

**FEATURES:**

- SMD package
- Wide (2:1) input range
- 1500VDC isolation
- Continuous short circuit protection
- Operating temperature: -40°C to +85°C
- Regulated Output
- MTBF>1,000,000 hours

### Models

#### Single output



Model	Input Voltage(V)	Output Voltage (V)	Output Current max(mA)	Isolation (VDC)	Efficiency (%)
AM3LV-1205S-NZ	9-18	5	600	1500	75
AM3LV-1212S-NZ	9-18	12	250	1500	77
AM3LV-1215S-NZ	9-18	15	200	1500	79
AM3LV-2405S-NZ	18-36	5	600	1500	76
AM3LV-2412S-NZ	18-36	12	250	1500	81
AM3LV-2415S-NZ	18-36	15	200	1500	80
AM3LV-4805S-NZ	36-75	5	600	1500	77
AM3LV-4812S-NZ	36-75	12	250	1500	80
AM3LV-4815S-NZ	36-75	15	200	1500	80

### Models

#### Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM3LV-1205D-NZ	9-18	±5	±300	1500	76
AM3LV-1212D-NZ	9-18	±12	±125	1500	80
AM3LV-1215D-NZ	9-18	±15	±100	1500	80
AM3LV-2405D-NZ	18-36	±5	±300	1500	76
AM3LV-2412D-NZ	18-36	±12	±125	1500	80
AM3LV-2415D-NZ	18-36	±15	±100	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	9-18		VDC
	24	18-36		
	48	36-72		
Absolute Maximum Rating	12		25	VDC
	24		50	
	48		100	
Peak Input Voltage time			100	ms
Input Filter		Pi (π)		

### 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	1000		pF

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Short Circuit protection		Continuous		
Short circuit restart		Auto-Recovery		
Line voltage regulation (Single)	From Low in to High In	±0.2		%
Load voltage regulation (Single)	From 5% to 100% load	±0.2		%
Load voltage regulation (Dual)	From 10% to 100% load Unbalanced load	±5		%
Transient Recovery Time	25% Load Step Change	0.5		m sec
Transient Response Deviation	25% Load Step Change	±2		%
Temperature coefficient		±0.03		%/°C
Ripple & Noise *	20MHz Bandwidth	100		mVp-p

\* Converters are designed to operate with a minimum load of 5%. If converter is operated with a load less than 10% the ripple will increase.

