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AM2LO-Z



Open Frame

The AM2LO-Z is a brand-new SMD DC/DC converter that offers great cost savings thanks to an improved manufacturing process. It also features excellent reliability and performance, offering a standard input voltage range of 3.3 & 5VDC as well as an output voltage range from 3.3-5V, ±3.3 & ±5V. This low height profile and open frame design will surely benefit your new system design.

This new series offers great operating temperatures, from -40 to 105°C with full power up to 85°C. Also, an isolation of 4200VDC for improved reliability and system safety as well as a great 6 500,000h MTBF come standard.

The AM2LO-Z is perfect for instrumentation, industrial controls, communication and IoT applications.

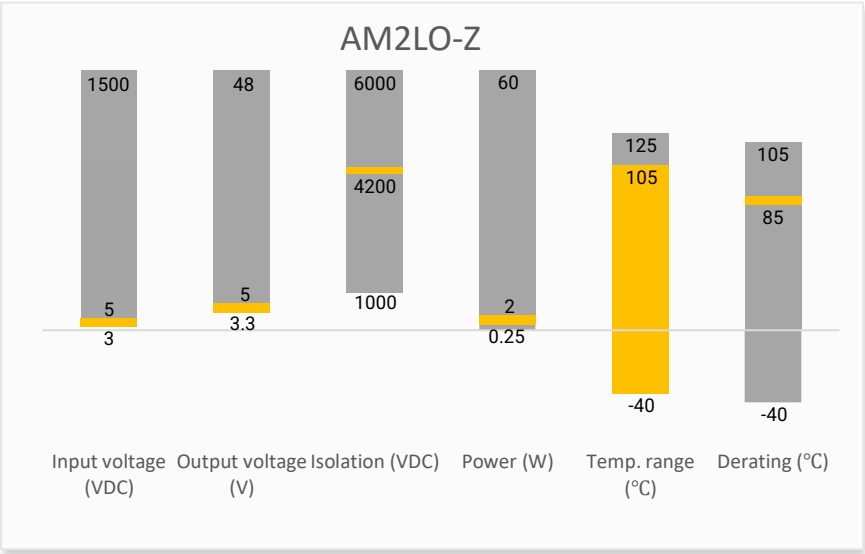
Features

- Operating Temp: -40 °C to +105 °C
- High isolation voltage: 4200VDC
- Low ripple & noise, 150mV(p-p), typ.
- Unregulated Output
- SMD type package

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

IoT

Industrial

Portable Equipment

Telecommunication

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Max (mA)		Output Current Max (mA)	Maximum Capacitive Load (µF)	Efficiency (%) Full Load
			No Load	Full Load			
AM2LO-0303SH42Z	3.3 (2.97 ~ 3.63)	3.3	60	650	500	470	77
AM2LO-0305SH42Z	3.3 (2.97 ~ 3.63)	5	60	777	400	470	78
AM2LO-0503SH42Z	5 (4.5 ~ 5.5)	3.3	45	446	500	470	76
AM2LO-0505SH42Z	5 (4.5 ~ 5.5)	5	45	513	400	470	78

Note: Use suffix “TR” for tape & reel packing (ex. AM2LO-0303SH42ZTR).

Dual Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Max (mA)		Output Current Max (mA)	Maximum Capacitive Load (µF)	Efficiency (%) Full Load
			No Load	Full Load			
AM2LO-0303DH42Z	3.3 (2.97 ~ 3.63)	± 3.3	60	798	± 303	± 220	78
AM2LO-0305DH42Z	3.3 (2.97 ~ 3.63)	± 5	60	758	± 200	± 220	80
AM2LO-0503DH42Z	5 (4.5 ~ 5.5)	± 3.3	45	541	± 303	± 220	76
AM2LO-0505DH42Z	5 (4.5 ~ 5.5)	± 5	45	494	± 200	± 220	81

Note: Use suffix “TR” for tape & reel packing (ex. AM2LO-0303DH42ZTR).

