Series AM4T-Z

4 Watt | DC-DC Converter

FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- Low profile metal package
- High efficiency up to 85%
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1500 or 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)	Capacitive load, max (µF)	Efficiency (%)
AM4T-1203SZ	9-18	3.3	1200	3300	72
AM4T-1205SZ	9-18	5	800	1000	78
AM4T-1207SZ	9-18	7.2	550	470	78
AM4T-1209SZ	9-18	9	440	4700	78
AM4T-1212SZ	9-18	12	330	220	80
AM4T-1215SZ	9-18	15	260	100	80
AM4T-1218SZ	9-18	18	220	47	80
AM4T-1224SZ	9-18	24	160	47	80
AM4T-2403SZ	18-36	3.3	1200	2200	75
AM4T-2405SZ	18-36	5	800	1000	80
AM4T-2407SZ	18-36	7.2	550	470	80
AM4T-2409SZ	18-36	9	440	470	80
AM4T-2412SZ	18-36	12	330	220	83
AM4T-2415SZ	18-36	15	260	220	80
AM4T-2418SZ	18-36	18	220	100	80
AM4T-2424SZ	18-36	24	160	100	85
AM4T-4803SZ	36-72	3.3	1200	2200	75
AM4T-4805SZ	36-72	5	800	680	80
AM4T-4807SZ	36-72	7.2	550	470	80
AM4T-4809SZ	36-72	9	440	470	82
AM4T-4812SZ	36-72	12	330	330	80
AM4T-4815SZ	36-72	15	260	100	81
AM4T-4818SZ	36-72	18	220	47	81
AM4T-4824SZ	36-72	24	160	47	82
AM4T-1203SH35Z	9-18	3.3	1200	3300	72
AM4T-1205SH35Z	9-18	5	800	1000	78
AM4T-1207SH35Z	9-18	7.2	550	470	78
AM4T-1209SH35Z	9-18	9	440	4700	78
AM4T-1212SH35Z	9-18	12	330	220	80
AM4T-1215SH35Z	9-18	15	260	100	80
AM4T-1218SH35Z	9-18	18	220	47	80
AM4T-1224SH35Z	9-18	24	160	47	80
AM4T-2403SH35Z	18-36	3.3	1200	2200	75
AM4T-2405SH35Z	18-36	5	800	1000	80
AM4T-2407SH35Z	18-36	7.2	550	470	80
AM4T-2409SH35Z	18-36	9	440	470	80
AM4T-2412SH35Z	18-36	12	330	220	83
AM4T-2415SH35Z	18-36	15	260	220	80
AM4T-2418SH35Z	18-36	18	220	100	80
AM4T-4803SH35Z	36-72	3.3	1200	2200	75
AM4T-4805SH35Z	**36-72**	**5**	**800**	**680**	**80**
AM4T-4807SH35Z	36-72	7.2	550	470	80
AM4T-4809SH35Z	36-72	9	440	470	82
AM4T-4812SH35Z	36-72	12	330	330	80
AM4T-4818SH35Z	36-72	18	220	47	81
AM4T-4824SH35Z	36-72	24	160	47	82

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (µF)	Efficiency (%)
AM4T-1203DZ	9-18	±3.3	±600	±680	73
AM4T-1205DZ	9-18	±5	±400	±470	78
AM4T-1207DZ	9-18	±7.2	±270	±220	80
AM4T-1209DZ	9-18	±9	±220	±220	80
AM4T-1212DZ	9-18	±12	±160	±100	80
AM4T-1215DZ	9-18	±15	±130	±47	80
AM4T-1218DZ	9-18	±18	±110	±22	76
AM4T-1224DZ	9-18	±24	±80	±22	79
AM4T-2403DZ	18-36	±3.3	±600	±680	73
AM4T-2405DZ	18-36	±5	±400	±470	79
AM4T-2407DZ	18-36	±7.2	±270	±220	80
AM4T-2409DZ	18-36	±9	±220	±220	80
AM4T-2412DZ	18-36	±12	±160	±100	82
AM4T-2415DZ	18-36	±15	±130	±47	80
AM4T-2418DZ	18-36	±18	±110	±22	80
AM4T-2424DZ	18-36	±24	±80	±22	78
AM4T-4803DZ	36-72	±3.3	±600	±680	72
AM4T-4805DZ	36-72	±5	±400	±470	78
AM4T-4807DZ	36-72	±7.2	±270	±220	78
AM4T-4809DZ	36-72	±9	±220	±220	78
AM4T-4812DZ	36-72	±12	±160	±100	80
AM4T-4815DZ	36-72	±15	±130	±47	80
AM4T-4818DZ	36-72	±18	±110	±22	80
AM4T-4824DZ	36-72	±24	±80	±22	80
AM4T-1203DH35Z	9-18	±3.3	±600	±680	73
AM4T-1205DH35Z	9-18	±5	±400	±470	78
AM4T-1207DH35Z	9-18	±7.2	±270	±220	80
AM4T-1209DH35Z	9-18	±9	±220	±220	80
AM4T-1212DH35Z	9-18	±12	±160	±100	80
AM4T-1215DH35Z	9-18	±15	±130	±47	80
AM4T-1218DH35Z	9-18	±18	±110	±22	76
AM4T-1224DH35Z	9-18	±24	±80	±22	79
AM4T-2403DH35Z	18-36	±3.3	±600	±680	73
AM4T-2405DH35Z	18-36	±5	±400	±470	79
AM4T-2407DH35Z	18-36	±7.2	±270	±220	80
AM4T-2409DH35Z	18-36	±9	±220	±220	80
AM4T-2412DH35Z	18-36	±12	±160	±100	82
AM4T-2415DH35Z	18-36	±15	±130	±47	80
AM4T-2418DH35Z	18-36	±18	±110	±22	80
AM4T-2424DH35Z	36-72	±24	±80	±22	79
AM4T-4803DH35Z	36-72	±3.3	±600	±680	73
AM4T-4805DH35Z	36-72	±5	±400	±470	79
AM4T-4807DH35Z	36-72	±7.2	±270	±220	80
AM4T-4809DH35Z	36-72	±9	±220	±220	80
AM4T-4812DH35Z	36-72	±12	±160	±100	82
AM4T-4815DH35Z	36-72	±15	±130	±47	80
AM4T-4818DH35Z	36-72	±18	±110	±22	80
AM4T-4824DH35Z	36-72	±24	±80	±22	79

