

Series AM6T-VZ

6 Watt | DC-DC Converter



FEATURES:

- Wide 2:1 input range
- 24 Pin DIP Package
- Metal package
- High efficiency up to 81%
- 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)	Capacitive load, max (μF)	Efficiency (%)
AM6T-1205S-VZ	9-18	5	1200	2200	68
AM6T-1209S-VZ	9-18	9	666	470	72
AM6T-1212S-VZ	9-18	12	500	470	74
AM6T-1215S-VZ	9-18	15	400	470	79
AM6T-1224S-VZ	9-18	24	250	220	76
AM6T-2405S-VZ	18-36	5	1200	2200	76
AM6T-2409S-VZ	18-36	9	666	470	80
AM6T-2412S-VZ	18-36	12	500	470	80
AM6T-2415S-VZ	18-36	15	400	470	81
AM6T-2424S-VZ	18-36	24	250	220	77
AM6T-4805S-VZ	36-72	5	1200	2200	74
AM6T-4809S-VZ	36-72	9	666	470	77
AM6T-4812S-VZ	36-72	12	500	470	77
AM6T-4815S-VZ	36-72	15	400	470	79
AM6T-4824S-VZ	36-72	24	250	220	75
AM6T-1205SH35-VZ	9-18	5	1200	2200	68
AM6T-1209SH35-VZ	9-18	9	666	470	72
AM6T-1212SH35-VZ	9-18	12	500	470	74
AM6T-1215SH35-VZ	9-18	15	400	470	79
AM6T-1224SH35-VZ	9-18	24	250	220	76
AM6T-2405SH35-VZ	18-36	5	1200	2200	76
AM6T-2409SH35-VZ	18-36	9	666	470	80
AM6T-2412SH35-VZ	18-36	12	500	470	80
AM6T-2415SH35-VZ	18-36	15	400	470	81
AM6T-2424SH35-VZ	18-36	24	250	220	77
AM6T-4805SH35-VZ	36-72	5	1200	2200	74
AM6T-4809SH35-VZ	36-72	9	666	470	77
AM6T-4812SH35-VZ	36-72	12	500	470	77
AM6T-4815SH35-VZ	36-72	15	400	470	79
AM6T-4824SH35-VZ	36-72	24	250	220	75

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (μF)	Efficiency (%)
AM6T-1205D-VZ	9-18	±5	±600	±1000	78
AM6T-1209D-VZ	9-18	±9	±333	±220	78
AM6T-1212D-VZ	9-18	±12	±250	±220	78
AM6T-1215D-VZ	9-18	±15	±200	±220	80
AM6T-1224D-VZ	9-18	±24	±125	±100	78
AM6T-2405D-VZ	18-36	±5	±600	±1000	76
AM6T-2409D-VZ	18-36	±9	±333	±220	77
AM6T-2412D-VZ	18-36	±12	±250	±220	80
AM6T-2415D-VZ	18-36	±15	±200	±220	80
AM6T-2424D-VZ	18-36	±24	±125	±100	78
AM6T-4805D-VZ	36-72	±5	±600	±1000	74
AM6T-4809D-VZ	36-72	±9	±333	±220	76

Models

Dual output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Capacitive load, max (μF)	Efficiency (%)
AM6T-4812D-VZ	36-72	±12	±250	±220	76
AM6T-4815D-VZ	36-72	±15	±200	±220	78
AM6T-4824D-VZ	36-72	±24	±125	±100	77
AM6T-1205DH35-VZ	9-18	±5	±600	±1000	78
AM6T-1209DH35-VZ	9-18	±9	±333	±220	78
AM6T-1212DH35-VZ	9-18	±12	±250	±220	78
AM6T-1215DH35-VZ	9-18	±15	±200	±220	80
AM6T-1224DH35-VZ	9-18	±24	±125	±100	78
AM6T-2405DH35-VZ	18-36	±5	±600	±1000	76
AM6T-2409DH35-VZ	18-36	±9	±333	±220	77
AM6T-2412DH35-VZ	18-36	±12	±250	±220	80
AM6T-2415DH35-VZ	18-36	±15	±200	±220	80
AM6T-2424DH35-VZ	18-36	±24	±125	±100	78
AM6T-4805DH35-VZ	36-72	±5	±600	±1000	74
AM6T-4809DH35-VZ	36-72	±9	±333	±220	76
AM6T-4812DH35-VZ	36-72	±12	±250	±220	76
AM6T-4815DH35-VZ	36-72	±15	±200	±220	78
AM6T-4824DH35-VZ	36-72	±24	±125	±100	77

