

Series AM5T-VZ

5 Watt | DC-DC Converter



FEATURES:

- Wide 2:1 input range
- 24 Pin DIP Package
- Metal package
- High efficiency up to 80%
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1500 & 3500 VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max. Capacitive load (μF)	Efficiency (%)
AM5T-1205S-VZ	9-18	5	1000	2200	74
AM5T-1209S-VZ	9-18	9	555	470	77
AM5T-1212S-VZ	9-18	12	416	470	78
AM5T-1215S-VZ	9-18	15	333	470	78
AM5T-1224S-VZ	9-18	24	208	220	75
AM5T-2405S-VZ	18-36	5	1000	2200	75
AM5T-2409S-VZ	18-36	9	555	470	76
AM5T-2412S-VZ	18-36	12	416	470	77
AM5T-2415S-VZ	18-36	15	333	470	78
AM5T-2424S-VZ	18-36	24	208	220	76
AM5T-4805S-VZ	36-72	5	1000	2200	77
AM5T-4809S-VZ	36-72	9	555	470	78
AM5T-4812S-VZ	36-72	12	416	470	80
AM5T-4815S-VZ	36-72	15	333	470	80
AM5T-4824S-VZ	36-72	24	208	220	77
AM5T-1205SH35-VZ	9-18	5	1000	2200	74
AM5T-1209SH35-VZ	9-18	9	555	470	77
AM5T-1212SH35-VZ	9-18	12	416	470	78
AM5T-1215SH35-VZ	9-18	15	333	470	78
AM5T-1224SH35-VZ	9-18	24	208	220	75
AM5T-2405SH35-VZ	18-36	5	1000	2200	75
AM5T-2409SH35-VZ	18-36	9	555	470	76
AM5T-2412SH35-VZ	18-36	12	416	470	77
AM5T-2415SH35-VZ	18-36	15	333	470	78
AM5T-2424SH35-VZ	18-36	24	208	220	76
AM5T-4805SH35-VZ	36-72	5	1000	2200	77
AM5T-4809SH35-VZ	36-72	9	555	470	78
AM5T-4812SH35-VZ	36-72	12	416	470	80
AM5T-4815SH35-VZ	36-72	15	333	470	80
AM5T-4824SH35-VZ	36-72	24	208	220	77

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max. Capacitive load (μF)	Efficiency (%)
AM5T-1205D-VZ	9-18	±5	±500	±1000	72
AM5T-1209D-VZ	9-18	±9	±277	±220	76
AM5T-1212D-VZ	9-18	±12	±208	±220	77
AM5T-1215D-VZ	9-18	±15	±166	±220	77
AM5T-1224D-VZ	9-18	±24	±104	±100	76
AM5T-2405D-VZ	18-36	±5	±500	±1000	74
AM5T-2409D-VZ	18-36	±9	±277	±220	76
AM5T-2412D-VZ	18-36	±12	±208	±220	78
AM5T-2415D-VZ	18-36	±15	±166	±220	78
AM5T-2424D-VZ	18-36	±24	±104	±100	75
AM5T-4805D-VZ	36-72	±5	±500	±1000	76

Models

Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Max. Capacitive load (μF)	Efficiency (%)
AM5T-4809D-VZ	36-72	±9	±277	±220	78
AM5T-4812D-VZ	36-72	±12	±208	±220	78
AM5T-4815D-VZ	36-72	±15	±166	±220	80
AM5T-4824D-VZ	36-72	±24	±104	±100	77
AM5T-1205DH35-VZ	9-18	±5	±500	±1000	72
AM5T-1209DH35-VZ	9-18	±9	±277	±220	76
AM5T-1212DH35-VZ	9-18	±12	±208	±220	77
AM5T-1215DH35-VZ	9-18	±15	±166	±220	77
AM5T-1224DH35-VZ	9-18	±24	±104	±100	76
AM5T-2405DH35-VZ	18-36	±5	±500	±1000	74
AM5T-2409DH35-VZ	18-36	±9	±277	±220	76
AM5T-2412DH35-VZ	18-36	±12	±208	±220	78
AM5T-2415DH35-VZ	18-36	±15	±166	±220	78
AM5T-2424DH35-VZ	18-36	±24	±104	±100	75
AM5T-4805DH35-VZ	36-72	±5	±500	±1000	76
AM5T-4809DH35-VZ	36-72	±9	±277	±220	78
AM5T-4812DH35-VZ	36-72	±12	±208	±220	78
AM5T-4815DH35-VZ	36-72	±15	±166	±220	80
AM5T-4824DH35-VZ	36-72	±24	±104	±100	77

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage Range	12	9-18		VDC
	24	18-36		VDC
	48	36-72		VDC
Filter	π (Pi) Network			
Start up time		20		ms
Absolute Maximum Rating	12 Vin	-0.7-24		VDC
	24 Vin	-0.7-40		VDC
	48 Vin	-0.7-80		VDC
Peak Input Voltage time			100	ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
	60 sec, H35 models		3500	VDC
Resistance		> 1000		MOhm
Capacitance		60		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			
Line voltage regulation	HL-LL	±0.5		%
Load voltage regulation	25-100% Load	±0.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise (see note)	At 20MHz Bandwidth	60		mV p-p