Input Specification

Parameters	Conditions		Typical	Maximum	Units
Voltage range	See models table			± 10	%
Filter	Capacitance Filter				
Absolute maximum rating	1000ms	3.3VDC input models		5	VDC
		5VDC input models		9	VDC
Start up time			20		ms
Input reflected ripple current			20		mA pk-pk

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec	4200		VDC
Resistance		≧1000		MΩ
Capacitance		25		pF

Output Specification

Parameters	Conditions		Typical	Maximum	Units
Voltage accuracy	See tolerance envelope curve				%
Line regulation	Per 1% Vin change			± 1.2	%
Load regulation	10 ~ 100% load	3.3Vdc output models		± 15	%
		5Vdc output models		± 14	%

Short circuit protection	Momentary, Auto recovery, 0.5sec, max				
Temperature coefficient	Full load			± 0.03	%/°C
Ripple & Noise*	20MHz bandwidth	Single output models		150	mV pk-pk
		Dual output models		± 150	
* Ripple and Noise are measured at 20MHz bandwidth by using a 0.1µF (M/C) and 10µF (E/C) parallel capacitor and typical input with full load					

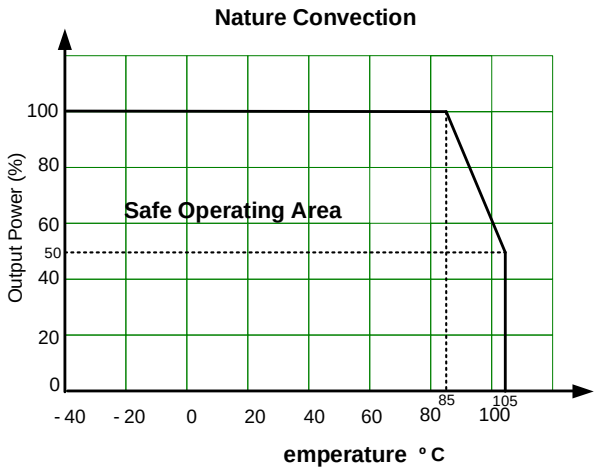
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	40 ~ 80		KHz
Operating temperature	See derating graph	-40 to +105		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			95	°C
Reflow temperature	10 sec.		245	°C
Lead-free reflow solder process	IPC/JEDEC J-STD-020D.1			
Cooling	Nature Convection (30~65 LFM)			
Humidity	Non-condensing		95	% RH
Moisture sensitivity level (MSL)	IPC/JEDEC J-STD-020D.1	Level 1		
Base material	Non-Conductive Black Plastic (UL94V-0)			
Weight	Single output models / Dual output models	1.52 / 1.80		g
Dimensions (L x W x H)	Single output models	0.50 x 0.44 x 0.27 inches, 12.70 x 11.80 x 3.60mm		
	Dual output models	0.60 x 0.44 x 0.27 inches, 15.20 x 11.80 x 3.60mm		
MTBF	> 6 500 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			

Safety Specifications

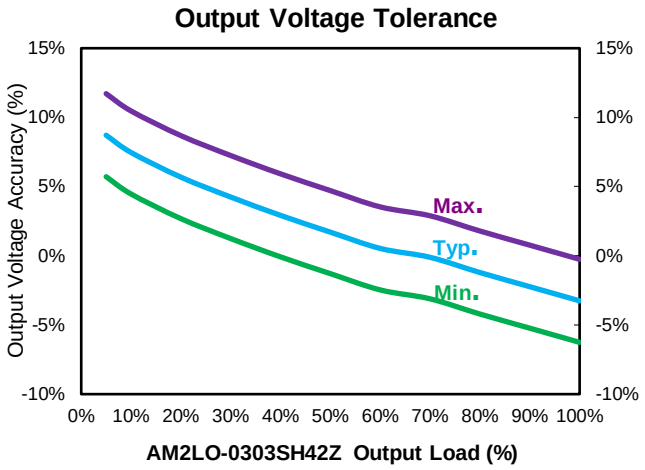
Parameters		
Standards	Design to meet IEC/EN 60950-1,62368-1	
	EMI - Conducted and radiated emission	EN55032 , CLASS B with recommended circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2 , Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 , Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 , Criteria A with recommended circuit
	Surge Immunity	IEC 61000-4-5 , Criteria A with recommended circuit
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 , Criteria A
	PFMF	IEC 61000-4-8 , Criteria A

