aimtec
Your Power Partner

Series AM3LV-NZ

3 Watt | DC-DC Converter

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

RoHS

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-4812S-NZ	36-75	12	250	1500	80

Models
Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
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 24 48	9-18 18-36 36-75		VDC
Absolute Maximum Rating	12 24 48		25 50 100	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	%
Load voltage regulation (Dual)	From 10% to 100% load Unbalanced load	±5		%
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		%/ºC
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 +85ºC		ºC
Temperature Rise	Full load, 25ºC	25ºC		
Storage temperature	-55 to +125ºC			ºC
Maximum case temperature			100	ºC
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 8.00 mm			
MTBF	>1,000,000 hours(MIL-HDBK -217F, Ground Benign, t=+25ºC)			
Hand Soldering Temperature	1.5mm from case for 10 seconds		300	ºC

Safety Specifications

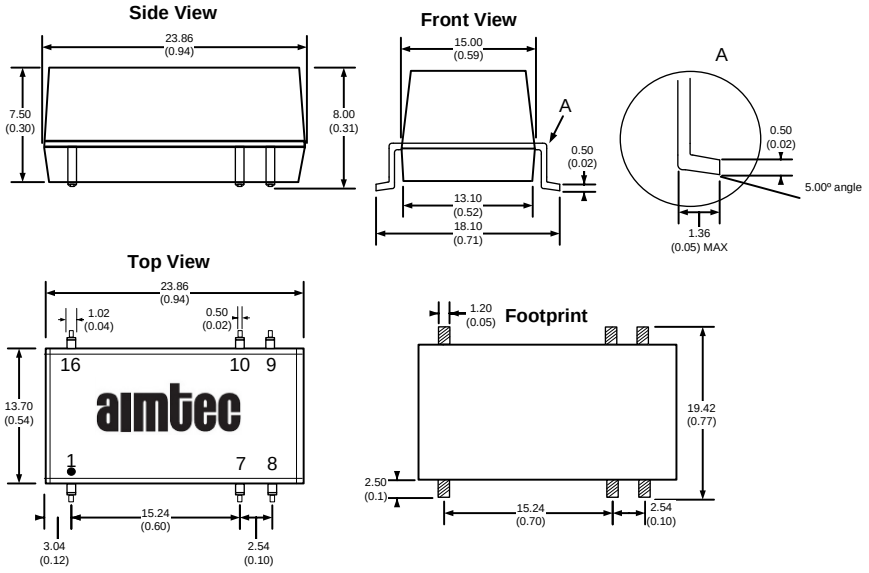
Parameters	
Standards	Meets IEC60950-1
	Meet EN 55022, Class B, with external filter & EN 55024: 2010 IEC 61000-4-2, Contact ±4KV, Criteria B IEC 61000-4-3, 10V/m, Criteria A IEC 61000-4-4, ±2KV, Criteria B, with external filter IEC 61000-4-5, ±2KV, Criteria B, with external filter IEC 61000-4-6, 3Vrms,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

Pin Out Specifications

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

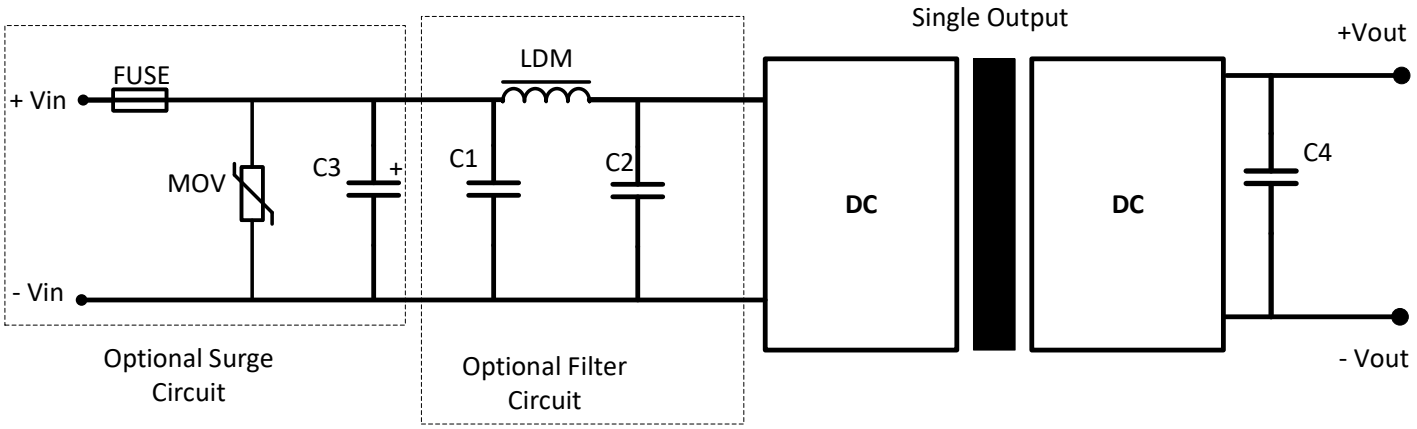
NC – not connected

Dimensions



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

Recommended EMC Circuit



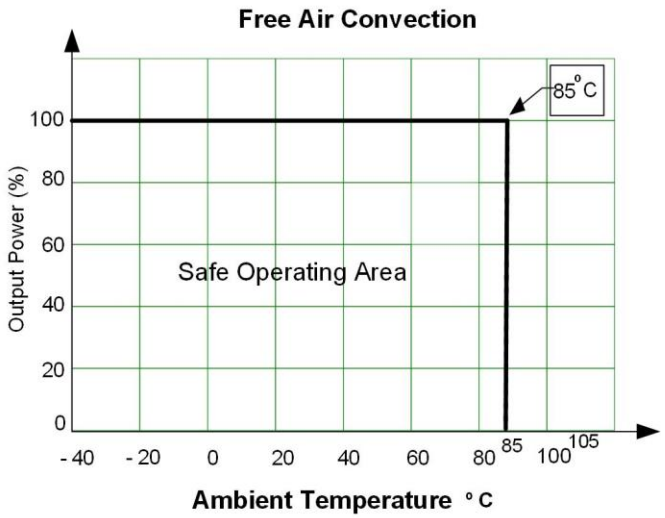
External Capacitor Value

Vin (VDC)	MOV	C1 & C2	C3	LDM	C4
12	-	4.7 µF / 50V	680 µF / 25V	12µH	10 µF
24	S14K35	4.7 µF / 50V	120 µF / 50V	12µH	10 µF
48	S14K60	4.7 µF / 100V	120 µF / 100V	12µH	10 µF

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



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