815SH35Z	18-72	15	330	3500	68	84
AM5TW-4818SH35Z	18-72	18	270	3500	68	83
AM5TW-4824SH35Z	18-72	24	200	3500	68	83

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM5TW-2403DZ	9-36	±3.3	±600	1500	±100	79
AM5TW-2405DZ	9-36	±5	±500	1500	±100	81
AM5TW-2407DZ	9-36	±7.2	±347	1500	±100	80
AM5TW-2409DZ	9-36	±9	±278	1500	±100	82
AM5TW-2412DZ	9-36	±12	±209	1500	±68	83
AM5TW-2415DZ	9-36	±15	±167	1500	±22	83
AM5TW-2418DZ	9-36	±18	±139	1500	±22	83
AM5TW-2424DZ	9-36	±24	±104	1500	±22	83

Models

Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM5TW-4803DZ	18-72	±3.3	±600	1500	±100	80
AM5TW-4805DZ	18-72	±5	±500	1500	±100	81
AM5TW-4807DZ	18-72	±7.2	±347	1500	±100	80
AM5TW-4809DZ	18-72	±9	±278	1500	±100	82
AM5TW-4812DZ	18-72	±12	±209	1500	±68	82
AM5TW-4815DZ	18-72	±15	±167	1500	±22	83
AM5TW-4818DZ	18-72	±18	±139	1500	±22	82
AM5TW-4824DZ	18-72	±24	±104	1500	±22	82
AM5TW-2403DH35Z	9-36	±3.3	±600	3500	±100	79
AM5TW-2405DH35Z	9-36	±5	±500	3500	±100	81
AM5TW-2407DH35Z	9-36	±7.2	±347	3500	±100	80
AM5TW-2409DH35Z	9-36	±9	±278	3500	±100	82
AM5TW-2412DH35Z	9-36	±12	±209	3500	±68	83
AM5TW-2415DH35Z	9-36	±15	±167	3500	±22	83
AM5TW-2418DH35Z	9-36	±18	±139	3500	±22	83
AM5TW-2424DH35Z	9-36	±24	±104	3500	±22	83
AM5TW-4803DH35Z	18-72	±3.3	±600	3500	±100	80
AM5TW-4805DH35Z	18-72	±5	±500	3500	±100	81
AM5TW-4807DH35Z	18-72	±7.2	±347	3500	±100	80
AM5TW-4809DH35Z	18-72	±9	±278	3500	±100	82
AM5TW-4812DH35Z	18-72	±12	±209	3500	±68	82
AM5TW-4815DH35Z	18-72	±15	±167	3500	±22	83
AM5TW-4818DH35Z	18-72	±18	±139	3500	±22	82
AM5TW-4824DH35Z	18-72	±24	±104	3500	±22	82

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	Dual Output	±1		%
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Over current protection		120% I _{out}		
Line voltage regulation (Single)		±0.5		%
Line voltage regulation (Dual)		±0.5		%
Load voltage regulation (Single)	0 – 100% load	±0.5		%
Load voltage regulation (Single)	0 – 100% load	±1.5		%
3.3V output model				

Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Load voltage regulation (Dual)	0 – 100% load	±0.5		%
Load voltage regulation (Dual) ±3.3V output model		±1.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	60		mV p-p
Rising time		10		ms
Minimum Load Current		0		% of Max

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	260		KHz
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Max Case temperature			100	°C
Derating	Non-Required			
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 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.

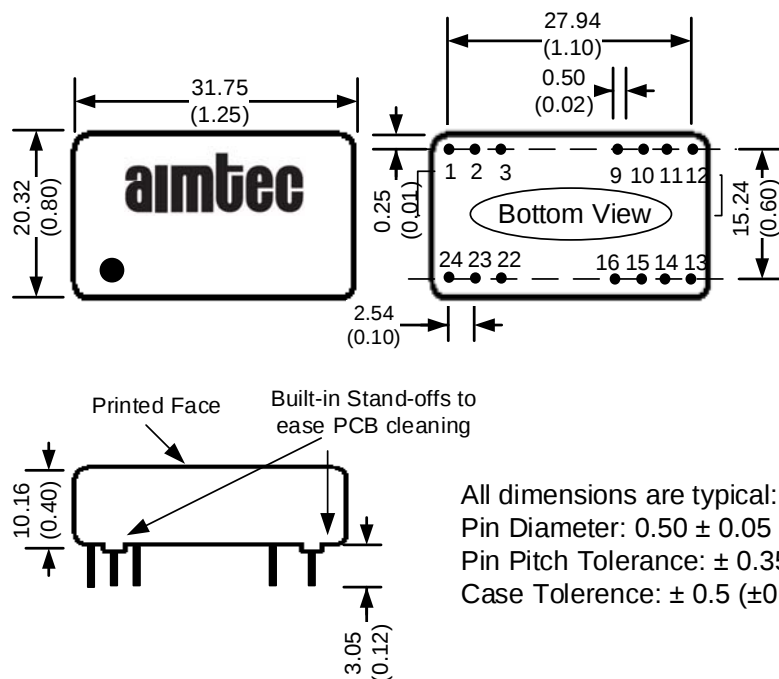
Safety Specifications

Parameters	
Agency Approval	CE
Standards	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

