

## Series AM3T-RZ

### 3 Watt | DC-DC Converter



#### FEATURES:

- RoHS compliant
- Wide 2:1 input range
- High efficiency up to 82%
- Auto recovery short circuit protection
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500VDC
- Pin compatible with multiple manufacturers
- Low profile metal package

#### Models

##### Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3T-1203S-RZ	9-18	3.3	900	1500	470	72
AM3T-1205S-RZ	9-18	5	600	1500	470	76
AM3T-1207S-RZ	9-18	7.2	416	1500	68	78
AM3T-1209S-RZ	9-18	9	333	1500	68	78
AM3T-1212S-RZ	9-18	12	250	1500	47	80
AM3T-1215S-RZ	9-18	15	200	1500	47	80
AM3T-1218S-RZ	9-18	18	166	1500	22	80
AM3T-1224S-RZ	9-18	24	125	1500	22	80
AM3T-2403S-RZ	18-36	3.3	900	1500	470	72
AM3T-2405S-RZ	18-36	5	600	1500	470	76
AM3T-2407S-RZ	18-36	7.2	416	1500	68	78
AM3T-2409S-RZ	18-36	9	333	1500	68	78
AM3T-2412S-RZ	18-36	12	250	1500	47	80
AM3T-2415S-RZ	18-36	15	200	1500	47	82
AM3T-2418S-RZ	18-36	18	166	1500	22	82
AM3T-2424S-RZ	18-36	24	125	1500	22	82
AM3T-4803S-RZ	36-72	3.3	900	1500	470	72
AM3T-4805S-RZ	36-72	5	600	1500	470	76
AM3T-4807S-RZ	36-72	7.2	416	1500	68	78
AM3T-4809S-RZ	36-72	9	333	1500	68	78
AM3T-4812S-RZ	36-72	12	250	1500	47	80
AM3T-4815S-RZ	36-72	15	200	1500	47	80
AM3T-4818S-RZ	36-72	18	166	1500	22	80
AM3T-4824S-RZ	36-72	24	125	1500	22	80

#### Models

##### Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3T-1203D-RZ	9-18	±3.3	±450	1500	±220	72
AM3T-1205D-RZ	9-18	±5	±300	1500	±220	76
AM3T-1207D-RZ	9-18	±7.2	±208	1500	±33	80
AM3T-1209D-RZ	9-18	±9	±167	1500	±33	80
AM3T-1212D-RZ	9-18	±12	±125	1500	±22	80
AM3T-1215D-RZ	9-18	±15	±100	1500	±22	80
AM3T-1218D-RZ	9-18	±18	±83	1500	±10	80
AM3T-1224D-RZ	9-18	±24	±63	1500	±10	80
AM3T-2403D-RZ	18-36	±3.3	±450	1500	±220	72
AM3T-2405D-RZ	18-36	±5	±300	1500	±220	78
AM3T-2407D-RZ	18-36	±7.2	±208	1500	±33	80
AM3T-2409D-RZ	18-36	±9	±167	1500	±33	80
AM3T-2412D-RZ	18-36	±12	±125	1500	±22	82
AM3T-2415D-RZ	18-36	±15	±100	1500	±22	82
AM3T-2418D-RZ	18-36	±18	±83	1500	±10	82
AM3T-2424D-RZ	18-36	±24	±63	1500	±10	82

## Models

### Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3T-4803D-RZ	36-72	±3.3	±450	1500	±220	72
AM3T-4805D-RZ	36-72	±5	±300	1500	±220	76
AM3T-4807D-RZ	36-72	±7.2	±208	1500	±33	78
AM3T-4809D-RZ	36-72	±9	±167	1500	±33	78
AM3T-4812D-RZ	36-72	±12	±125	1500	±22	80
AM3T-4815D-RZ	36-72	±15	±100	1500	±22	80
AM3T-4818D-RZ	36-72	±18	±83	1500	±10	80
AM3T-4824D-RZ	36-72	±24	±63	1500	±10	80

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12	9-18		VDC
	24	18-36		
	48	36-72		
Filter	π (Pi) Network			
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
Input Reflected Ripple 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	VDC
Case/ Input & Output		1000		VDC
Resistance		> 1000		MOhm
Capacitance		500		pF

## Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Short Circuit protection	Continuous, auto recovery			
Line voltage regulation	LL-HL	±0.5		%
Load voltage regulation	Load: 0...100%, 3.3V/±3.3V Models	±1.5		%
	Load: 10...100%, others	±0.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise *	At 20MHz Bandwidth	60		mV p-p

\* Measured with 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
Max Case temperature			100	°C
Cooling	Free air convection			
Humidity			95	% RH
Case material	Nickel-coated copper			
Weight		17		g
Dimensions (L x W x H)	1.25 x 0.8 x 0.4 inches	31.75 x 20.32 x 10.16 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.

