



### 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-1212S-NZ	9-18	12	250	1500	77
AM3LV-2405S-NZ	18-36	5	600	1500	76
AM3LV-2412S-NZ	18-36	12	250	1500	81

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.

The model AM3LV-1212S-NZ is not recommended for new designs; For new design, please refer to model AM3HW-1212S-NZ.  
The model AM3LV-2412S-NZ will be discontinued (EOL) by December 30, 2020; For new design, please refer to model AM3HW-2412S-NZ.

### Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	12 24	9-18 18-36		VDC
Absolute Maximum Rating	12 24		25 50	VDC
Peak Input Voltage time			1	s
Input Filter		Pi (π)		

### Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, leakage current <1mA		1500	VDC
Resistance	At 500 Vdc	1000		MOhm
Capacitance	Input to Output, 100KHz/0.1V	1000		pF

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1	±3	%
Short Circuit protection		Continuous		
Short circuit restart		Auto-Recovery		
Line voltage regulation	From Low in to High In	±0.2	±0.4	%
Load voltage regulation (Single)	From 5% to 100% load	±0.2	±1	%
Transient Recovery Time	25% Load Step Change	0.5	1	m sec
Transient Response Deviation	25% Load Step Change	±2	±5	%
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, PFM mode	350		KHz
Operating temperature	See derating curves		-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
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 0.34 inches 23.86 x 13.70 x 8.00 mm			
MTBF	>1,000,000 hours(MIL-HDBK -217F, Ground Benign, t=+25°C)			
Hand Soldering Temperature	1.5mm from case for 10 seconds		300	°C

## Safety Specifications

Parameters	
Standards	Meets IEC60950-1 Meet EN 55022, Class B, with external filter & EN 55024: 2010 IEC 61000-4-2, Contact ±4KV, Criteria B IEC 61000-4-3, 10V/m, Criteria A IEC 61000-4-4, ±2KV, Criteria B, with external filter IEC 61000-4-5, ±2KV, Criteria B, with external filter IEC 61000-4-6, 3Vrms, Criteria A IEC 61000-4-29, 0-70%, Criteria B

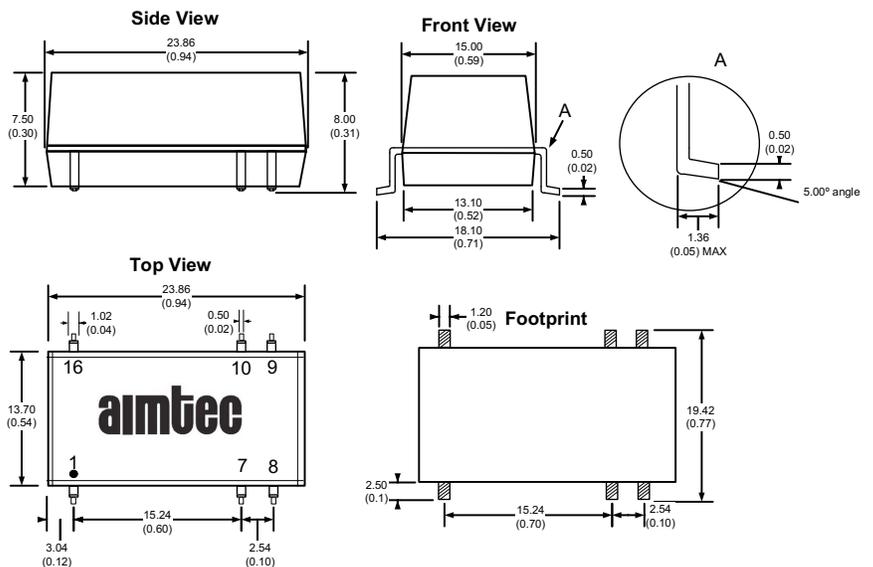
## Pin Out Specifications

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

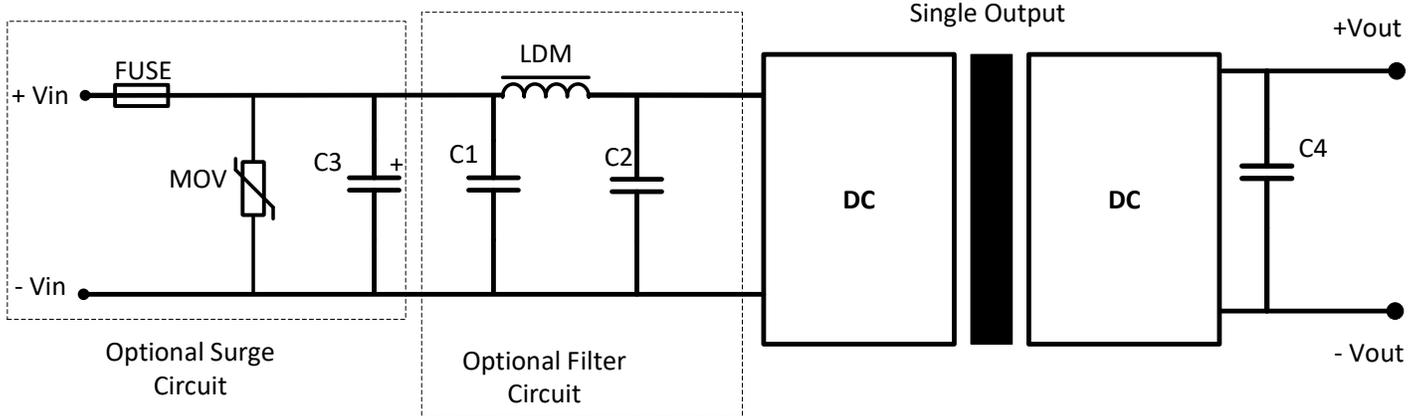
NC – not connected

All dimensions are in millimeters (inches)  
 Pin Tolerance: ± 0.10 (±0.004)  
 Case Tolerance: ± 0.25 (±0.01)

## Dimensions



### Recommended EMC Circuit



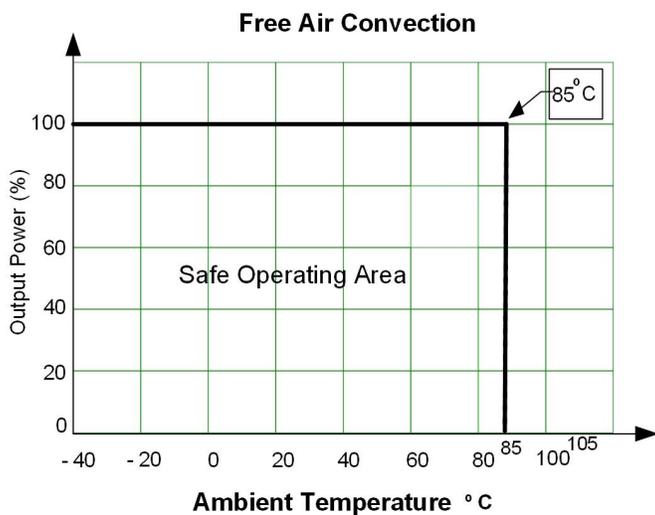
### External Capacitor Value

Vin (VDC)	MOV	C1 & C2	C3	LDM	C4
12	-	4.7 $\mu$ F / 50V	680 $\mu$ F / 25V	12 $\mu$ H	10 $\mu$ F
24	S14K35	4.7 $\mu$ F / 50V	120 $\mu$ F / 50V	12 $\mu$ H	10 $\mu$ F

All the AM3LV-NZ 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.

Note: Fuse is user selectable

### Derating Single Output



**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](http://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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).