aimtec
Your Power Partner

Series AM6TW-Z
6 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- Wide 4:1 input range
- High efficiency up to 85%
- Operating temperature -40°C to + 85°C
- Input / output isolation 1500 and 3500VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection

RoHS CE

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM6TW-2403SZ	9-36	3.3	1400	1500	1000	74
AM6TW-2405SZ	9-36	5	1200	1500	1000	80
AM6TW-2407SZ	9-36	7.2	833	1500	680	82
AM6TW-2409SZ	9-36	9	666	1500	680	83
AM6TW-2412SZ	9-36	12	500	1500	330	82
AM6TW-2415SZ	9-36	15	400	1500	220	83
AM6TW-2418SZ	9-36	18	333	1500	68	82
AM6TW-2424SZ	9-36	24	250	1500	68	82
AM6TW-4803SZ	18-72	3.3	1400	1500	1000	75
AM6TW-4805SZ	18-72	5	1200	1500	1000	80
AM6TW-4807SZ	18-72	7.2	833	1500	220	82
AM6TW-4809SZ	18-72	9	666	1500	220	81
AM6TW-4812SZ	18-72	12	500	1500	220	83
AM6TW-4815SZ	18-72	15	400	1500	220	84
AM6TW-4818SZ	18-72	18	333	1500	220	82
AM6TW-4824SZ	18-72	24	250	1500	220	82
AM6TW-2403SH35Z	9-36	3.3	1400	3500	1000	74
AM6TW-2405SH35Z	9-36	5	1200	3500	1000	80
AM6TW-2407SH35Z	9-36	7.2	833	3500	680	82
AM6TW-2409SH35Z	9-36	9	666	3500	680	83
AM6TW-2412SH35Z	9-36	12	500	3500	330	82
AM6TW-2415SH35Z	9-36	15	400	3500	220	83
AM6TW-2418SH35Z	9-36	18	333	3500	68	82
AM6TW-2424SH35Z	9-36	24	250	3500	68	82
AM6TW-4803SH35Z	18-72	3.3	1400	3500	1000	75
AM6TW-4805SH35Z	18-72	5	1200	3500	1000	80
AM6TW-4807SH35Z	18-72	7.2	833	3500	220	82
AM6TW-4809SH35Z	18-72	9	666	3500	220	81
AM6TW-4812SH35Z	18-72	12	500	3500	220	83
AM6TW-4815SH35Z	18-72	15	400	3500	220	84
AM6TW-4818SH35Z	18-72	18	333	3500	220	82
AM6TW-4824SH35Z	18-72	24	250	3500	220	82

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM6TW-2403DZ	9-36	±3.3	±909	1500	±470	75
AM6TW-2405DZ	9-36	±5	±600	1500	±470	80
AM6TW-2407DZ	9-36	±7.2	±416	1500	±470	82
AM6TW-2409DZ	9-36	±9	±333	1500	±100	81
AM6TW-2412DZ	9-36	±12	±250	1500	±100	83
AM6TW-2415DZ	9-36	±15	±200	1500	±47	80
AM6TW-2418DZ	9-36	±18	±166	1500	±22	81