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	36-72		
Filter	π (Pi) Network			
Turn on Transient process time			350	ms

Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	36-72		
Filter	π (Pi) Network			
Turn on Transient process time			350	ms
Start up time		500		ms
Absolute Maximum Rating	12 Vin	-0.7-24		VDC
	24 Vin	-0.7-40		
	48 Vin	-0.7-80		
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	Balanced Load	±1		%
Short circuit protection	Continuous			
Short circuit restart	Auto Recovery			
Over current protection	120% Iout max			
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 model		±1.5		%
Load voltage regulation (Dual)		±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

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
Max Case temperature			100	°C
Cooling	Free air convection			
Humidity			90	%
Case material	Nickel coated copper			
Weight		17		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	>1 121 000 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.

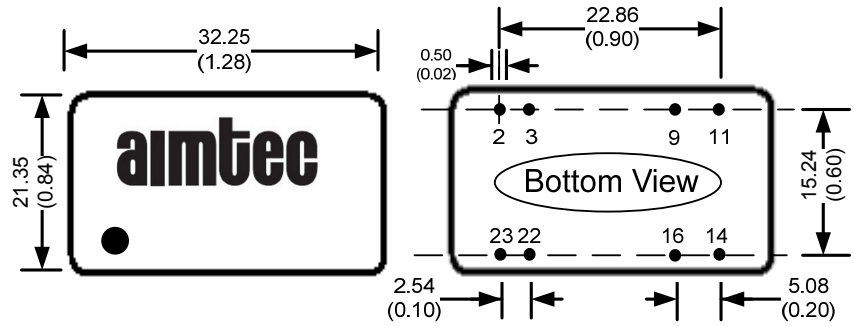
Safety Specifications

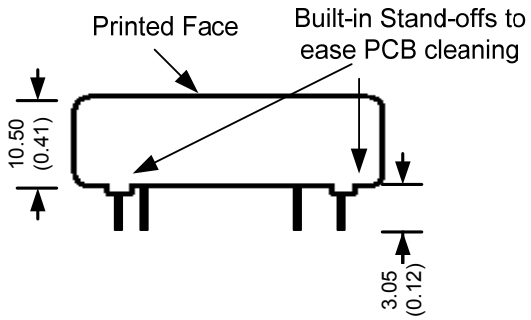
Parameters	
Agency Approval	CE
Standards	EN55022 Class A, EN55024
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	Note: also designed to meet IEC 60950-1:2001

Pin Out Specifications

Pin	1500 and 3500VDC	
	Single	Dual
2	-V Input	-V Input
3	-V Input	-V Input
9	No pin	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

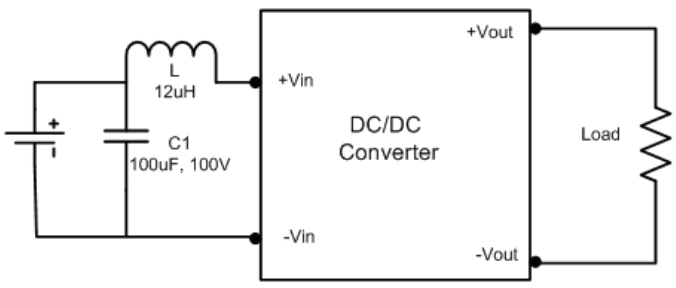
Dimensions



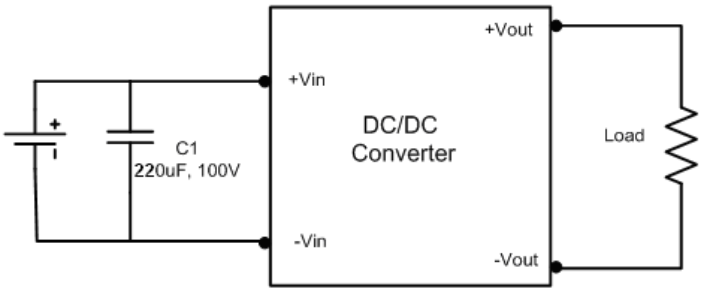


Test Circuits

Conducted Emissions:



Surge:



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