aimtec
Your Power Partner

Series AM12T-Z

12 Watt | DC-DC Converter



FEATURES:

- Wide Input Range 2:1
- 1600 Vdc Isolation
- Efficiency up to 91%
- Soft Start
- Remote On/Off Function
- No Minimum Load Required
- -40ºC to +85ºC Operating Temperature Range
- Short Circuit & Over Voltage Protection
- DIP 24 Package
- Low No Load Input Current

RoHS CE

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Maximum Capacitive load (µF)	Efficiency (%)
AM12T-1202SZ	9-18	2.5	3500	1600	2000	85
AM12T-1203SZ	9-18	3.3	3500	1600	2000	87
AM12T-1205SZ	9-18	5	2400	1600	2000	89
AM12T-1212SZ	9-18	12	1000	1600	430	90
AM12T-1215SZ	9-18	15	800	1600	300	90
AM12T-2402SZ	18-36	2.5	3500	1600	2000	85
AM12T-2403SZ	18-36	3.3	3500	1600	2000	87
AM12T-2405SZ	18-36	5	2400	1600	2000	89
AM12T-2412SZ	18-36	12	1000	1600	430	90
AM12T-2415SZ	18-36	15	800	1600	300	90
AM12T-4802SZ	36-75	2.5	3500	1600	2000	84
AM12T-4803SZ	36-75	3.3	3500	1600	2000	88
AM12T-4805SZ	36-75	5	2400	1600	2000	89
AM12T-4812SZ	36-75	12	1000	1600	430	88
AM12T-4815SZ	36-75	15	800	1600	300	89

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Maximum Capacitive load (µF)	Efficiency (%)
AM12T-1212DZ	9-18	±12	±500	1600	±200	90
AM12T-1215DZ	9-18	±15	±400	1600	±120	91
AM12T-2412DZ	18-36	±12	±500	1600	±200	90
AM12T-2415DZ	18-36	±15	±400	1600	±120	91
AM12T-4812DZ	36-75	±12	±500	1600	±200	88
AM12T-4815DZ	36-75	±15	±400	1600	±120	89

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		VDC
	48	36-48		VDC
Filter	π (Pi) Network			
Turn on Transient process time		250		µs
Transient response deviation		±3		%
Start up time	Nominal Vin and constant resistive load	20		ms
Absolute Maximum Rating	12 Vin models	-0.7-36		VDC
	24 Vin models	-0.7-50		VDC
	48 Vin models	-0.7-100		VDC

Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
Peak Input Voltage time			1000	ms
Input reflected ripple current		20		mA p-p
Quiescent Current		15		mA
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 typ			

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1600	VDC
Tested Case/Input and Output		1600		VDC
Resistance		>1000		MOhm
Capacitance		1200		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1.2		%
Voltage balance*	Dual output	±5		%
Line voltage regulation	HL-LL	±0.5		%
Load voltage regulation (Single)	0% Load to Full Load	±0.5		%
Load voltage regulation (Dual)	0% Load to Full Load	±1.0		%
Over voltage protection	Zener diode clamp			
Over current protection	Full Load	150		%
Short Circuit protection	Continuous			
Short circuit restart	Auto recovery			
Ripple & Noise**			85	m Vp-p

* One of the outputs is at 100% load while the other output is at 25% to 100% load.
** Measured at 20MHz bandwidth with a 1uF ceramic capacitor.

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
Max Case temperature			100	ºC
Temperature coefficient		±0.02		%/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		18.0		g
Dimensions (L x W x H)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.80 x 0.40 inches 31.80 x 20.30 x 10.20 mm		
MTBF	>1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25ºC)			

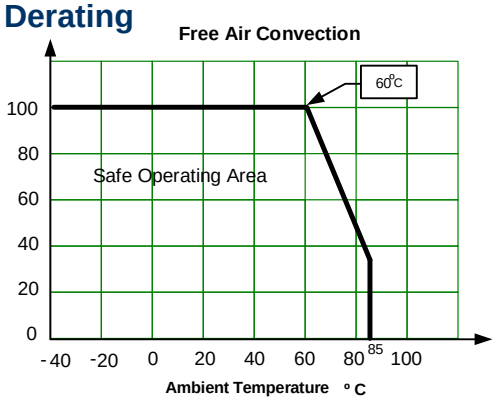
Safety Specifications

Parameters	
Standards	Design to meet IEC/EM/UL 62368-1
	EN55032 Class A, with the recommended EMC circuit
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A
	IEC61000-4-5, Perf. Criteria A (external 330uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