Models

Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM6TW-2424DZ	9-36	±24	±125	1500	±22	81
AM6TW-4803DZ	18-72	±3.3	±909	1500	±330	77
AM6TW-4805DZ	18-72	±5	±600	1500	±330	81
AM6TW-4807DZ	18-72	±7.2	±416	1500	±330	83
AM6TW-4809DZ	18-72	±9	±333	1500	±100	81
AM6TW-4812DZ	18-72	±12	±250	1500	±68	82
AM6TW-4815DZ	18-72	±15	±200	1500	±22	84
AM6TW-4818DZ	18-72	±18	±166	1500	±22	80
AM6TW-4824DZ	18-72	±24	±125	1500	±22	80
AM6TW-2403DH35Z	9-36	±3.3	±909	3500	±470	75
AM6TW-2405DH35Z	9-36	±5	±600	3500	±470	80
AM6TW-2407DH35Z	9-36	±7.2	±416	3500	±470	82
AM6TW-2409DH35Z	9-36	±9	±333	3500	±100	81
AM6TW-2412DH35Z	9-36	±12	±250	3500	±100	83
AM6TW-2415DH35Z	9-36	±15	±200	3500	±47	80
AM6TW-2418DH35Z	9-36	±18	±166	3500	±22	81
AM6TW-2424DH35Z	9-36	±24	±125	3500	±22	81
AM6TW-4803DH35Z	18-72	±3.3	±909	3500	±330	77
AM6TW-4805DH35Z	18-72	±5	±600	3500	±330	81
AM6TW-4807DH35Z	18-72	±7.2	±416	3500	±330	83
AM6TW-4809DH35Z	18-72	±9	±333	3500	±100	81
AM6TW-4812DH35Z	18-72	±12	±250	3500	±68	82
AM6TW-4815DH35Z	18-72	±15	±200	3500	±22	84
AM6TW-4818DH35Z	18-72	±18	±166	3500	±22	80
AM6TW-4824DH35Z	18-72	±24	±125	3500	±22	80

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 current*		35		mA p-p

* 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 or 3500	VDC
Resistance		> 1000		MOhm
Capacitance		470		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	0 to 100% load	±0.5		%
	±3.3, 3.3Vout models, 0 to 100% load	±1.5		%
Ripple & Noise*	At 20MHz Bandwidth	60		mV p-p

* Measured with a 1µF CC.

General Specifications

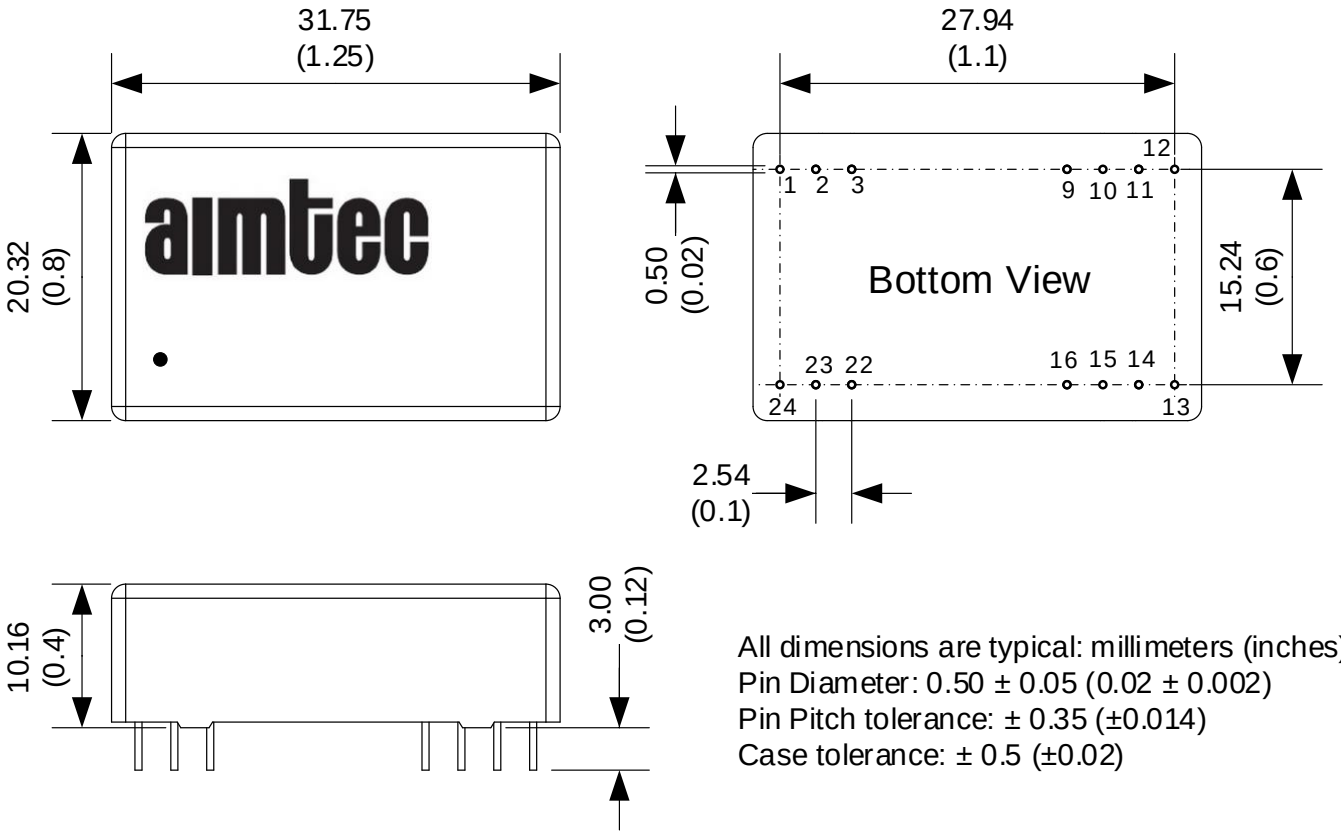
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	266		KHz
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Temperature coefficient		±0.02		%/°C
Max Case temperature			+100	°C
Cooling	Free air convection			
Humidity			95	%
Case 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)			
Maximum soldering temperature	1.5mm from case for 10 second		260	°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	EN55032 Class A with the recommended 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
	NOTE: Also designed to meet IEC/EN/UL60950-1, 62368-1

