aimtec
Your Power Partner

Series AM3TW-VZ
3 Watt | DC-DC Converter



FEATURES:

- Wide Input Range (4:1)
- 24 Pin DIP Package
- Metal Package
- High Efficiency up to 79%
- Operating Temperature -40°C to + 85°C
- Input / Output Isolation 1500 or 3500VDC
- Pin Compatible with Multiple Manufacturers
- Continuous Short Circuit Protection

RoHS

Models
Single Output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (µF)	Input Current Full | No Load (mA)		Efficiency (%)
AM3TW-2405S-VZ	9-36	5	600	2200	178	20	70
AM3TW-2409S-VZ	9-36	9	333	470	176	20	71
AM3TW-2412S-VZ	9-36	12	250	470	171	20	73
AM3TW-2415S-VZ	9-36	15	200	470	171	20	73
AM3TW-2424S-VZ	9-36	24	125	220	176	30	71
AM3TW-4805S-VZ	18-72	5	600	2200	83	10	75
AM3TW-4809S-VZ	18-72	9	333	470	81	10	77
AM3TW-4812S-VZ	18-72	12	250	470	79	10	79
AM3TW-4815S-VZ	18-72	15	200	470	79	10	79
AM3TW-4824S-VZ	18-72	24	125	220	82	10	76
AM3TW-2405SH35-VZ	9-36	5	600	2200	178	20	70
AM3TW-2409SH35-VZ	9-36	9	333	470	176	20	71
AM3TW-2412SH35-VZ	9-36	12	250	470	171	20	73
AM3TW-2415SH35-VZ	9-36	15	200	470	171	20	73
AM3TW-2424SH35-VZ	9-36	24	125	220	176	30	71
AM3TW-4805SH35-VZ	18-72	5	600	2200	83	10	75
AM3TW-4809SH35-VZ	18-72	9	333	470	81	10	77
AM3TW-4812SH35-VZ	18-72	12	250	470	79	10	79
AM3TW-4815SH35-VZ	18-72	15	200	470	79	10	79
AM3TW-4824SH35-VZ	18-72	24	125	220	82	10	76

Models
Dual Output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load Max (µF)	Input Current Full | No Load (mA)		Efficiency (%)
AM3TW-2405D-VZ	9-36	±5	±300	±1000	178	20	70
AM3TW-2409D-VZ	9-36	±9	±167	±220	173	20	72
AM3TW-2412D-VZ	9-36	±12	±125	±220	168	20	74
AM3TW-2415D-VZ	9-36	±15	±100	±220	168	20	74
AM3TW-2424D-VZ	9-36	±24	±63	±100	176	30	73
AM3TW-4805D-VZ	18-72	±5	±300	±1000	85	10	73
AM3TW-4809D-VZ	18-72	±9	±167	±220	83	10	75
AM3TW-4812D-VZ	18-72	±12	±125	±220	80	10	78
AM3TW-4815D-VZ	18-72	±15	±100	±220	80	10	78
AM3TW-4824D-VZ	18-72	±24	±63	±100	82	10	76
AM3TW-2405DH35-VZ	9-36	±5	±300	±1000	178	20	70
AM3TW-2409DH35-VZ	9-36	±9	±167	±220	173	20	72
AM3TW-2412DH35-VZ	9-36	±12	±125	±220	168	20	74
AM3TW-2415DH35-VZ	9-36	±15	±100	±220	168	20	74
AM3TW-2424DH35-VZ	9-36	±24	±63	±100	176	30	73
AM3TW-4805DH35-VZ	18-72	±5	±300	±1000	85	10	73
AM3TW-4809DH35-VZ	18-72	±9	±167	±220	83	10	75
AM3TW-4812DH35-VZ	18-72	±12	±125	±220	80	10	78
AM3TW-4815DH35-VZ	18-72	±15	±100	±220	80	10	78
AM3TW-4824DH35-VZ	18-72	±24	±63	±100	82	10	76

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage Range	24	9-36		VCD
	48	18-72		VCD
Filter	π (Pi) Network			
Absolute Max Rating	24 Vin	-0.7-40		VCD
	48 Vin	-0.7-80		VCD
Peak Input Voltage time		15		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, H35 models		3500	VDC
	60 sec, other models		1500	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage Accuracy			±1	%
Short Circuit Protection	Continuous			
Short Circuit Restart	Auto Recovery			
Line Voltage Regulation			±0.5	%
Load Voltage Regulation			±0.5	%
Temperature Coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth		60	mV p-p
Minimum load*		33		%

* Specifications may not be met if the minimum load is not satisfied.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency	100% load	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		17		g
Dimensions (L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.8 x 0.4inches 31.75 x 20.32 x 10.2 mm		
MTBF	>1,000,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Manual soldering temperature	1.5mm from case for 10sec		260	°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.