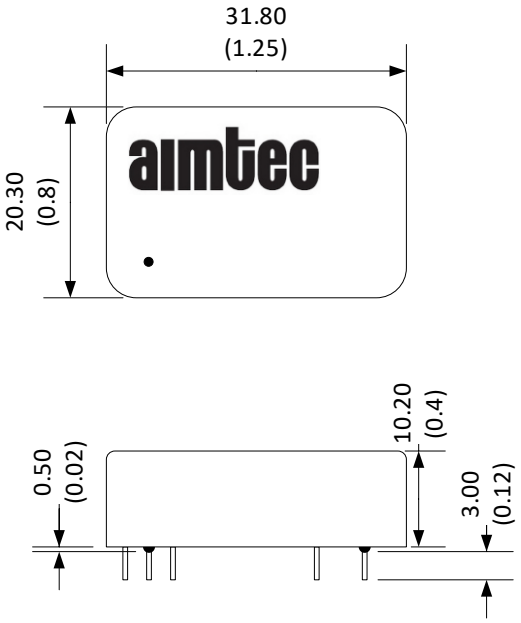
Pin Out Specifications

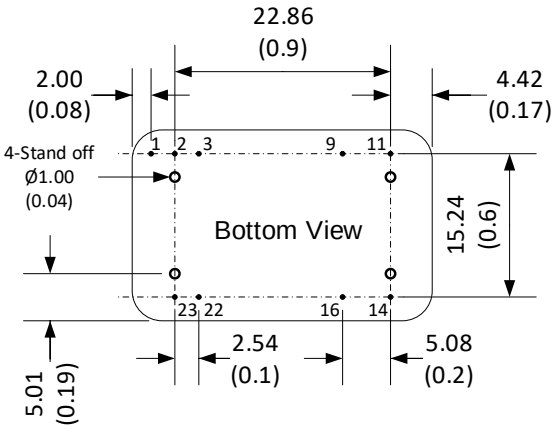
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-V Input	-V Input
3	-V Input	-V Input
9	No Pin	Common
11	N.C.	-V Output
14	+V Output	+V Output
16	-V Output	Common
22	+V Input	+V Input
23	+V Input	+V Input

Derating



Dimensions

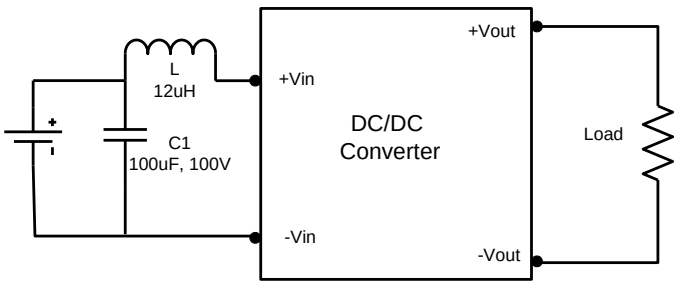




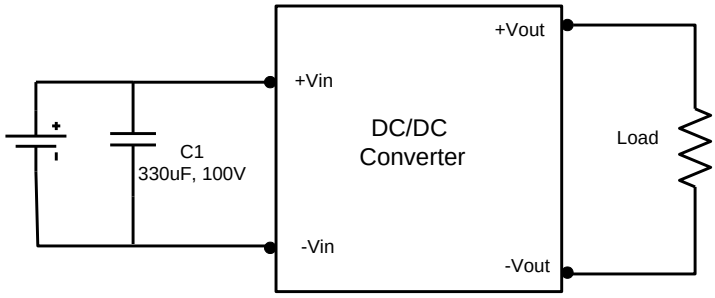
All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch tolerance: ± 0.35 (±0.014)
Case tolerance: ± 0.5 (±0.02)
Stand off tolerance: ± 0.1 (±0.004)

Test Circuits

Conducted Emmisions :



Surge:



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