Series AM3TW-Z

3 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- Low profile metal package
- High efficiency up to 82%
- Wide 4:1 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

RoHS

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (µF)	Efficiency (%)
AM3TW-2403SZ	9-36	3.3	800	1500	1000	75
AM3TW-2405SZ	9-36	5	600	1500	1000	78
AM3TW-2407SZ	9-36	7.2	417	1500	200	78
AM3TW-2409SZ	9-36	9	333	1500	200	79
AM3TW-2412SZ	9-36	12	250	1500	100	81
AM3TW-2415SZ	9-36	15	200	1500	100	81
AM3TW-2418SZ	9-36	18	167	1500	47	81
AM3TW-2424SZ	9-36	24	125	1500	47	81
AM3TW-4803SZ	18-72	3.3	800	1500	1000	76
AM3TW-4805SZ	18-72	5	600	1500	1000	80
AM3TW-4807SZ	18-72	7.2	417	1500	200	78
AM3TW-4809SZ	18-72	9	333	1500	200	82
AM3TW-4812SZ	18-72	12	250	1500	100	80
AM3TW-4815SZ	18-72	15	200	1500	100	80
AM3TW-4818SZ	18-72	18	167	1500	47	80
AM3TW-4824SZ	18-72	24	125	1500	47	81
AM3TW-2403SH35Z	9-36	3.3	800	3500	1000	75
AM3TW-2405SH35Z	9-36	5	600	3500	1000	78
AM3TW-2407SH35Z	9-36	7.2	417	3500	200	78
AM3TW-2409SH35Z	9-36	9	333	3500	200	79
AM3TW-2412SH35Z	9-36	12	250	3500	100	81
AM3TW-2415SH35Z	9-36	15	200	3500	100	81
AM3TW-2418SH35Z	9-36	18	167	3500	47	81
AM3TW-2424SH35Z	9-36	24	125	3500	47	81
AM3TW-4803SH35Z	18-72	3.3	800	3500	1000	76
AM3TW-4805SH35Z	18-72	5	600	3500	1000	80
AM3TW-4807SH35Z	18-72	7.2	417	3500	200	78
AM3TW-4809SH35Z	18-72	9	333	3500	200	82
AM3TW-4812SH35Z	18-72	12	250	3500	100	80
AM3TW-4815SH35Z	18-72	15	200	3500	100	80
AM3TW-4818SH35Z	18-72	18	167	3500	47	80
AM3TW-4824SH35Z	18-72	24	125	3500	47	81

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (µF)	Efficiency (%)
AM3TW-2403DZ	9-36	±3.3	±400	1500	±470	76
AM3TW-2405DZ	9-36	±5	±300	1500	±470	79
AM3TW-2407DZ	9-36	±7.2	±208	1500	±100	78
AM3TW-2409DZ	9-36	±9	±167	1500	±100	79
AM3TW-2412DZ	9-36	±12	±125	1500	±68	80
AM3TW-2415DZ	9-36	±15	±100	1500	±68	80
AM3TW-2418DZ	9-36	±18	±84	1500	±33	81

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Capacitive load, max (µF)	Efficiency (%)
AM3TW-2424DZ	9-36	±24	±63	1500	±33	80
AM3TW-4803DZ	18-72	±3.3	±400	1500	±470	76
AM3TW-4805DZ	18-72	±5	±300	1500	±470	81
AM3TW-4807DZ	18-72	±7.2	±208	1500	±100	78
AM3TW-4809DZ	18-72	±9	±167	1500	±100	82
AM3TW-4812DZ	18-72	±12	±125	1500	±68	81
AM3TW-4815DZ	18-72	±15	±100	1500	±68	82
AM3TW-4818DZ	18-72	±18	±84	1500	±33	81
AM3TW-4824DZ	18-72	±24	±63	1500	±33	81
AM3TW-2403DH35Z	9-36	±3.3	±400	3500	±470	76
AM3TW-2405DH35Z	9-36	±5	±300	3500	±470	79
AM3TW-2407DH35Z	9-36	±7.2	±208	3500	±100	78
AM3TW-2409DH35Z	9-36	±9	±167	3500	±100	79
AM3TW-2412DH35Z	9-36	±12	±125	3500	±68	80
AM3TW-2415DH35Z	9-36	±15	±100	3500	±68	80
AM3TW-2418DH35Z	9-36	±18	±84	3500	±33	81
AM3TW-2424DH35Z	9-36	±24	±63	3500	±33	80
AM3TW-4803DH35Z	18-72	±3.3	±400	3500	±470	76
AM3TW-4805DH35Z	18-72	±5	±300	3500	±470	81
AM3TW-4807DH35Z	18-72	±7.2	±208	3500	±100	78
AM3TW-4809DH35Z	18-72	±9	±167	3500	±100	82
AM3TW-4812DH35Z	18-72	±12	±125	3500	±68	81
AM3TW-4815DH35Z	18-72	±15	±100	3500	±68	82
AM3TW-4818DH35Z	18-72	±18	±84	3500	±33	81
AM3TW-4824DH35Z	18-72	±24	±63	3500	±33	81

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	24 48	9-36 18-72		VDC
Filter		π (Pi) Network		
Turn on Transient process time			350	ms
Start up time		500		ms
Absolute Maximum Rating	24 Vin 48 Vin	-0.7-40 -0.7-80		VDC
Peak Input Voltage time		100		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested 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	Automatic			
Line voltage regulation (Single)	LL-HL	±0.5		%

Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
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	0…20MHz	60		mV p-p
Rising time		10		ms

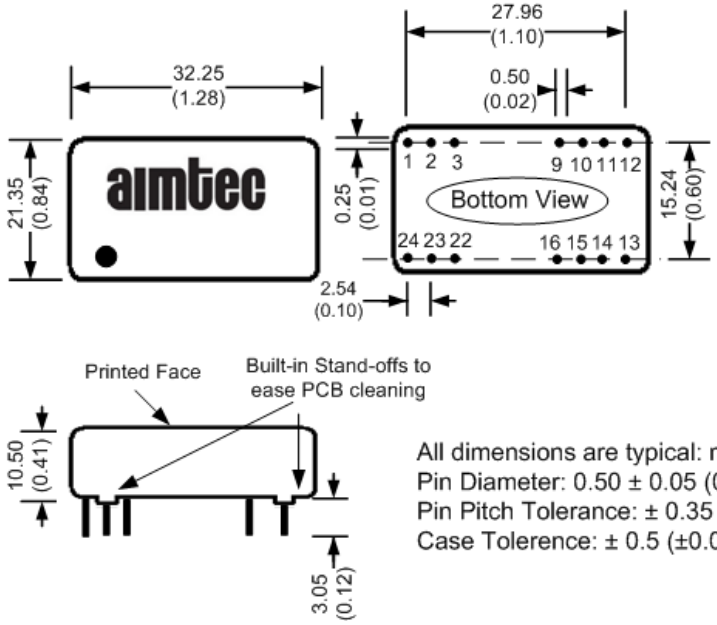
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	250		**KHz**
Operating temperature	Full Load without Derating	-40 to +85		**°C**
Storage temperature		-40 to +125		**°C**
Case temperature			100	**°C**
Cooling	Free air convection			
Humidity	Non condensing		90	**%**
Case material		Nickel-coated copper		
Weight		21		**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 10.50 mm
MTBF	>1 222 000 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 Tolerence: ± 0.5 (±0.02)

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