



**FEATURES:**

- RoHS compliant
- 24 Pin DIP Package
- High efficiency up to 83%
- Wide 2:1 input range
- Operating temperature -40°C to +85°C
- Input / Output isolation 1500 and 3500VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection

**Models**  
**Single Output**



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (µF)	Efficiency (%)	Isolation (VDC)
AM5T-0503SZ	4.5-9	3.3	1300	3300	73	1500
AM5T-0505SZ	4.5-9	5	1000	1000	76	1500
AM5T-0512SZ	4.5-9	12	410	220	82	1500
AM5T-0515SZ	4.5-9	15	330	100	82	1500
AM5T-1203SZ	9-18	3.3	1300	1000	73	1500
AM5T-1205SZ	9-18	5	1000	1000	77	1500
AM5T-1207SZ	9-18	7.2	690	680	80	1500
AM5T-1209SZ	9-18	9	550	680	78	1500
AM5T-1212SZ	9-18	12	410	330	81	1500
AM5T-1215SZ	9-18	15	330	220	80	1500
AM5T-1218SZ	9-18	18	270	68	80	1500
AM5T-1224SZ	9-18	24	208	68	80	1500
AM5T-2403SZ	18-36	3.3	1300	3300	75	1500
AM5T-2405SZ	18-36	5	1000	1000	80	1500
AM5T-2407SZ	18-36	7.2	690	680	82	1500
AM5T-2409SZ	18-36	9	550	680	82	1500
AM5T-2412SZ	18-36	12	410	330	80	1500
AM5T-2415SZ	18-36	15	330	220	82	1500
AM5T-2418SZ	18-36	18	270	100	82	1500
AM5T-2424SZ	18-36	24	208	100	82	1500
AM5T-4803SZ	36-72	3.3	1300	1000	75	1500
AM5T-4805SZ	36-72	5	1000	1000	80	1500
AM5T-4807SZ	36-72	7.2	690	470	81	1500
AM5T-4809SZ	36-72	9	550	470	82	1500
AM5T-4812SZ	36-72	12	410	330	80	1500
AM5T-4815SZ	36-72	15	330	220	83	1500
AM5T-4818SZ	36-72	18	270	100	82	1500
AM5T-4824SZ	36-72	18	208	100	83	1500
AM5T-0503SH35Z	4.5-9	3.3	1300	3300	73	3500
AM5T-0505SH35Z	4.5-9	5	1000	1000	76	3500
AM5T-0512SH35Z	4.5-9	12	410	220	82	3500
AM5T-0515SH35Z	4.5-9	15	330	100	82	3500
AM5T-1203SH35Z	9-18	3.3	1300	1000	73	3500
AM5T-1205SH35Z	9-18	5	1000	1000	77	3500
AM5T-1207SH35Z	9-18	7.2	690	680	80	3500
AM5T-1209SH35Z	9-18	9	550	680	78	3500
AM5T-1212SH35Z	9-18	12	410	330	81	3500
AM5T-1215SH35Z	9-18	15	330	220	80	3500
AM5T-1218SH35Z	9-18	18	270	68	80	3500
AM5T-1224SH35Z	9-18	24	208	68	80	3500
AM5T-2403SH35Z	18-36	3.3	1300	3300	75	3500
AM5T-2405SH35Z	18-36	5	1000	1000	80	3500
AM5T-2407SH35Z	18-36	7.2	690	680	82	3500
AM5T-2409SH35Z	18-36	9	550	680	82	3500
AM5T-2412SH35Z	18-36	12	410	330	80	3500
AM5T-2415SH35Z	18-36	15	330	220	82	3500
AM5T-2418SH35Z	18-36	18	270	100	82	3500
AM5T-2424SH35Z	18-36	24	208	100	82	3500

**Models**

**Single Output (continued)**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (µF)	Efficiency (%)	Isolation (VDC)
AM5T-4803SH35Z	36-72	3.3	1300	1000	75	3500
AM5T-4805SH35Z	36-72	5	1000	1000	80	3500
AM5T-4807SH35Z	36-72	7.2	690	470	81	3500
AM5T-4809SH35Z	36-72	9	550	470	82	3500
AM5T-4815SH35Z	36-72	15	330	220	83	3500
AM5T-4818SH35Z	36-72	18	270	100	82	3500
AM5T-4824SH35Z	36-72	24	208	100	83	3500
AM5T-4812SH35Z	36-72	12	410	330	80	3500

