Series AM10TW-Z
10 Watt | DC-DC Converter

FEATURES:

- Ultra Wide 4:1 input range
- Efficiency up to 88%
- RoHS compliant
- 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)	Output Voltage (Vdc)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM10TW-2403SZ	9-36	3.3	2700	1600	1330	85
AM10TW-2405SZ	9-36	5	2000	1600	1330	87
AM10TW-2412SZ	9-36	12	833	1600	288	88
AM10TW-2415SZ	9-36	15	667	1600	200	88
AM10TW-4803SZ	18-75	3.3	2700	1600	1330	84
AM10TW-4805SZ	18-75	5	2000	1600	1330	87
AM10TW-4812SZ	18-75	12	833	1600	288	87
AM10TW-4815SZ	18-75	15	667	1600	200	87

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM10TW-2405DZ	9-36	±5	±1000	1600	±900	85
AM10TW-2412DZ	9-36	±12	±417	1600	±133	87
AM10TW-2415DZ	9-36	±15	±330	1600	±90	87
AM10TW-4805DZ	18-75	±5	±1000	1600	±900	85
AM10TW-4812DZ	18-75	±12	±417	1600	±133	88
AM10TW-4815DZ	18-75	±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 current		20		mAPk-Pk

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3 sec		1600	VDC
Resistance		>1000		MOhm
Capacitance		1500		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1.2		%
Cross Regulation (Dual Output Models)	25% load on one output 100% load on second load	±5		%
Over voltage protection	Zener diode clamp			
Over current protection	Full Load	170		%
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Line voltage regulation		±2		%
Load voltage regulation (Single)	0% Load to Full Load	±0.5		%
Load voltage regulation (Dual)	0% Load to Full Load	±1.0		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	85		mV p-p
Minimum Load Current		0		% of Max

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	270		KHz
Operating temperature	Full Load with derating above 60ºC	-40 to +85		°C
Storage temperature	-40 to +125			°C
Maximum case temperature			105	°C
Derating	Above 60ºC	2.5		%/ °C
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)			
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C
Transient recovery time		250		uS
Transient recovery deviation		±3		%

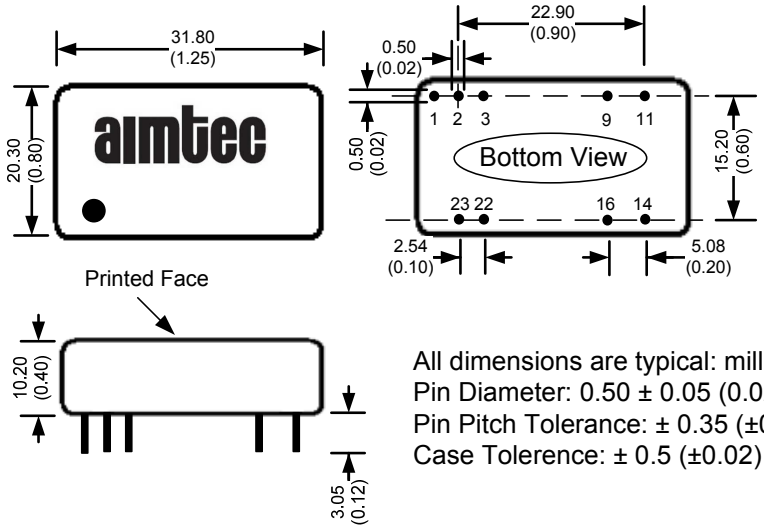
Safety Specifications

Parameters	
Agency approvals	CE
Standards	EN55022 Class A
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (external 330uF/100V cap required)
	IEC61000-4-5, Perf. Criteria B (external 330uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	NOTE: Also designed to meet standard IEC 60950-1: 2001

Pin Out Specifications

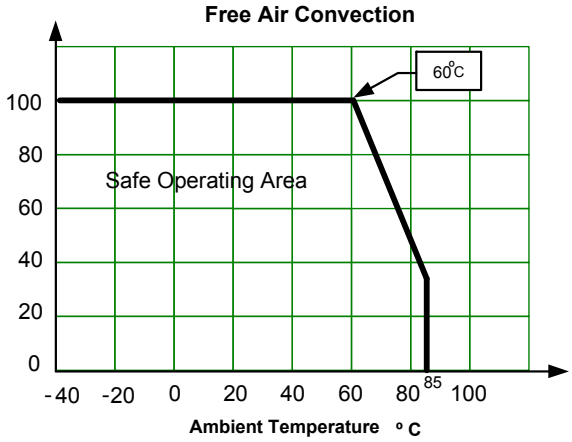
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-V Input	-V Input
3	-V Input	-V Input
9	No Pin	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

Dimensions

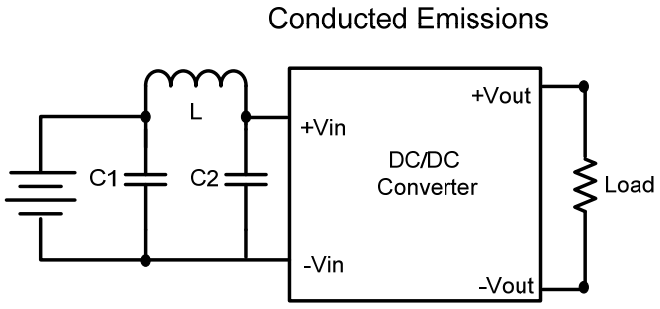


All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch Tolerance: ± 0.35 (±0.014)
Case Tolerence: ± 0.5 (±0.02)

Derating

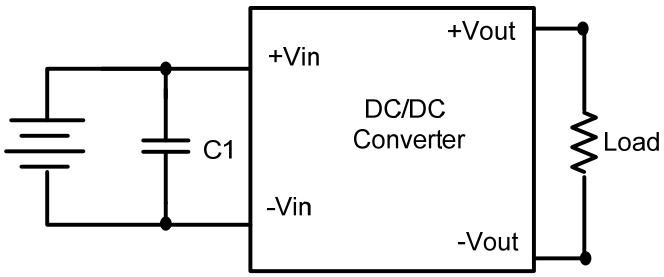


Recommended Circuit



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

Surge/EFT



C1
330uF, 100V

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.