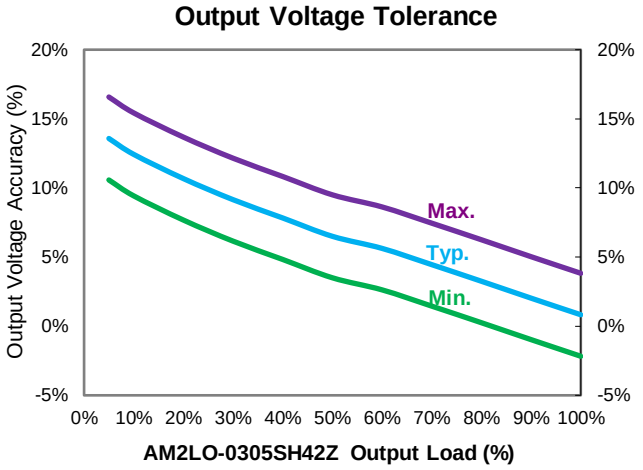
Derating

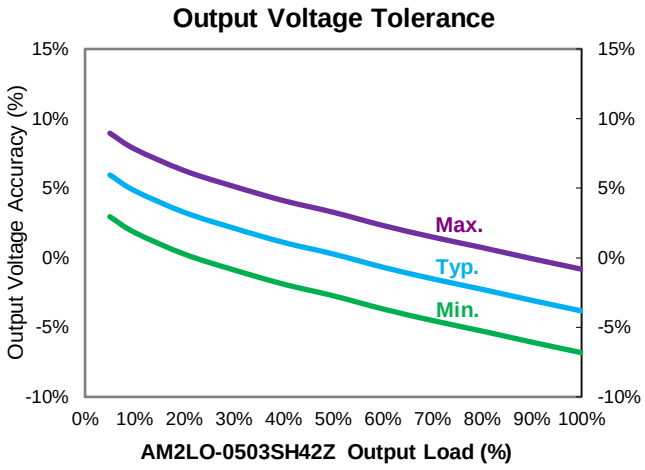


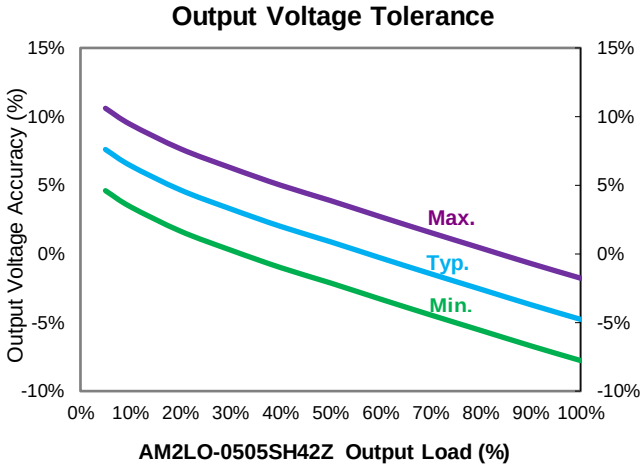
Output voltage tolerance

Single output models

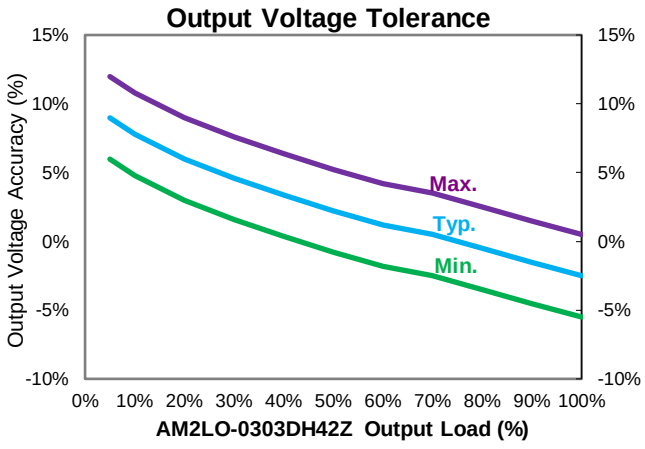