**Models**

**Dual Output**

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (µF)	Efficiency (%)	Isolation (VDC)
AM5T-0503DZ	4.5-9	±3.3	±650	3300	76	1500
AM5T-0505DZ	4.5-9	±5	±500	1000	79	1500
AM5T-0512DZ	4.5-9	±12	±208	220	82	1500
AM5T-0515DZ	4.5-9	±15	±160	100	82	1500
AM5T-1203DZ	9-18	±3.3	±650	±680	73	1500
AM5T-1205DZ	9-18	±5	±500	±330	77	1500
AM5T-1207DZ	9-18	±7.2	±340	±220	79	1500
AM5T-1209DZ	9-18	±9	±270	±220	80	1500
AM5T-1212DZ	9-18	±12	±208	±100	80	1500
AM5T-1215DZ	9-18	±15	±160	±47	79	1500
AM5T-1218DZ	9-18	±18	±130	±33	80	1500
AM5T-1224DZ	9-18	±24	±100	±33	80	1500
AM5T-2403DZ	18-36	±3.3	±650	±1000	75	1500
AM5T-2405DZ	18-36	±5	±500	±330	78	1500
AM5T-2407DZ	18-36	±7.2	±340	±330	81	1500
AM5T-2409DZ	18-36	±9	±270	±330	83	1500
AM5T-2412DZ	18-36	±12	±208	±100	80	1500
AM5T-2415DZ	18-36	±15	±160	±47	80	1500
AM5T-2418DZ	18-36	±18	±130	±33	81	1500
AM5T-2424DZ	18-36	±24	±100	±33	80	1500
AM5T-4803DZ	36-72	±3.3	±650	±1000	73	1500
AM5T-4805DZ	36-72	±5	±500	±330	79	1500
AM5T-4807DZ	36-72	±7.2	±340	±330	81	1500
AM5T-4809DZ	36-72	±9	±270	±330	79	1500
AM5T-4812DZ	36-72	±12	±208	±100	80	1500
AM5T-4815DZ	36-72	±15	±160	±47	80	1500
AM5T-4818DZ	36-72	±18	±130	±33	77	1500
AM5T-4824DZ	36-72	±24	±100	±33	80	1500
AM5T-0503DH35Z	4.5-9	±3.3	±650	3300	76	3500
AM5T-0505DH35Z	4.5-9	±5	±500	1000	79	3500
AM5T-0512DH35Z	4.5-9	±12	±208	220	82	3500
AM5T-0515DH35Z	4.5-9	±15	±160	100	82	3500
AM5T-1203DH35Z	9-18	±3.3	±650	±680	73	3500
AM5T-1205DH35Z	9-18	±5	±500	±330	77	3500
AM5T-1207DH35Z	9-18	±7.2	±340	±220	79	3500
AM5T-1209DH35Z	9-18	±9	±270	±220	80	3500
AM5T-1212DH35Z	9-18	±12	±208	±100	80	3500
AM5T-1215DH35Z	9-18	±15	±160	±47	79	3500
AM5T-1218DH35Z	9-18	±18	±130	±33	80	3500
AM5T-1224DH35Z	9-18	±24	±100	±33	80	3500
AM5T-2403DH35Z	18-36	±3.3	±650	±1000	75	3500
AM5T-2405DH35Z	18-36	±5	±500	±330	78	3500
AM5T-2407DH35Z	18-36	±7.2	±340	±330	81	3500

## Models

### Dual Output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (μF)	Efficiency (%)	Isolation (VDC)
AM5T-2409DH35Z	18-36	±9	±270	±330	83	3500
AM5T-2412DH35Z	18-36	±12	±208	±100	80	3500
AM5T-2415DH35Z	18-36	±15	±160	±47	80	3500
AM5T-2418DH35Z	18-36	±18	±130	±33	81	3500
AM5T-2424DH35Z	18-36	±24	±100	±33	80	3500
AM5T-4803DH35Z	36-72	±3.3	±650	±1000	73	3500
AM5T-4805DH35Z	36-72	±5	±500	±330	79	3500
AM5T-4807DH35Z	36-72	±7.2	±340	±330	81	3500
AM5T-4809DH35Z	36-72	±9	±270	±330	79	3500
AM5T-4812DH35Z	36-72	±12	±208	±100	80	3500
AM5T-4815DH35Z	36-72	±15	±160	±47	80	3500
AM5T-4818DH35Z	36-72	±18	±130	±33	77	3500
AM5T-4824DH35Z	36-72	±24	±100	±33	80	3500

## Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-9		VDC
	12	9-18		
	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	5 Vin	-0.7-15		VDC
	12 Vin	-0.7-24		
	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 (Dual Output)	Balanced Load	±1		%
Short Circuit protection		Continuous		
Short circuit restart		Auto recovery		
Over current protection		120% Iout		
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				
Load voltage regulation (Dual)	0 – 100% load	±0.5		%
Load voltage regulation (Dual)	0 – 100% load	±1.5		%
±3.3V output model				
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
Derating	Not Required			
Cooling	Free air convection			
Humidity			90	%
Case material	Nickel coated copper			
Weight		17		g
Dimensions(L x W x H)	Tolerance $\pm 0.5$ mm or $\pm 0.02$ 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, $t=+25^{\circ}\text{C}$ )			

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.

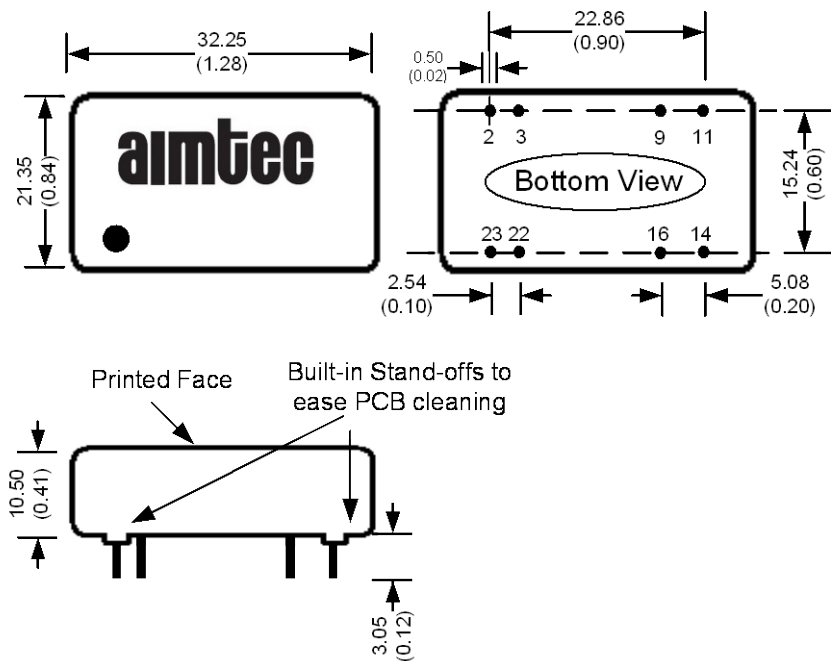
### Safety Specifications

Parameters	
Agency Approvals	CE (except for 5V input models)
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: designed to meet IEC 60950-1:2001

### Pin Out Specifications

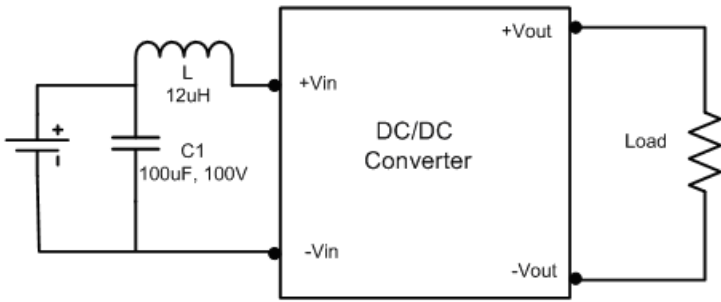
Pin	1500 and 3500VDC	
	Single	Dual
2	-V Input	-V Input
3	-V Input	-V Input
9	NO PIN.	Common
11	N. C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

