aimtec
Your Power Partner

Series AM2LV-NZ

2 Watt | DC-DC Converter



FEATURES:

- SMD Package
- Wide (2:1) Input Range
- 1500 VDC Isolation
- Continuous Short Circuit Protection
- Operating Temperature: -40°C To +85°C
- Regulated Single / Dual Output
- MTBF >1,000,000 Hours
- RoHS Compliant

RoHS

Models
Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2LV-1203S-NZ	9-18	3.3	500	1500	70
AM2LV-1205S-NZ	9-18	5	400	1500	74
AM2LV-1212S-NZ	9-18	12	167	1500	78
AM2LV-2403S-NZ	18-36	3.3	500	1500	72
AM2LV-2405S-NZ	18-36	5	400	1500	76
AM2LV-2412S-NZ	18-36	12	167	1500	80

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2LV-1209D-NZ	9-18	±9	±111	1500	76
AM2LV-1212D-NZ	9-18	±12	±83	1500	78
AM2LV-1215D-NZ	9-18	±15	±67	1500	80
AM2LV-2405D-NZ	18-36	±5	±200	1500	74
AM2LV-2409D-NZ	18-36	±9	±111	1500	76
AM2LV-2412D-NZ	18-36	±12	±83	1500	78
AM2LV-2415D-NZ	18-36	±15	±67	1500	80

NOTE: Unless otherwise specified, all specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12 24	9-18 18-36		VDC
Absolute Maximum Rating	12 24		22 40	VDC
Peak Input Voltage time			100	ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Resistance	At 500 VDC	1000		MOhm
Capacitance	Input to Output	85		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±5		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Line voltage regulation (Single)	From Low in to High In	±0.5		%
Load voltage regulation (Single)	From 10% to 100% load	±1		%
Load voltage regulation (Dual)	From 10% to 100% load Each output loaded within 5% of each other	±5		%
Temperature coefficient		±0.03		%/°C

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Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Ripple & Noise *	20MHz Bandwidth with 10% load	75		mV p-p
Minimum Load Current**		10		% of Max

* Test Ripple & Noise by "Parallel Cable Method" as described in Application Note "Ripple and Noise Measurement of Brick & POL DC-DC Converters" available on Aimtec's website www.aimtec.com. Converters are designed to operate with a minimum load of 10%. If converter is operated with a load less than 10% the ripple will increase.

** Operation under 10% load will not damage the converter; However, not all specifications will be met.

General Specifications

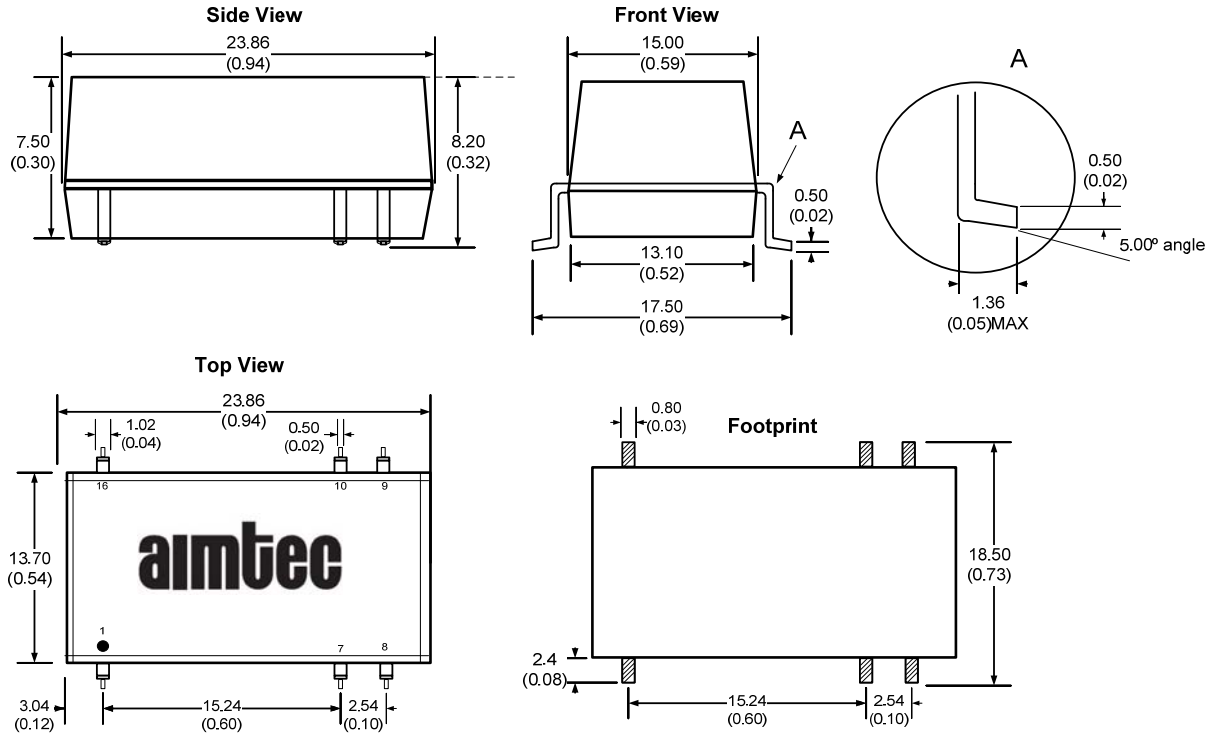
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	300		KHz
Operating temperature	-40 to +85			ºC
Storage temperature	-55 to +125			ºC
Maximum case temperature				ºC
Derating	Above 71º	2.9		%/ºC
Cooling	Free Air Convection			
Humidity			95	% RH
Case material	Plastic (UL94-V0)			
Weight	5.2			g
Dimensions (L x W x H)	0.94 x 0.54 x 0.32 inches 23.86 x 13.70 x 8.20 mm			
MTBF	>1,000,000 hours (MIL-HDBK -217F, Ground Benign, t=+25ºC)			
Maximum Soldering Temperature	1.5mm from case for 10 seconds		260	ºC