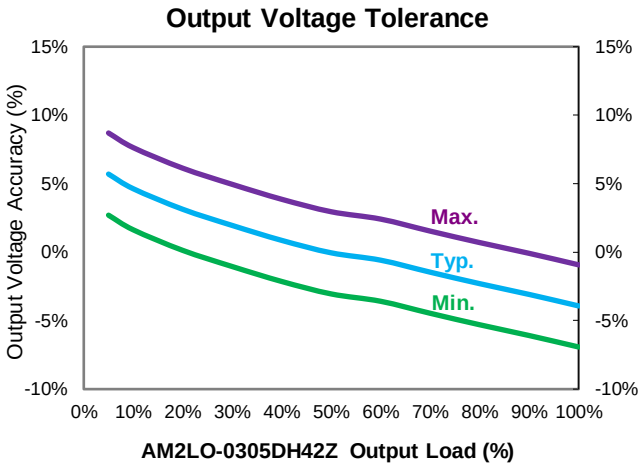


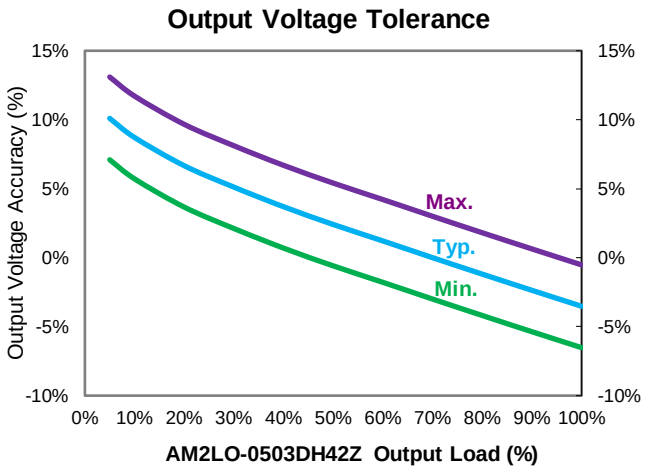


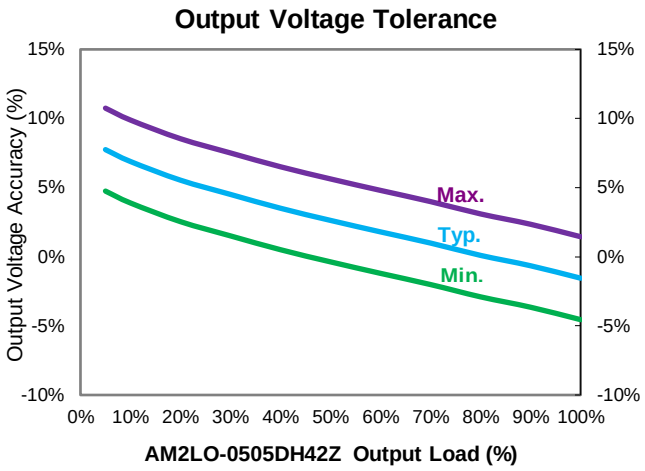


Dual output models



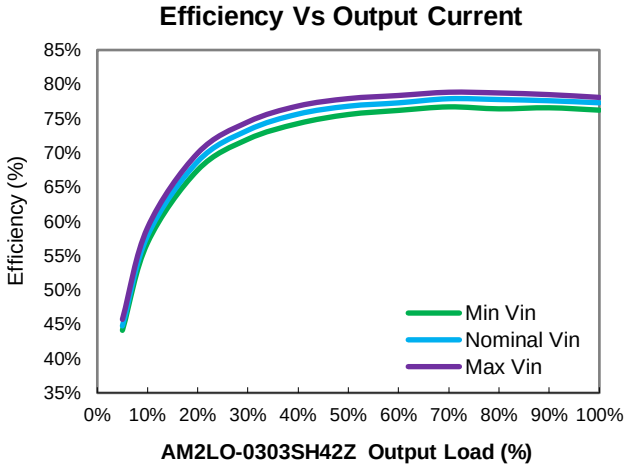


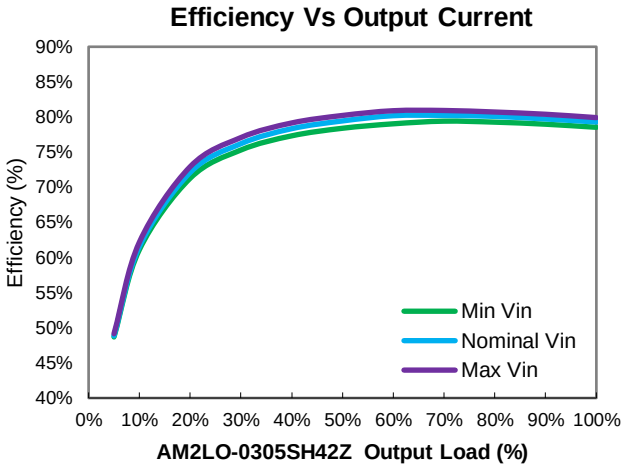