Dimensions

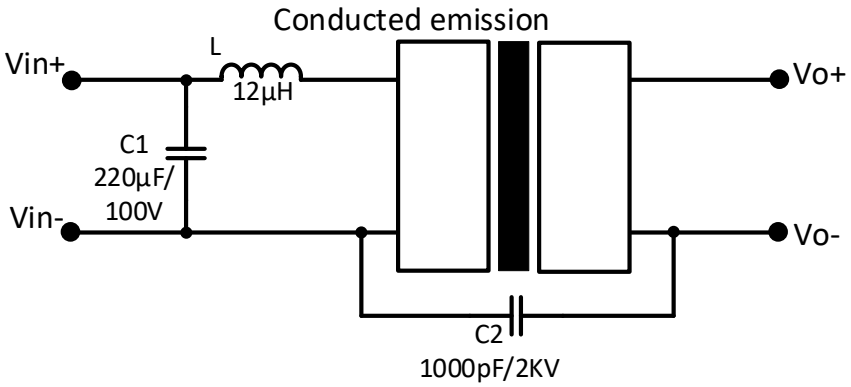


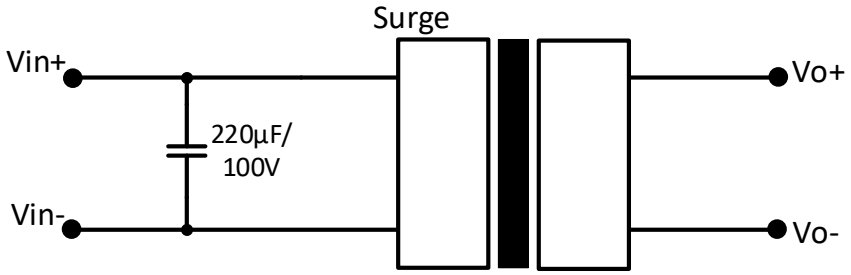
All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch tolerance: ± 0.35 (±0.014)
Case tolerance: ± 0.5 (±0.02)

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
23	+V Input	+V Input	Omitted	Omitted

Recommended Circuits





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