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage Range	12	9-18		VDC
	24	18-36		
	48	36-72		
Filter	π (Pi) Network			
Start up time		20		Ms
Absolute Maximum Rating	12 Vin	-0.7-24		VDC
	24 Vin	-0.7-40		
	48 Vin	-0.7-80		
Peak Input Voltage time		15		Ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1500 (3500 H35 model)	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*	At 20MHz Bandwidth	60		mV p-p

* In order to achieve ripple and noise specification, a 100μF capacitor is required to be connected to the output of the 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
Max Case temperature			100	°C
Cooling	Free air convection			
Humidity			95	%
Case material	Nickel coated copper			
Weight		12.16		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	>2,200,000 hrs (MIL-HDBK -217F, Ground Benign, $t=+25^{\circ}\text{C}$)			

Safety Specifications

Parameters

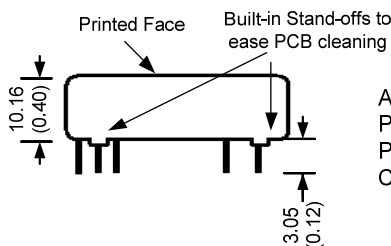
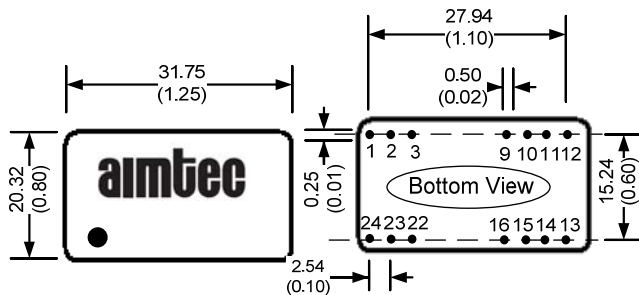
Standards Designed to meet IEC 60950-1

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

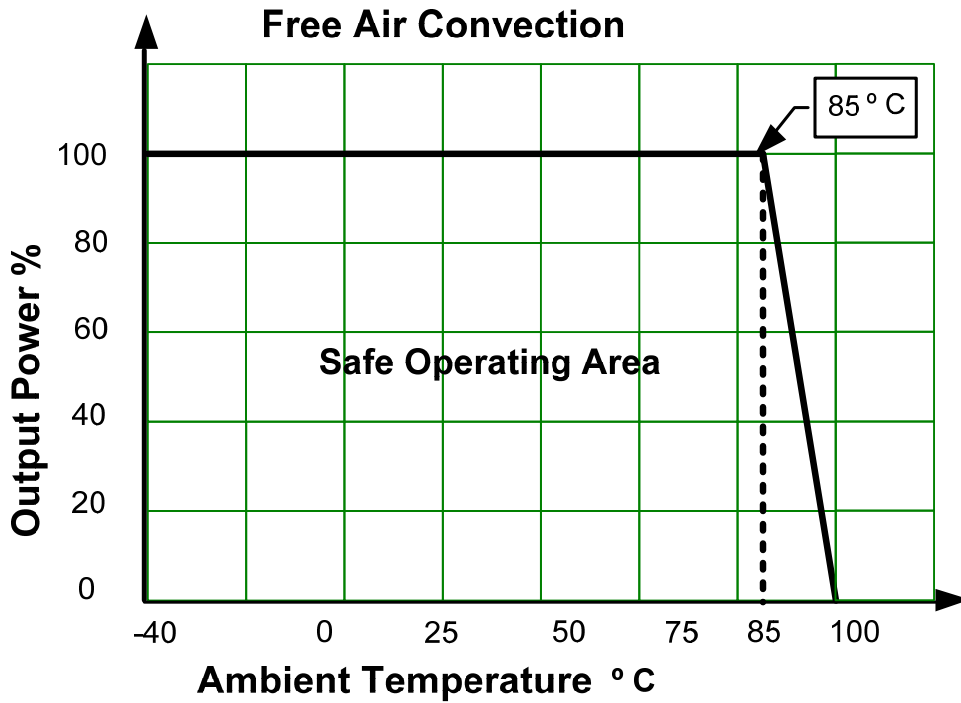
Pin	1500VDC		3500VDC	
	Single	Dual	Single	Dual
1	+V Input	+V Input	No pin	No pin
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	No pin	No pin	No pin	Common
10	-V Output	Common	No pin	No pin
11	+V Output	+V Output	N.C.	-V Output
12/13	-V Input	-V Input	No pin	No pin
14	+V Output	+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)

Derating



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 the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.