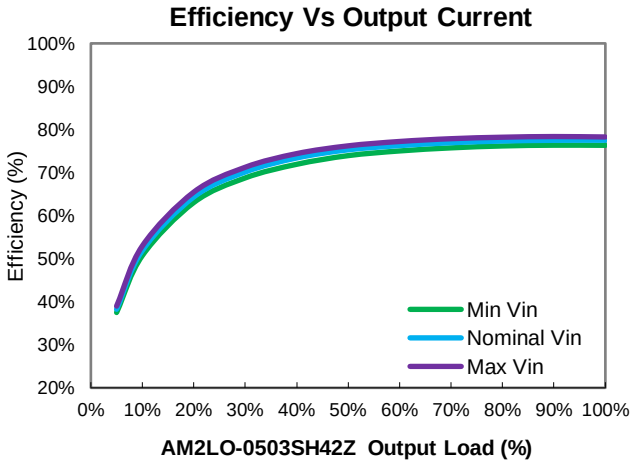


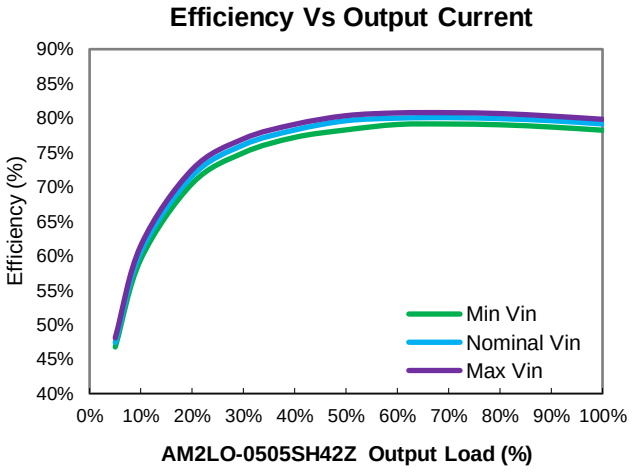
Efficiency Vs Output Current

Single output models

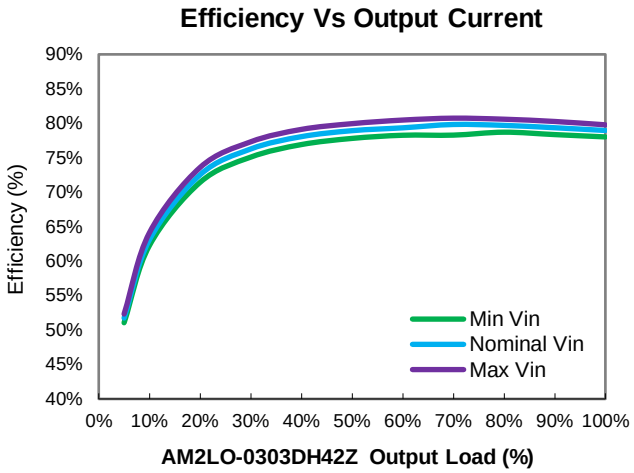


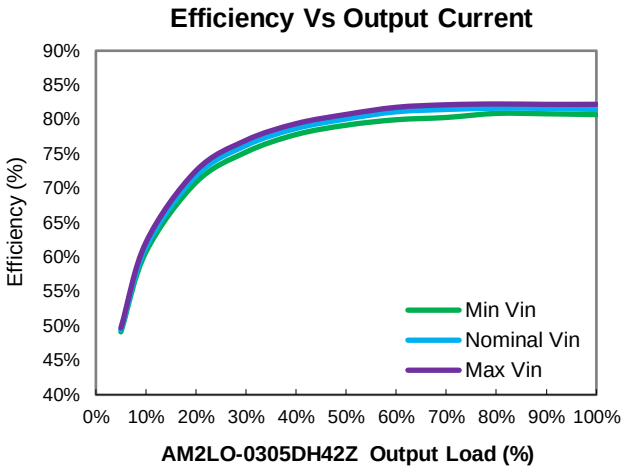


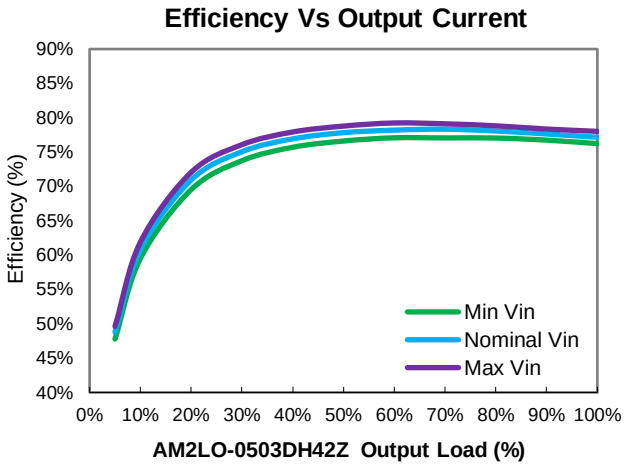