### General Specifications

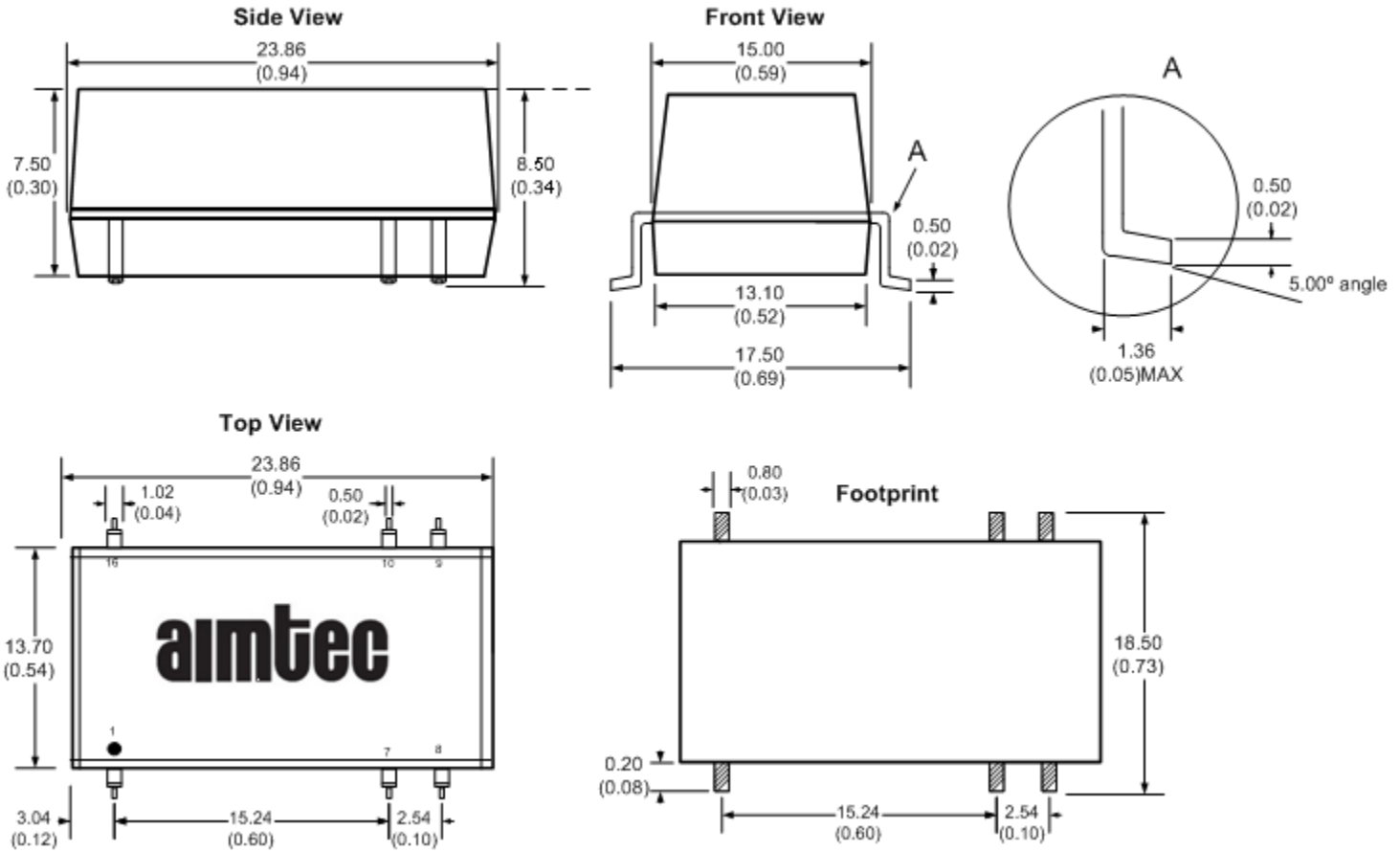
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	350		KHz
Operating temperature		-40 to +85°C		°C
Temperature Rise	Full load, 25°C	25°C		
Storage temperature		-55 to +125°C		°C
Maximum case temperature			100	°C
Derating	Above 71°C on dual output models, others above 85°C	See Chart		
Cooling		Free Air Convection		
Humidity			95	% RH
Case material		Epoxy resin (UL94-V0 rated)		
Weight		5.2		g
Dimensions (L x W x H)		0.94 x 0.54 x 0.34inches	23.86 x 13.70 x 8.50 mm	
MTBF		>1,000,000 hours(MIL-HDBK -217F, Ground Benign, t=+25°C)		
Maximum Soldering Temperature	1.5mm from case for 10 seconds		260	°C