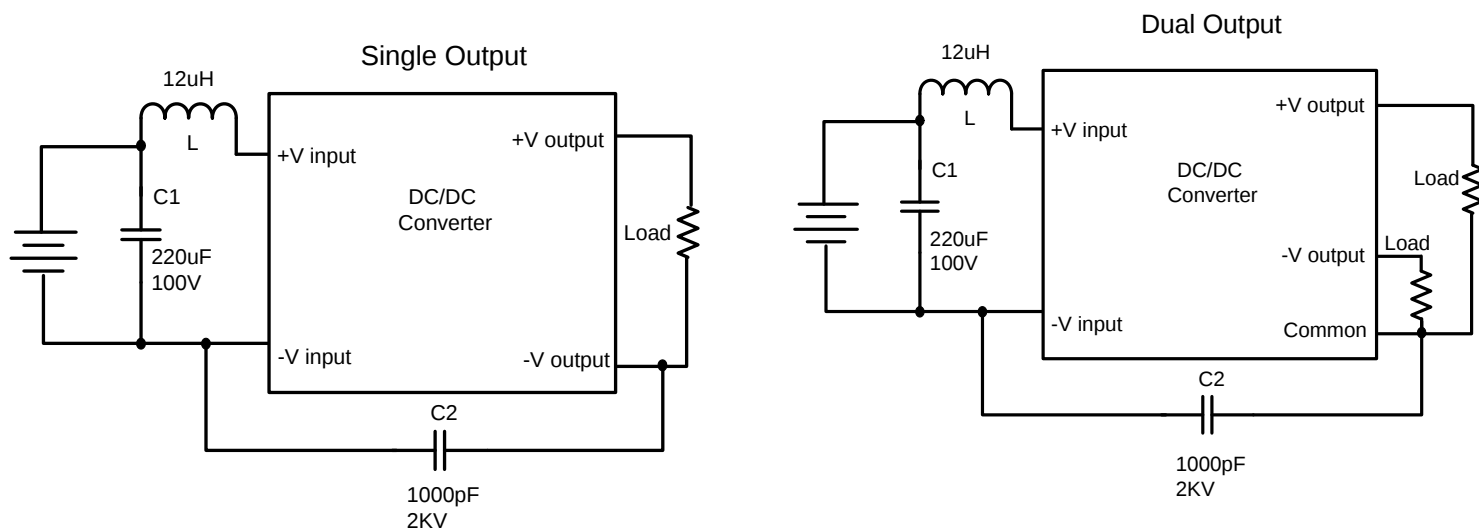
Pin Out Specifications

Pin	1500VDC		3500VDC	
	Single	Dual	Single	Dual
1	+V Input	+V Input	Omitted	Omitted
2	N. C.	-V Output	-V Input	-V Input
3	N. C.	Common	-V Input	-V Input
9	Omitted	Omitted	Omitted	Common
10	-V Output	Common	Omitted	Omitted
11	+V Output	+V Output	N.C.	-V Output
12/13	-V Input	-V Input	Omitted	Omitted
14	+V Output	+V Output	+V Output	+V Output
15	-V Output	Common	Omitted	Omitted
16	Omitted	Omitted	-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	Omitted	Omitted

Dimensions

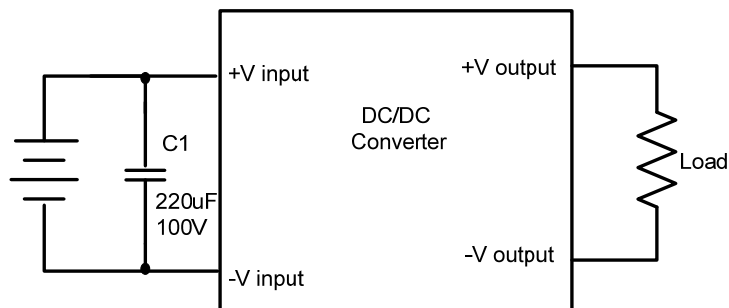


Conducted Emissions:

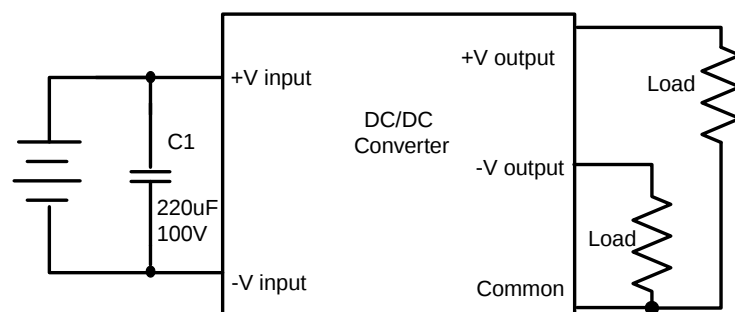


Surge:

Single Output



Dual Output



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