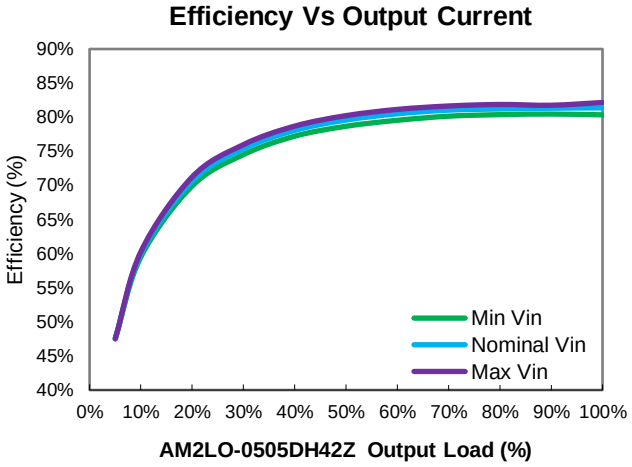


Dual output models

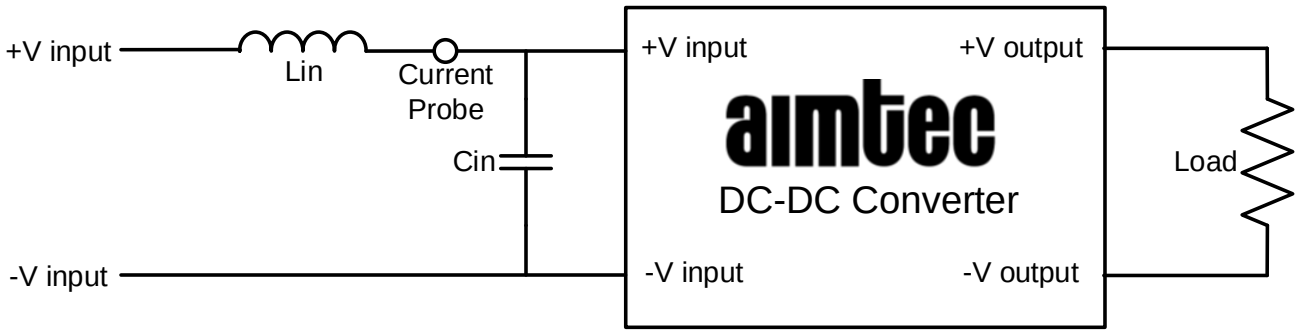






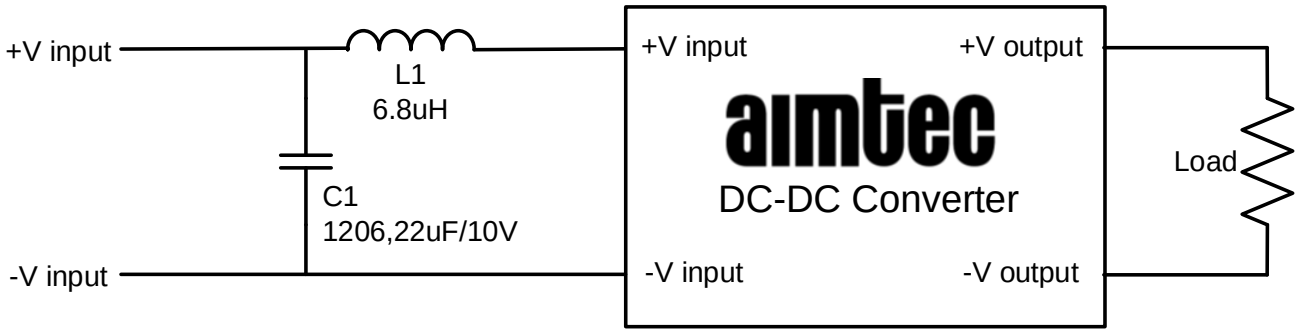


Input Reflected Ripple Current

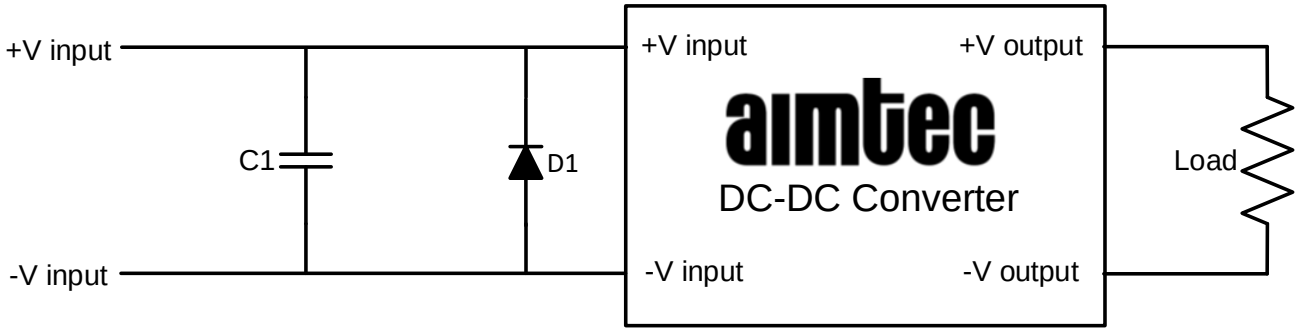


