aimtec
Your Power Partner

Series AM10TW-Z

10 Watt | DC-DC Converter



FEATURES:

- Ultra Wide 4:1 input range
- Efficiency up to 88%
- Soft start
- Continuous Short Circuit Protection
- Operating temperature -40°C to + 85°C
- Remote on/off control
- Input/Output Isolation 1600VDC
- Over voltage & Over Load Protection

Models
Single output

Model	Input Voltage (V)	Input Current NL | FL (mA)	Output Voltage (Vdc)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM10TW-2403SZ	9-36	15 | 440	3.3	2700	1600	1330	85
AM10TW-2405SZ	9-36	15 | 480	5	2000	1600	1330	87
AM10TW-2412SZ	9-36	15 | 475	12	833	1600	288	88
AM10TW-2415SZ	9-36	15 | 475	15	667	1600	200	88
AM10TW-4803SZ	18-75	15 | 225	3.3	2700	1600	1330	84
AM10TW-4805SZ	18-75	15 | 240	5	2000	1600	1330	87
AM10TW-4812SZ	18-75	15 | 240	12	833	1600	288	87
AM10TW-4815SZ	18-75	15 | 240	15	667	1600	200	87

Models
Dual output

Model	Input Voltage (V)	Input Current NL | FL (mA)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM10TW-2405DZ	9-36	15 | 495	±5	±1000	1600	±900	85
AM10TW-2412DZ	9-36	15 | 480	±12	±417	1600	±133	87
AM10TW-2415DZ	9-36	15 | 480	±15	±330	1600	±90	87
AM10TW-4805DZ	18-75	15 | 250	±5	±1000	1600	±900	85
AM10TW-4812DZ	18-75	15 | 240	±12	±417	1600	±133	88
AM10TW-4815DZ	18-75	15 | 240	±15	±330	1600	±90	88

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	9-36		VDC
	48	18-75		
Filter	π (Pi) Network			
Start up time	Nominal Vin and constant resistive load	20		ms
Absolute Maximum Rating	24 Vin	-0.7-50		VDC
	48 Vin	-0.7-100		
Peak Input Voltage time			100	ms
On/Off control	ON – High (3.0 ... 12Vdc) or open circuit; OFF – Low (0 ... 1.2Vdc) or Short circuit pin1 and pin 2/3 OFF idle current: 5.0 mA typical			
Input reflected ripple current		20		mA pk-pk

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1600	VDC
Tested metal case to Input and Output	60 sec		1600	VDC
Resistance		>1000		MOhm
Capacitance		1500		pF

Output Specifications

Parameters	Conditions		Typical	Maximum	Units
Voltage accuracy			±1.2		%
Cross Regulation (Dual Output)	25% load on one output, 100% load on second		±5		%
Over voltage protection	Zener diode clamp				
Over load protection			170		% of FL
Short Circuit protection	Continuous, hiccup				
Short circuit restart	Auto recovery				
Line voltage regulation	HL-LL			±0.2	%
Load voltage regulation	0% Load to Full Load	3.3V output models		±0.5	%
		Others		±0.2	%
Temperature coefficient			±0.02		%/ºC
Ripple & Noise *	20MHz Bandwidth			85	mV p-p

* Measured with 1µF CC.

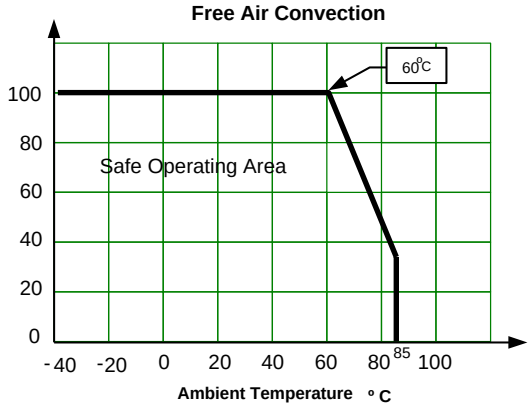
General Specifications

Parameters	Conditions		Typical	Maximum	Units
Switching frequency	100% load		270		KHz
Operating temperature	Full Load with derating above 60ºC	-40 to +85			ºC
Storage temperature	-55 to +125				ºC
Maximum case temperature				105	ºC
Derating	Above 60ºC		2.5		%/ ºC
Cooling	Free air convection				
Humidity				95	% RH
Case material	Nickel-coated Copper				
Potting material	UL94V-0 rated				
Weight	18				g
Dimensions (L x W x H)	1.25 x 0.80 x 0.40 inches 31.75 x 20.32 x 10.16 mm				
MTBF	>1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25ºC)				
Manual soldering temperature	1.5mm from case for 10 sec		260		ºC
Transient recovery time	25% load step (75-50-25% of Iout)	250			uS
Transient recovery deviation	25% load step (75-50-25% of Iout)		±3		%

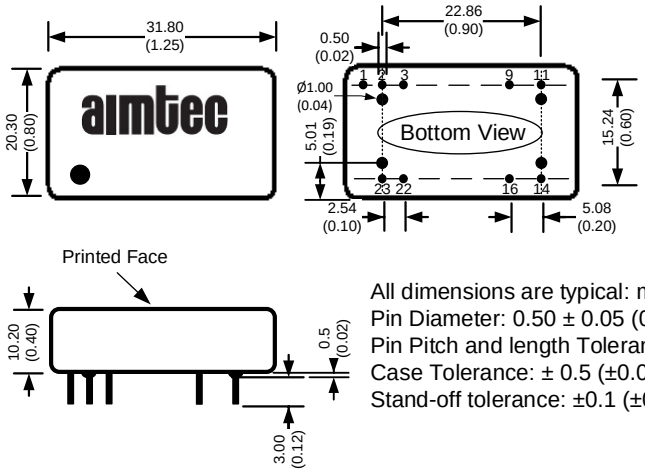
Safety Specifications

Parameters	
Agency approvals	CE, UL
Standards	EN55032 Class A, with recommended circuit
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 330uF/100V cap required)
	IEC61000-4-5, Perf. Criteria A (external 330uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	IEC/EN/UL 60950-1:2001 & IEC/EN/UL 62368-1

Derating



Dimensions



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

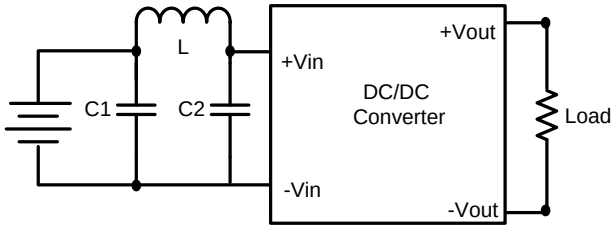
Pin Out Specifications

Pin	Single	Dual
1	Remote On/Off	Remote On/Off
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

N.C.: Not Connected

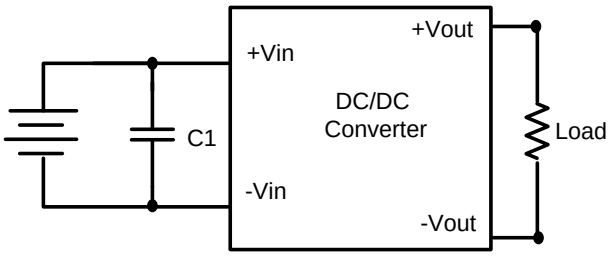
Recommended Circuit

Conducted Emissions



C1	L	C2
2.2uF, 100V	12uH	2.2uF, 100V

Surge/EFT



C1
330uF, 100V

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