aimtec
Your Power Partner

Series AM2LW-NZ

1.5 Watt | DC-DC Converter



FEATURES:

- SMD package
- Ultra Wide (4:1) input range
- 1500VDC 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 (%)
AM2LW-2403S-NZ	9-36	3.3	455	1500	72
AM2LW-2405S-NZ	9-36	5	300	1500	76
AM2LW-2409S-NZ	9-36	9	167	1500	78
AM2LW-2412S-NZ	9-36	12	125	1500	79
AM2LW-2415S-NZ	9-36	15	100	1500	80
AM2LW-4805S-NZ	18-72	5	300	1500	76

Models: Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM2LW-2405D-NZ	9-36	±5	±150	1500	74
AM2LW-2412D-NZ	9-36	±12	±63	1500	77
AM2LW-2415D-NZ	9-36	±15	±50	1500	75

NOTE 1: Add suffix “TR” to a part number when ordering in tape and reel package

NOTE 2: Unless otherwise specified, all specifications in this datasheet 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	24 48	9-36 18-72		VDC
Absolute Maximum Rating	24 48		40 80	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	1000		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±5		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			
Line voltage regulation	From Low in to High In	±0.75		%
Load voltage regulation (Single)	From 10% to 100% load	±1.5		%
Load voltage regulation (Dual)	From 10% to 100% load Unbalanced load	±5		%
Temperature coefficient		±0.03		%/ºC
Ripple & Noise	20MHz Bandwidth	100		mV p-p
Minimum Load Current*		10		% of Max

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

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General Specifications

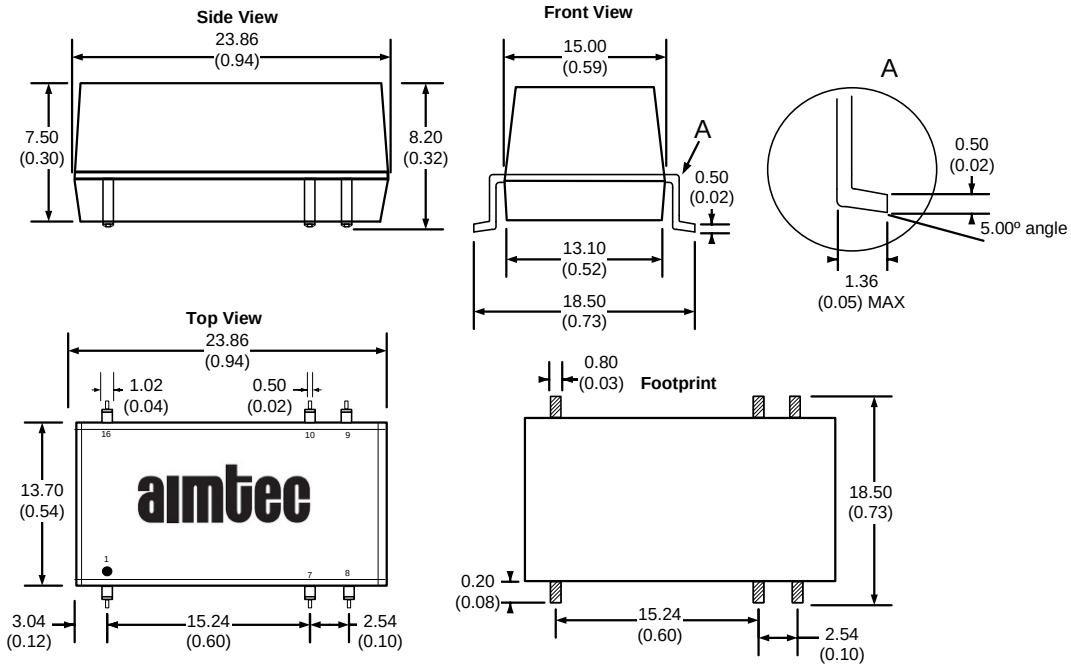
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	550		KHz
Operating temperature	-40 to +85			ºC
Storage temperature	-55 to +125			ºC
Maximum case temperature			100	ºC
Derating	Above 71º	2.9		%/ ºC
Cooling	Free Air Convection			
Humidity			95	% RH
Case material	Plastic (UL94-V0)			
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 8.00mm			
MTBF	>1,000,000 hours(MIL-HDBK -217F, Ground Benign, t=+25ºC)			
Maximum Soldering Temperature	1.5mm from case for 10 seconds		300	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

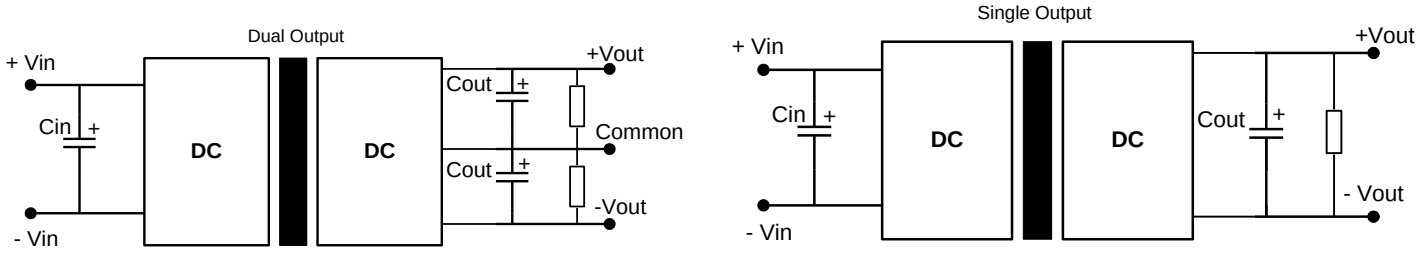
NC – not connected

Dimensions



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Recommended Filter Circuit



All the AM2LW-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.

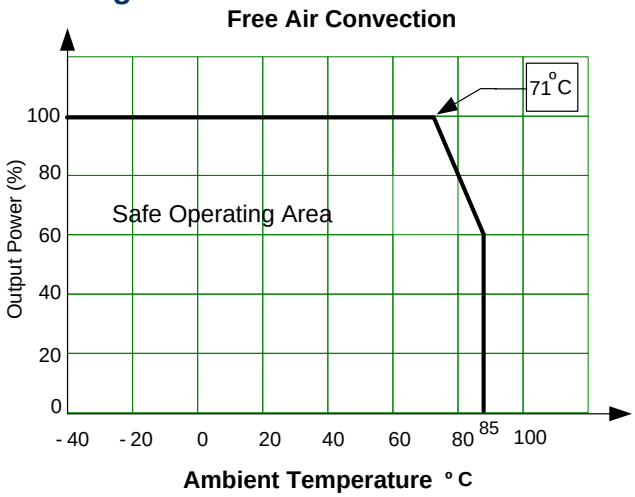
In general, the recommended capacitance values are:
Cin: 10μF~47μF
Cout: 10μF/100mA

Refer to table below for maximum capacitor values:

External Capacitor Value

Single Output Vout (VDC)	Cout (uF)	Dual Output Vout (VDC)	Cout (uF)
5	1000	±5	±680
12	470	±12	±330
15	330	±15	±220

Derating



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 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 the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.

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