aimtec
Your Power Partner

Series AM10T-Z

10 Watt | DC-DC Converter



FEATURES:

- Wide 2:1 input range
- Efficiency up to 90%
- Over Current Protection
- Continuous Short Circuit Protection
- Operating temperature -40ºC to + 85ºC
- Over voltage Protection
- Input / Output Isolation 1500VDC
- Soft Start

Models
Single output

Model	Input Voltage (V)	Input current NL | FL (mA)	Output Voltage (Vdc)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM10T-1202SZ	9-18	10 | 791	2.5	3	1500	2200	81
AM10T-1203SZ	9-18	10 | 1006	3.3	3	1500	2200	84
AM10T-1205SZ	9-18	10 | 992	5	2	1500	2200	86
AM10T-1212SZ	9-18	10 | 980	12	0.833	1500	820	87
AM10T-1215SZ	9-18	10 | 958	15	0.667	1500	470	89
AM10T-2402SZ	18-36	10 | 381	2.5	3	1500	2200	84
AM10T-2403SZ	18-36	10 | 497	3.3	3	1500	2200	85
AM10T-2405SZ	18-36	10 | 479	5	2	1500	2200	89
AM10T-2412SZ	18-36	10 | 485	12	0.833	1500	820	88
AM10T-2415SZ	18-36	10 | 485	15	0.667	1500	470	88
AM10T-4802SZ	36-75	10 | 191	2.5	3	1500	2200	84
AM10T-4803SZ	36-75	10 | 249	3.3	3	1500	2200	85
AM10T-4805SZ	36-75	10 | 242	5	2	1500	2200	88
AM10T-4812SZ	36-75	10 | 245	12	0.833	1500	820	87
AM10T-4815SZ	36-75	10 | 242	15	0.667	1500	470	88

Models
Dual output

Model	Input Voltage (V)	Input current NL | FL (mA)	Output Voltage (V)	Output Current max (A)	Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM10T-1212DZ	9-18	10 | 980	±12	±0.416	1500	±220	87
AM10T-1215DZ	9-18	10 | 969	±15	±0.333	1500	±150	88
AM10T-2412DZ	18-36	10 | 485	±12	±0.416	1500	±220	88
AM10T-2415DZ	18-36	10 | 474	±15	±0.333	1500	±150	90
AM10T-4812DZ	36-75	10 | 245	±12	±0.416	1500	±220	87
AM10T-4815DZ	36-75	10 | 245	±15	±0.333	1500	±150	87

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	12	9-18		VDC
	24	18-36		
	48	36-75		
Filter	π (Pi) Network			
Startup time	Nominal Vin and constant resistive load	20		ms
Absolute Maximum Rating	12 Vin	-0.7-25		VDC
	24 Vin	-0.7-50		
	48 Vin	-0.7-100		

Peak Input Voltage time			100	ms
Input reflected current *		20		mA p-p

* The input reflected ripple current should be measured with connected 12µH inductor.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Case/ Input & Output	60 sec		1000	VDC
Resistance		>1000		MOhm
Capacitance		1000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Cross Regulation (Dual Output)	25% -100% load on one output, 100% load on second	±5		%
Over voltage protection	Zener diode clamp			
Over current protection	Full Load	150		%
Short Circuit protection	Continuous, hiccup			
Short circuit restart	Auto recovery			
Line voltage regulation	HL-LL		±0.5	%
Load voltage regulation	0% Load to Full Load , Single 5V / 12V / 15V Output	±0.5		%
	0% Load to Full Load, Other models	±1.0		
Temperature coefficient		±0.02		%/ºC
Ripple & Noise *	20MHz Bandwidth		75	mV p-p

* Measured with 1µF CC.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	330		KHz
Operating temperature	Full Load with derating above 60ºC	-40 to +85		ºC
Storage temperature	-40 to +125			ºC
Maximum case temperature			100	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	17			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%)	200		uS
Transient recovery deviation	25% load step (75%-50%-25%)	±3		%

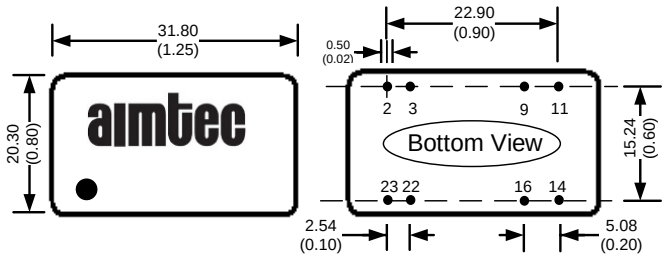
Safety Specifications

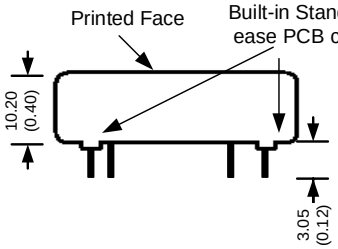
Parameters	
Agency approvals	CE, UL
Standards	EN55032 Class A, with recommended circuit
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A
	IEC61000-4-5, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A
	IEC/EN/UL 60950-1:2001 & IEC/EN/UL 62368-1

Pin Out Specifications

Pin	Single	Dual
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

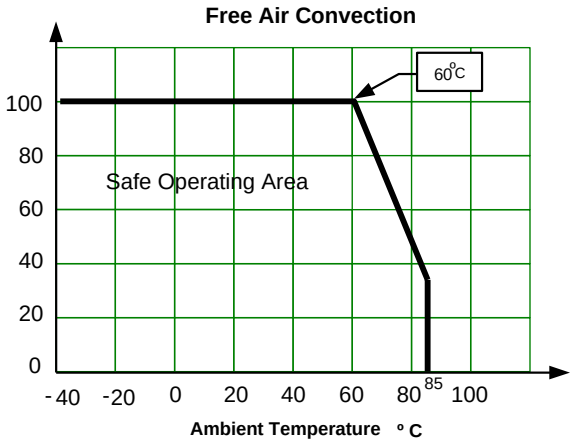
Dimensions





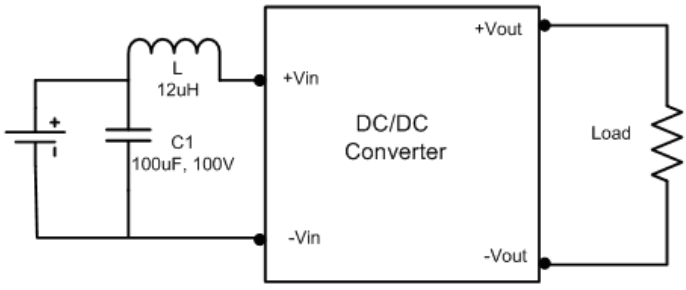
All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch Tolerance: ± 0.35 (±0.014)
Case Tolerence: ± 0.5 (±0.02)

Derating

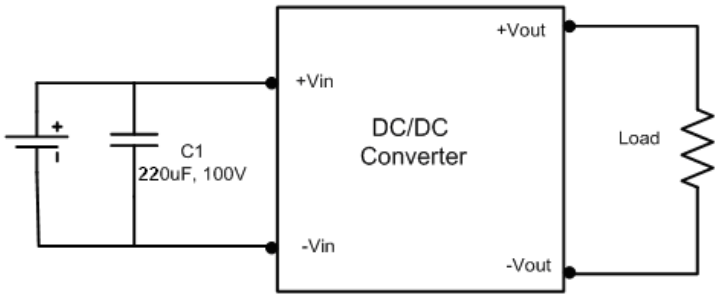


Test Circuits

Conducted Emissions:



Surge:



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