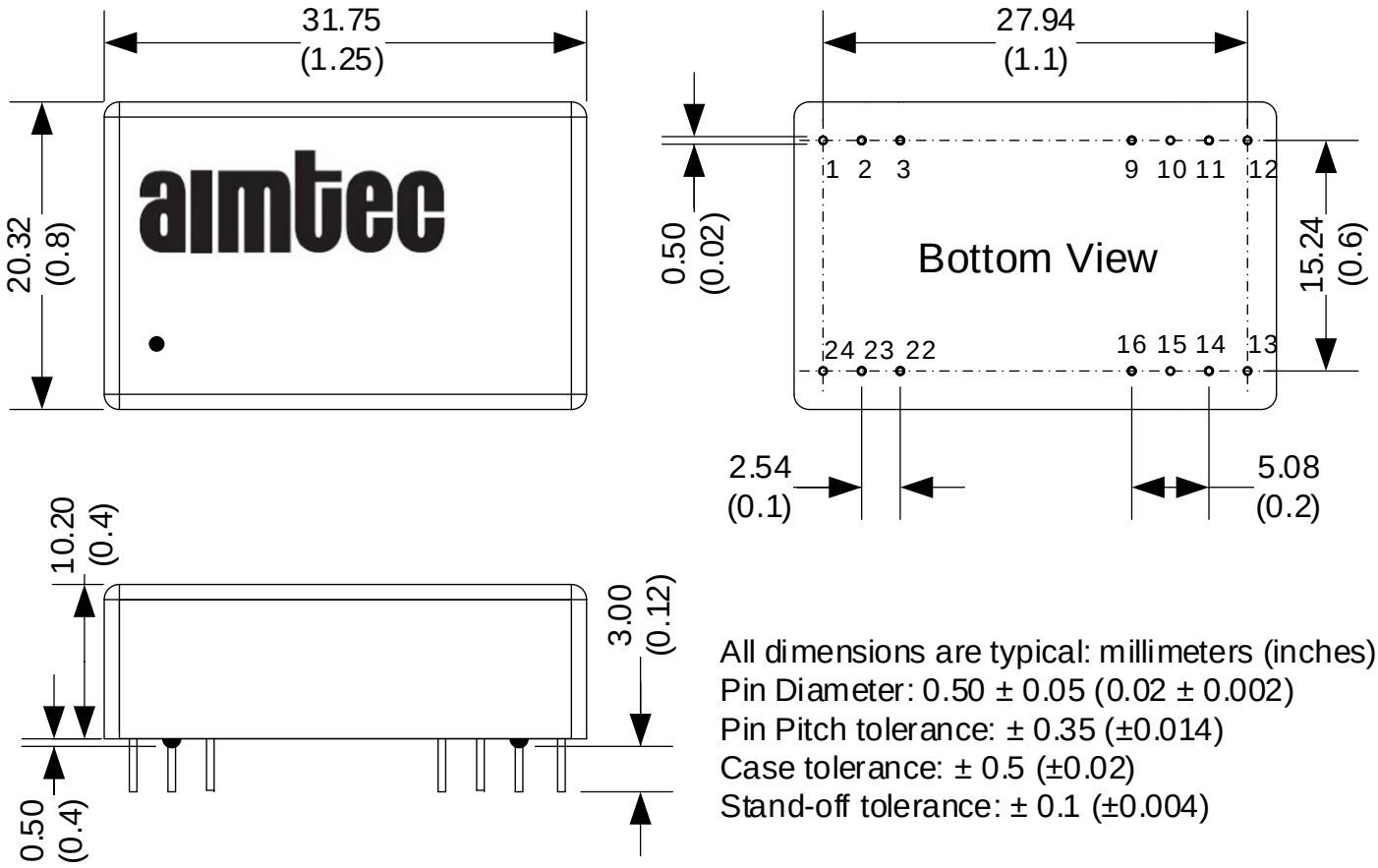
Safety Specifications

Parameters	
Standards	Designed to meet IEC 60950-1

Pin Out Specifications

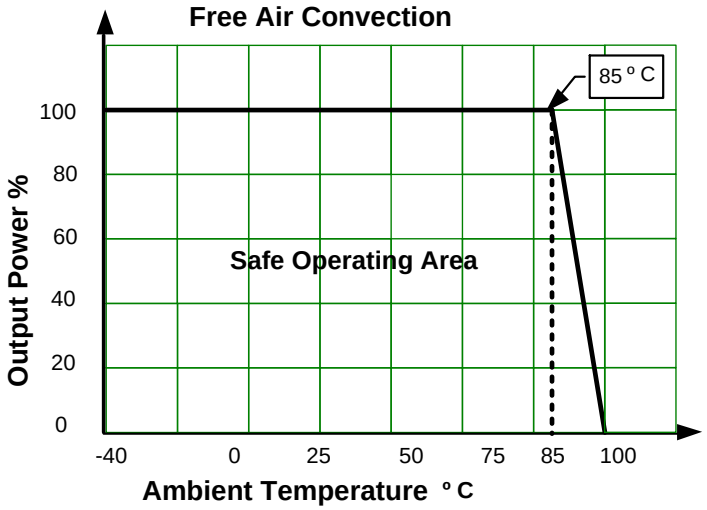
Pin	1500VDC		3500VDC	
	Single	Dual	Single	Dual
1	+V Input	+V Input	No pin	No pin
2	N.C.	-V Output	-V Input	-V Input
3	N.C.	Common	-V Input	-V Input
9	No pin	No pin	No pin	Common
10	-V Output	Common	No pin	No pin
11	+V Output	+V Output	N.C.	-V Output