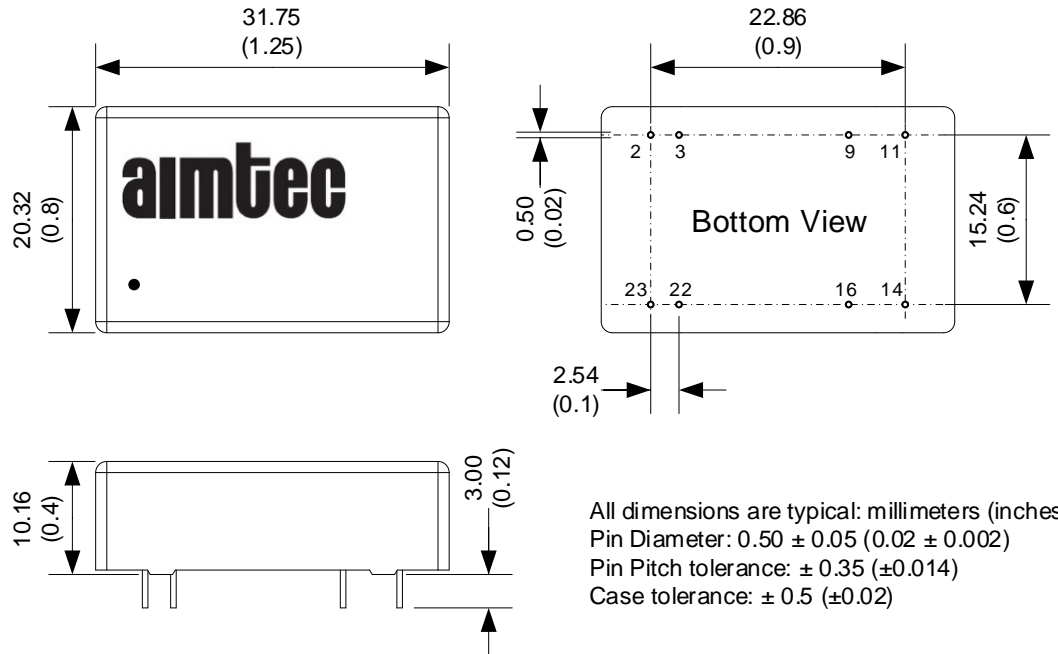
## Safety Specifications

Parameters	
Agency approvals	CE, UL
Safety standards	EN55032 Class A, with recommended 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
	IEC/EN/UL 60950-1:2001 & IEC/EN/UL 62368-1

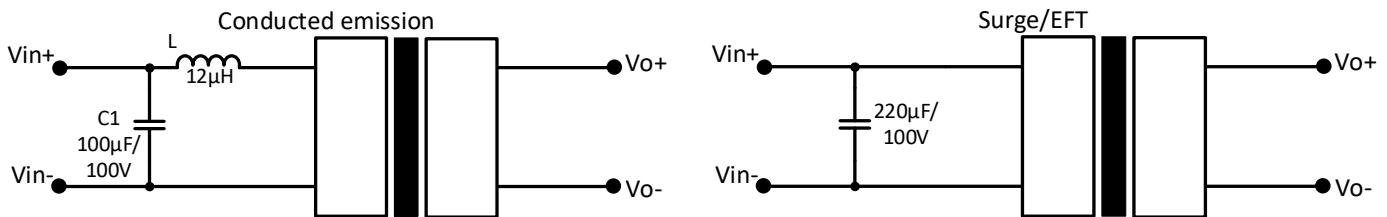
## Pin Out Specifications

Pin	1500VDC	
	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



## Recommended Circuits



**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 than 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).