Pin Out Specifications

Pin	Single	Dual
1	- Vin	- Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	- Vout	-Vout
16	+ Vin	+ Vin

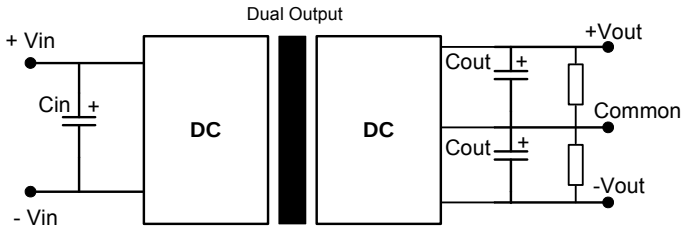
NC – not connected

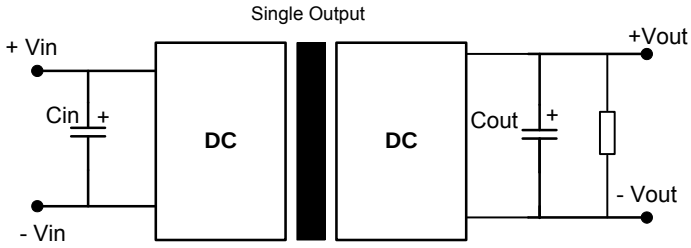
Dimensions



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Recommended Filter Circuit





All the AM2LV-Z Series have been tested with the above recommended test circuit. This series should be tested under load.

If it is necessary to further decrease the input/output ripple, the value of the filter capacitor can be increased; a capacitor with a low ESR should be used. Excessive filter capacitance can cause start up problems with the converter.

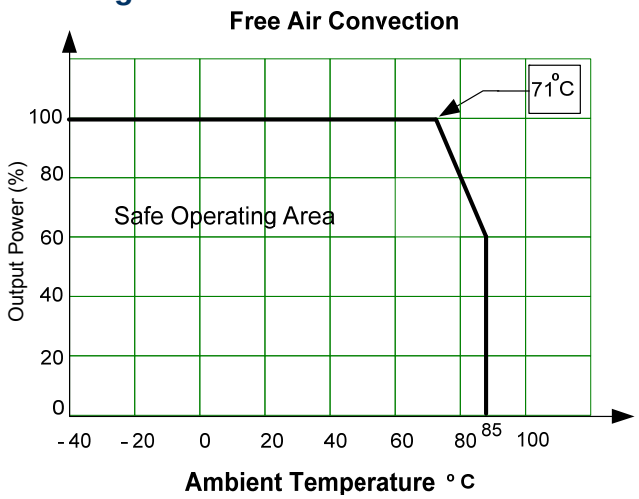
In general, the recommended capacitance values are:
Cin: 12V input 100µF, 24V input 10µF~47µF
Cout: 10µF/100mA