12/13	-V Input	-V Input	No pin	No pin
14	+V Output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

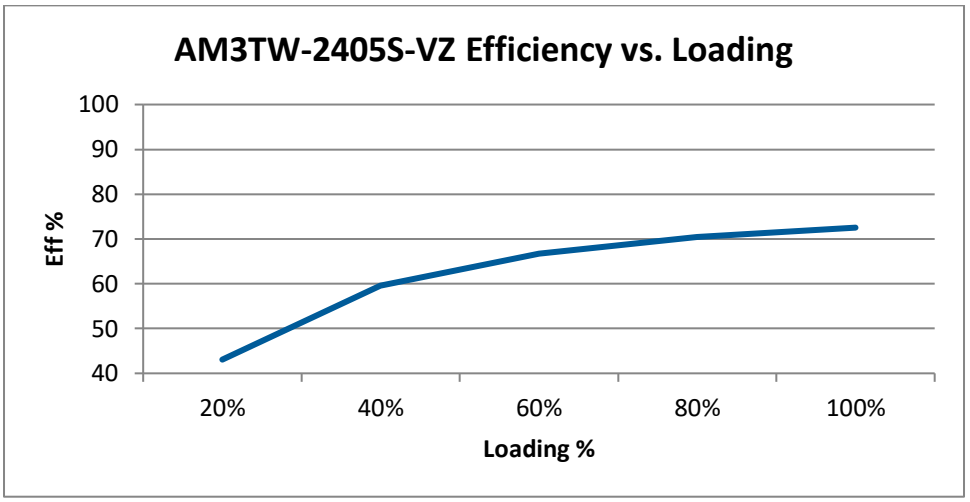


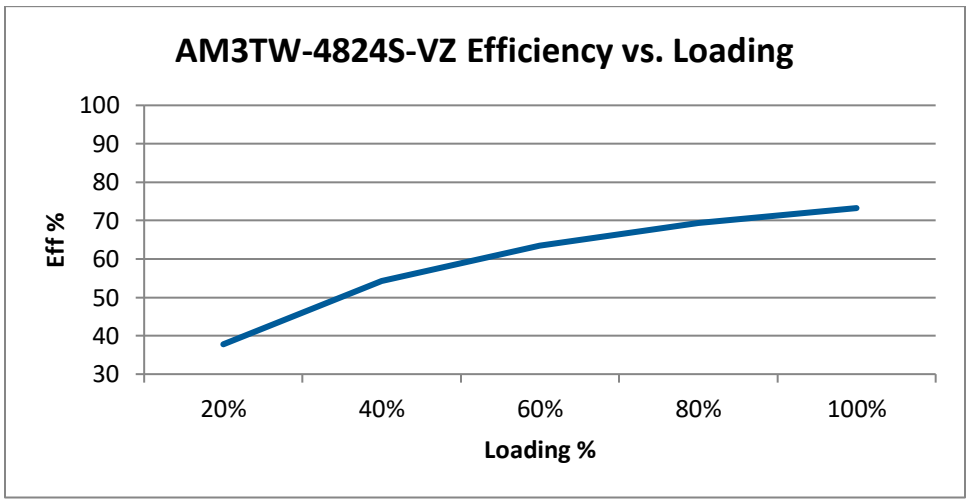
All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch tolerance: ± 0.35 (±0.014)
Case tolerance: ± 0.5 (±0.02)
Stand-off tolerance: ± 0.1 (±0.004)

Derating



Typical Efficiency Example Charts





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