### 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

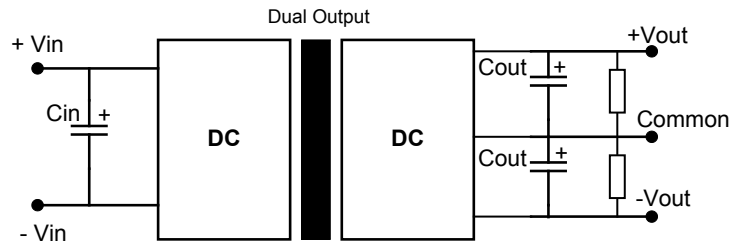
## Dimensions



## Recommended Circuit

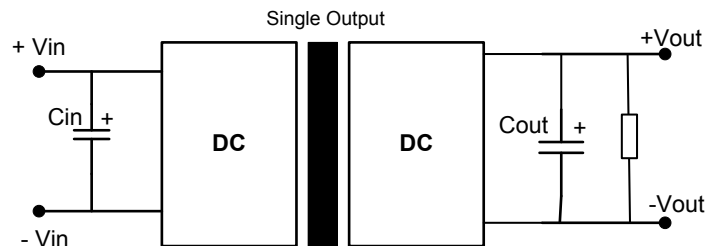
### External Capacitor Value

Dual Output Vout (VDC)	Cin	Cout (uF)
±5	100	10
±12	10 - 47	10
±15	10 - 47	10



### External Capacitor Value

Single Output Vout (VDC)	Cin	Cout (uF)
12	100	10
24	10 - 47	10
48	10 - 47	10



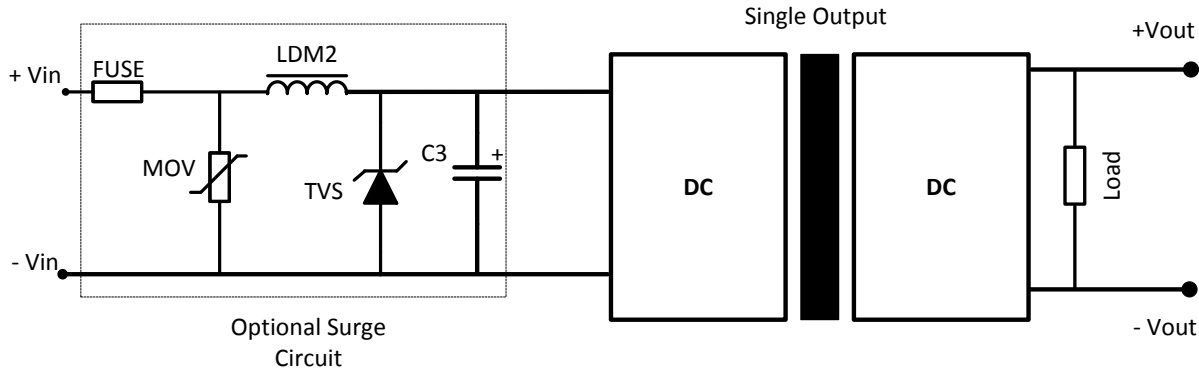
All the AM3LV-Z Series have been tested with the above recommended test circuit. This series should be tested under load. If it is necessary to further decrease the input/output ripple, the value of the filter capacitor can be increased; a capacitor with a low ESR should be used. Excessive filter capacitance can cause start up problems with the converter.

In general, the recommended capacitance values are:

Cin: 12V input 100μF, 24V&48V input 10μF~47μF Cout: 10μF/100mA

Refer to table for maximum capacitor values

## Recommended Circuit (Single Output Models)

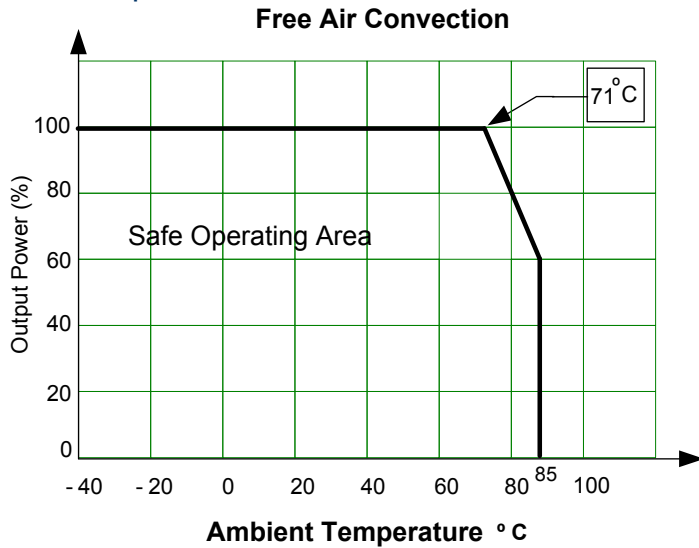


Model	MOV	TVS	C3	LDM2
12 Vin	-	SMCJ28A	680μF / 25V	56 μH
24 Vin	10D560	SMCJ48A	120μF / 50V	56 μH
48 Vin	10D101	SMCJ90A	120μF / 100V	56 μH

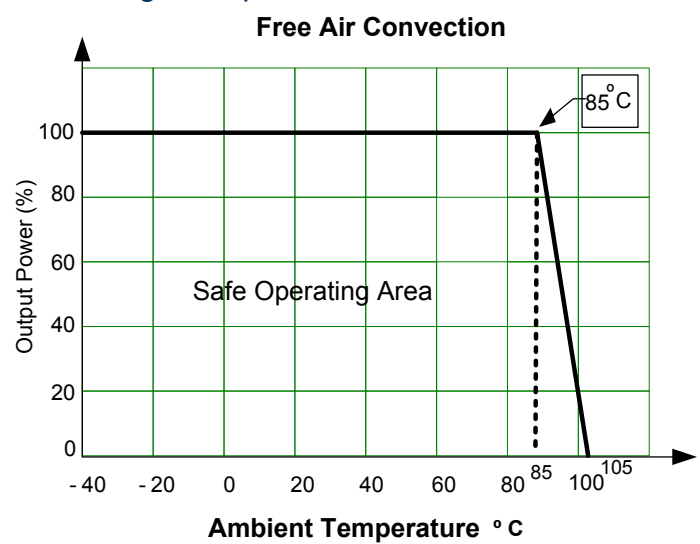
Note: Fuse is user selectable

## Derating

### Dual Output



### Single Output



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