Note: For ripple and noise specification, a 100 μF capacitor must be placed on the output of converter.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		100-400		KHz
Operating temperature	Full Load (see derating chart)	-40 to +85		°C
Storage temperature		-40 to +125		°C
Derating	71 to 85 °C	3.45		%/°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 0.4 inches	31.75 x 20.32 x 10.16 mm	
MTBF	>1,000,000 hrs (MIL-HDBK -217F, Ground Benign, $t=+25^{\circ}\text{C}$)			

Safety Specifications

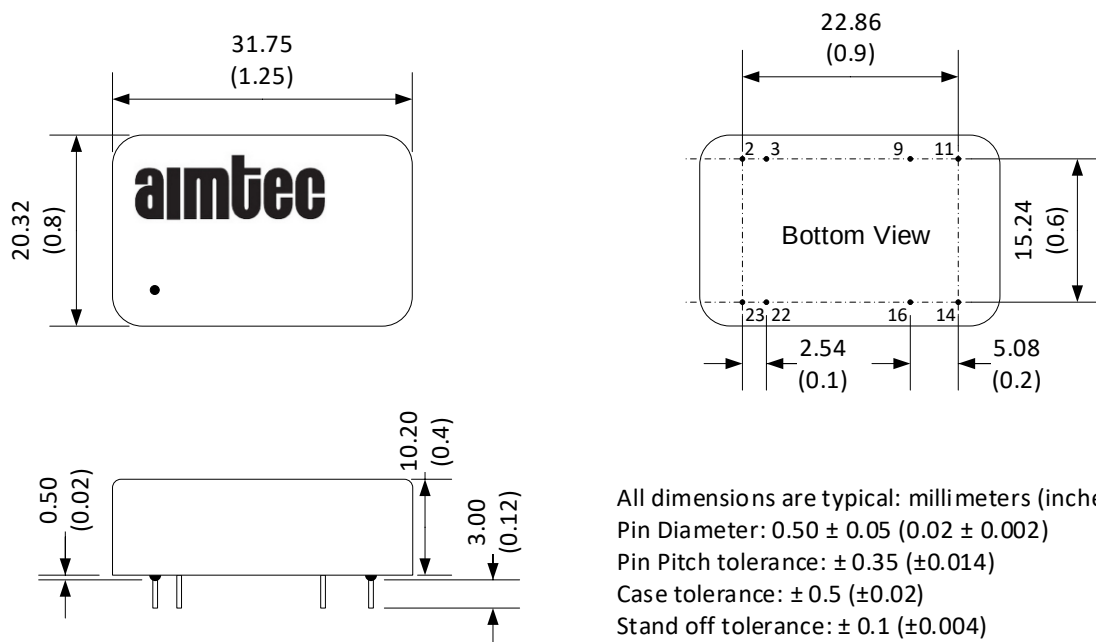
Parameters	
Standards	Designed to meet IEC 60950-1

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.

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



All dimensions are typical: millimeters (inches)

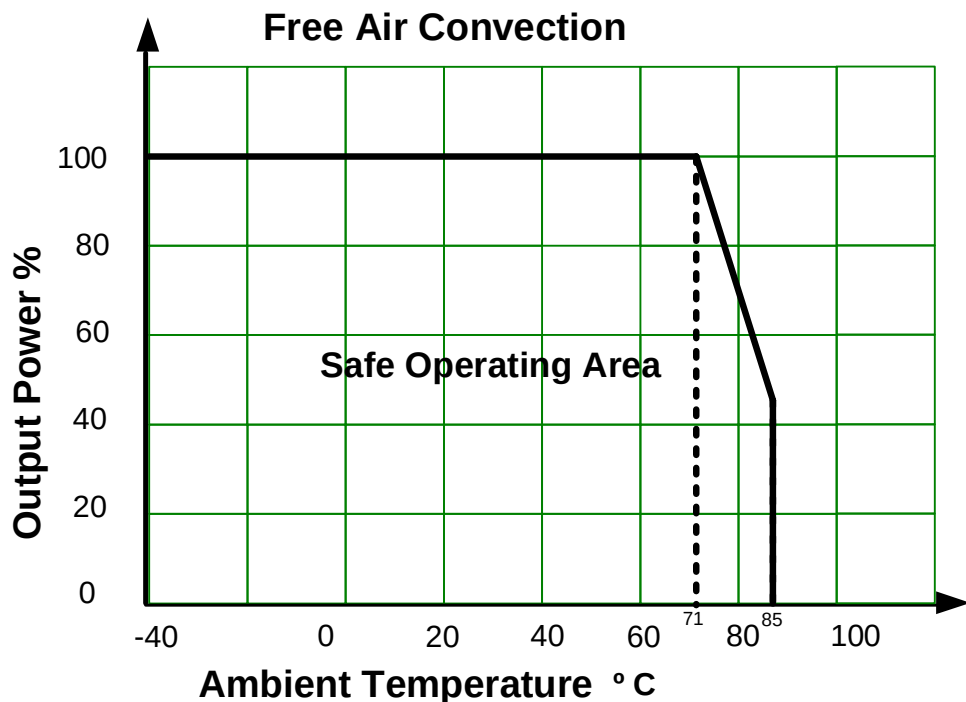
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)

Pin Pitch tolerance: ± 0.35 (± 0.014)

Case tolerance: ± 0.5 (± 0.02)

Stand off tolerance: ± 0.1 (± 0.004)

Derating



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