### Dimensions

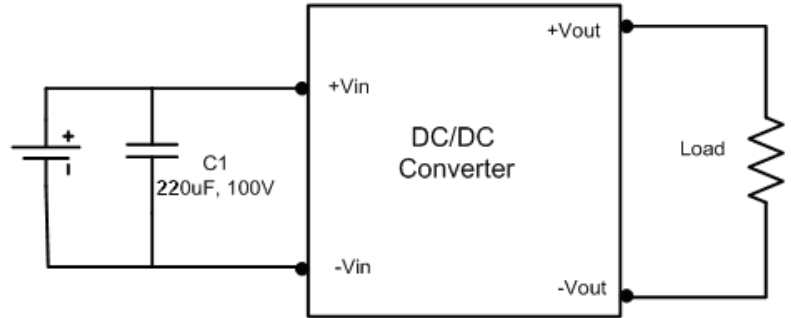


**Test Circuits**

**Conducted Emissions:**

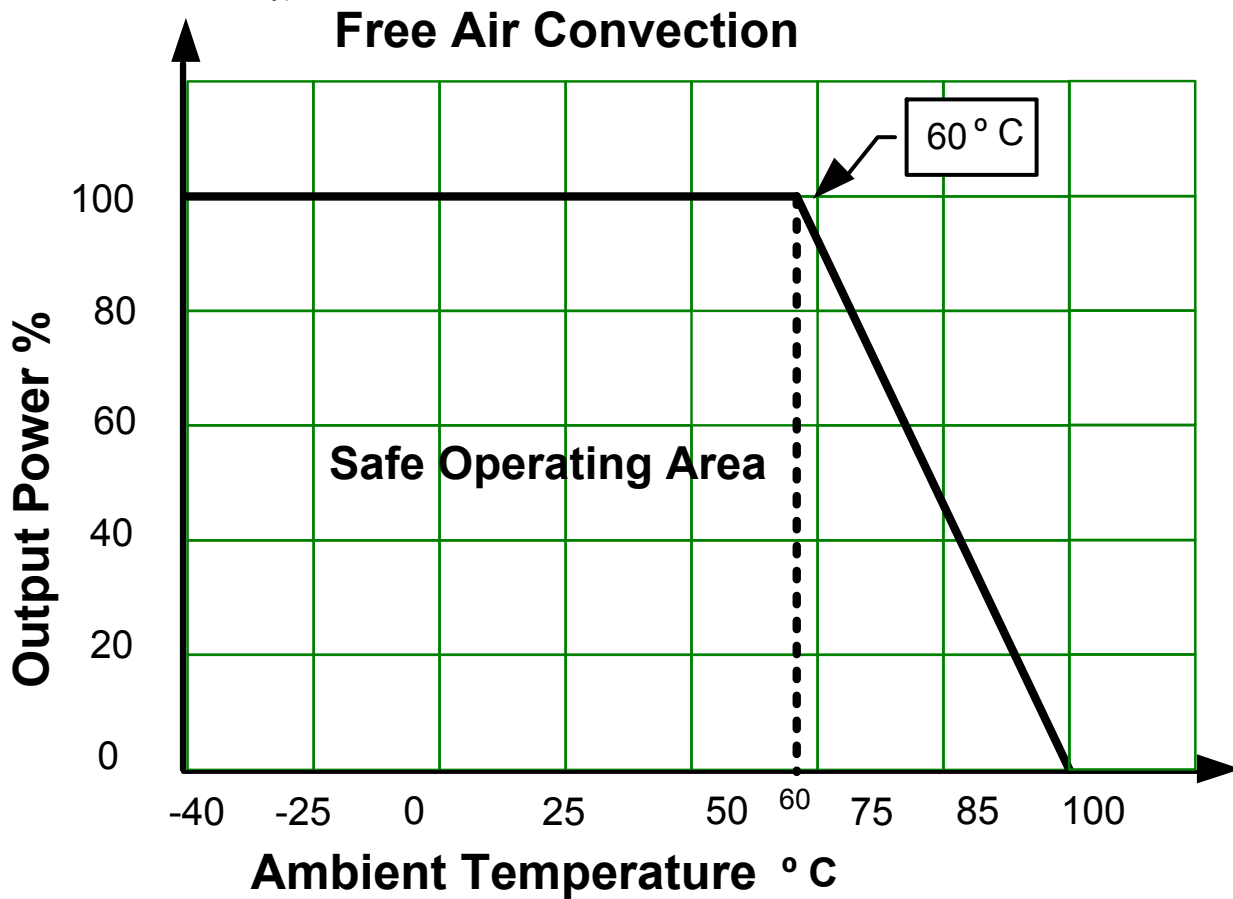


**Surge:**



**Derating**

(AM5T-05xxxx Devices only)



**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).