

Series AM3T-Z

3 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- Wide 2:1 input range
- High efficiency up to 82%
- Continuous short circuit protection
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500 and 3500 VDC
- 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-1203SZ	9-18	3.3	800	1500	470	73
AM3T-1205SZ	9-18	5	600	1500	470	76
AM3T-1207SZ	9-18	7.2	417	1500	68	78
AM3T-1209SZ	9-18	9	333	1500	68	77
AM3T-1212SZ	9-18	12	250	1500	47	79
AM3T-1215SZ	9-18	15	200	1500	47	79
AM3T-1218SZ	9-18	18	167	1500	22	80
AM3T-1224SZ	9-18	24	125	1500	22	79
AM3T-2403SZ	18-36	3.3	800	1500	470	73
AM3T-2405SZ	18-36	5	600	1500	470	77
AM3T-2407SZ	18-36	7.2	417	1500	68	79
AM3T-2409SZ	18-36	9	333	1500	68	78
AM3T-2412SZ	18-36	12	250	1500	47	78
AM3T-2415SZ	18-36	15	200	1500	47	78
AM3T-2418SZ	18-36	18	167	1500	22	79
AM3T-2424SZ	18-36	24	125	1500	22	78
AM3T-4803SZ	36-72	3.3	800	1500	470	75
AM3T-4805SZ	36-72	5	600	1500	470	80
AM3T-4807SZ	36-72	7.2	417	1500	68	80
AM3T-4809SZ	36-72	9	333	1500	68	80
AM3T-4812SZ	36-72	12	250	1500	47	82
AM3T-4815SZ	36-72	15	200	1500	47	82
AM3T-4818SZ	36-72	18	167	1500	22	80
AM3T-4824SZ	36-72	24	125	1500	22	80
AM3T-1203SH35Z	9-18	3.3	800	3500	470	73
AM3T-1205SH35Z	9-18	5	600	3500	470	76
AM3T-1207SH35Z	9-18	7.2	417	3500	68	78
AM3T-1209SH35Z	9-18	9	333	3500	68	77
AM3T-1212SH35Z	9-18	12	250	3500	47	79
AM3T-1215SH35Z	9-18	15	200	3500	47	79
AM3T-1218SH35Z	9-18	18	167	3500	22	80
AM3T-1224SH35Z	9-18	24	125	3500	22	79
AM3T-2403SH35Z	18-36	3.3	800	3500	470	75
AM3T-2405SH35Z	18-36	5	600	3500	470	80
AM3T-2407SH35Z	18-36	7.2	417	3500	68	80
AM3T-2409SH35Z	18-36	9	333	3500	68	80
AM3T-2412SH35Z	18-36	12	250	3500	47	82
AM3T-2415SH35Z	18-36	15	200	3500	47	82
AM3T-2418SH35Z	18-36	18	167	3500	22	80
AM3T-2424SH35Z	18-36	24	125	3500	22	80
AM3T-4803SH35Z	36-72	3.3	800	3500	470	80
AM3T-4805SH35Z	36-72	5	600	3500	470	77
AM3T-4807SH35Z	36-72	7.2	417	3500	68	81
AM3T-4809SH35Z	36-72	9	333	3500	68	78
AM3T-4812SH35Z	36-72	12	250	3500	47	80
AM3T-4815SH35Z	36-72	15	200	3500	47	80

Models

Single output (continue)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3T-4818SH35Z	36-72	18	167	3500	22	80
AM3T-4824SH35Z	36-72	24	125	3500	22	80