Refer to table below for maximum capacitor values:

External Capacitor Value

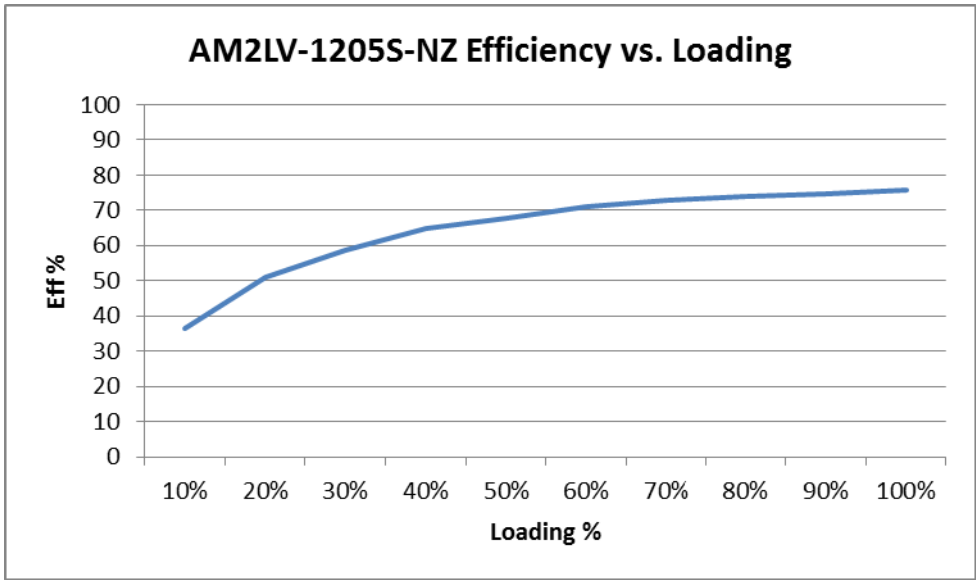
Single Output Vout (VDC)	Cout (µF)	Dual Output Vout (VDC)	Cout (µF)
3.3	2200	±5	±680
5	1000	±9	±470
9	680	±12	±330
12	470	±15	±220
15	330		

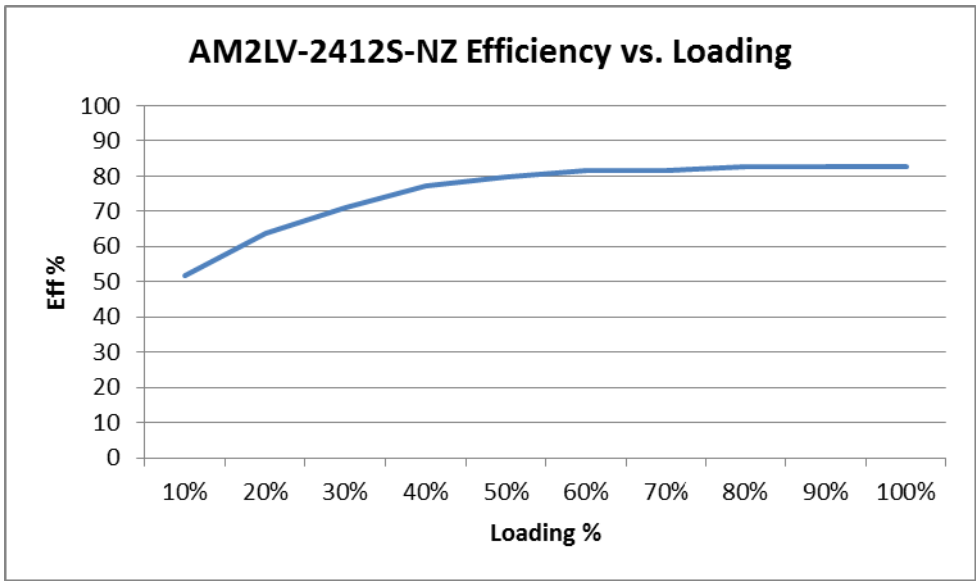
Derating



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Typical Efficiency Chart Examples





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