Lin : 12uH / Cin : 47uF,ESR<1.0Ω at 100KHz

EMI Application Circuit



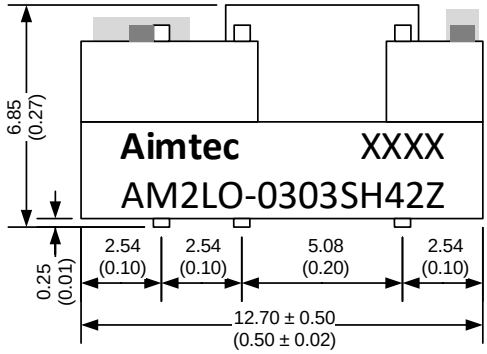
EFT & Surge Application Cirucit



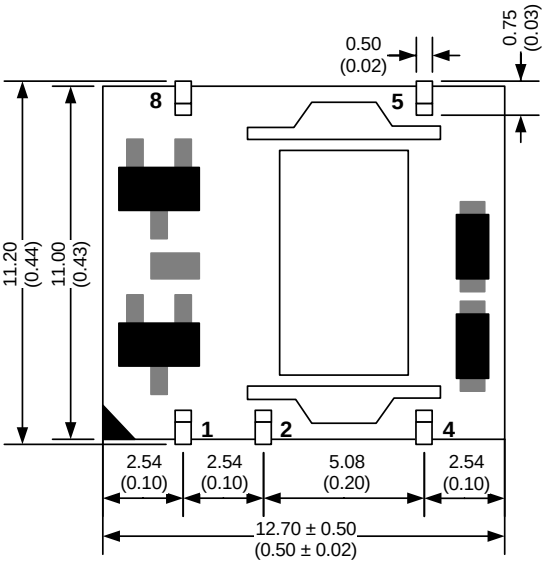
Model	C1	D1
AM2LO-03XXXH42Z	220uF,35V	SMDJ 6.0A