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3T-1203DZ	9-18	±3.3	±400	1500	±220	75
AM3T-1205DZ	9-18	±5	±300	1500	±220	78
AM3T-1207DZ	9-18	±7.2	±208	1500	±33	78
AM3T-1209DZ	9-18	±9	±167	1500	±33	79
AM3T-1212DZ	9-18	±12	±125	1500	±22	80
AM3T-1215DZ	9-18	±15	±100	1500	±22	80
AM3T-1218DZ	9-18	±18	±84	1500	±10	78
AM3T-1224DZ	9-18	±24	±63	1500	±10	80
AM3T-2403DZ	18-36	±3.3	±400	1500	±220	75
AM3T-2405DZ	18-36	±5	±300	1500	±220	77
AM3T-2407DZ	18-36	±7.2	±208	1500	±33	81
AM3T-2409DZ	18-36	±9	±167	1500	±33	78
AM3T-2412DZ	18-36	±12	±125	1500	±22	80
AM3T-2415DZ	18-36	±15	±100	1500	±22	80
AM3T-2418DZ	18-36	±18	±84	1500	±10	80
AM3T-2424DZ	18-36	±24	±63	1500	±10	80
AM3T-4803DZ	36-72	±3.3	±400	1500	±220	76
AM3T-4805DZ	36-72	±5	±300	1500	±220	78
AM3T-4807DZ	36-72	±7.2	±208	1500	±33	78
AM3T-4809DZ	36-72	±9	±167	1500	±33	79
AM3T-4812DZ	36-72	±12	±125	1500	±22	80
AM3T-4815DZ	36-72	±15	±100	1500	±22	80
AM3T-4818DZ	36-72	±18	±84	1500	±10	78
AM3T-4824DZ	36-72	±24	±63	1500	±10	80
AM3T-1203DH35Z	9-18	±3.3	±400	3500	±220	75
AM3T-1205DH35Z	9-18	±5	±300	3500	±220	78
AM3T-1207DH35Z	9-18	±7.2	±208	3500	±33	80
AM3T-1209DH35Z	9-18	±9	±167	3500	±33	79
AM3T-1212DH35Z	9-18	±12	±125	3500	±22	80
AM3T-1215DH35Z	9-18	±15	±100	3500	±22	80
AM3T-1218DH35Z	9-18	±18	±84	3500	±10	80
AM3T-1224DH35Z	9-18	±24	±63	3500	±10	80
AM3T-2403DH35Z	18-36	±3.3	±400	3500	±220	75
AM3T-2405DH35Z	18-36	±5	±300	3500	±220	78
AM3T-2407DH35Z	18-36	±7.2	±208	3500	±33	80
AM3T-2409DH35Z	18-36	±9	±167	3500	±33	79
AM3T-2412DH35Z	18-36	±12	±125	3500	±22	80
AM3T-2415DH35Z	18-36	±15	±100	3500	±22	80
AM3T-2418DH35Z	18-36	±18	±84	3500	±10	80
AM3T-2424DH35Z	18-36	±24	±63	3500	±10	80
AM3T-4803DH35Z	36-72	±3.3	±400	3500	±220	76
AM3T-4805DH35Z	36-72	±5	±300	3500	±220	78
AM3T-4807DH35Z	36-72	±7.2	±208	3500	±33	78
AM3T-4809DH35Z	36-72	±9	±167	3500	±33	79
AM3T-4812DH35Z	36-72	±12	±125	3500	±22	80

Models

Dual output (continue)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (μF)	Efficiency (%)
AM3T-4815DH35Z	36-72	±15	±100	3500	±22	80
AM3T-4818DH35Z	36-72	±18	±84	3500	±10	78
AM3T-4824DH35Z	36-72	±24	±63	3500	±10	80

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

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12 24 48	9-18 18-36 36-72		VDC
Filter	π (Pi) Network			
Turn on Transient process time			350	ms
Start up time		500		ms
Absolute Maximum Rating	12 Vin 24 Vin 48 Vin	-0.7-24 -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 and 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			
Line voltage regulation (Single)	LL-HL	±0.5		%
Line voltage regulation (Dual)	LL-HL	±0.5		%
Load voltage regulation (Single)	Load: 10...100%	±0.5		%
Load voltage regulation (Single) 3.3V output model	Load: 10...100%	±1.5		%
Load voltage regulation (Dual)	Load: 10...100%	±0.5		%
Load voltage regulation (Dual) ±3.3V output model	Load: 10...100%	±1.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	60		mV p-p
Rising time		10		ms

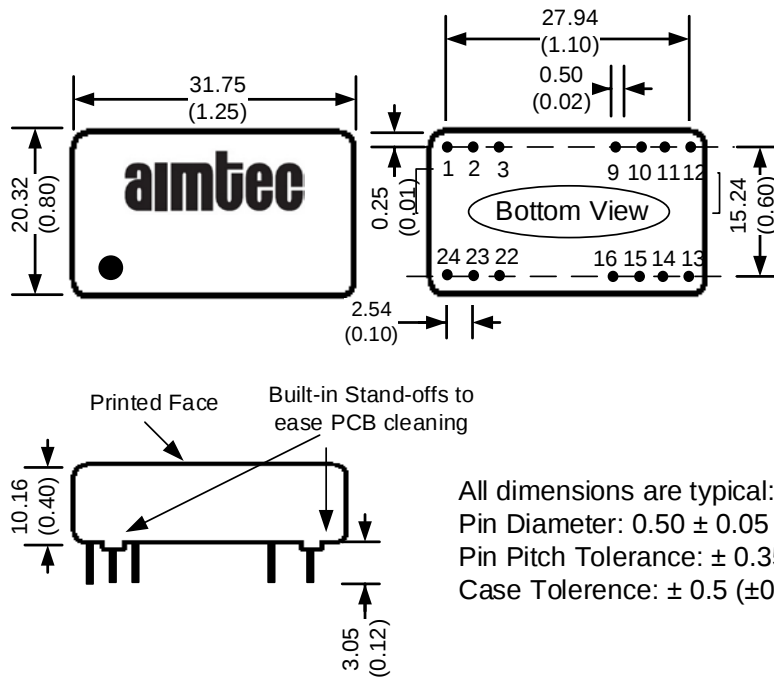
General Specifications

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 10.50mm	
MTBF	>1 039 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

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 ± 0.05 (0.02 ± 0.002)
Pin Pitch Tolerance: ± 0.35 (± 0.014)
Case Tolerance: ± 0.5 (± 0.02)

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 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.