AM2LO-05XXXH42Z	330uF,50V	SMDJ 9.0A

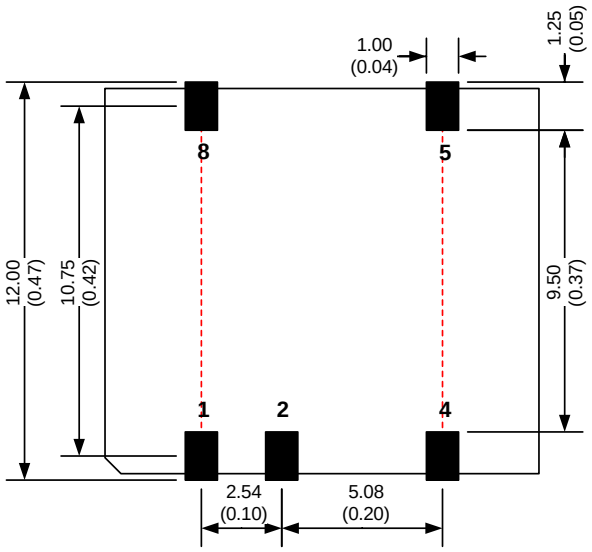
Dimensions

Single output models



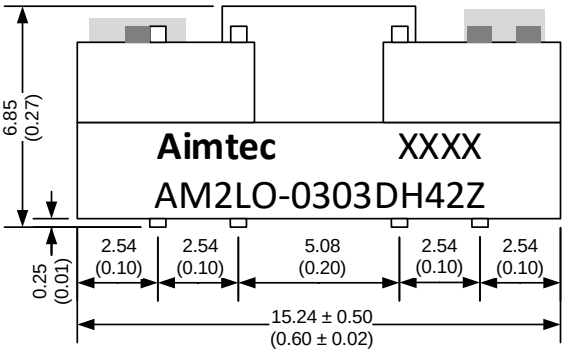
Pin Out Specifications	
Pin	Single
1	-V Input
2	+V Input
4	-V Output
5	+V Output
8	N.C



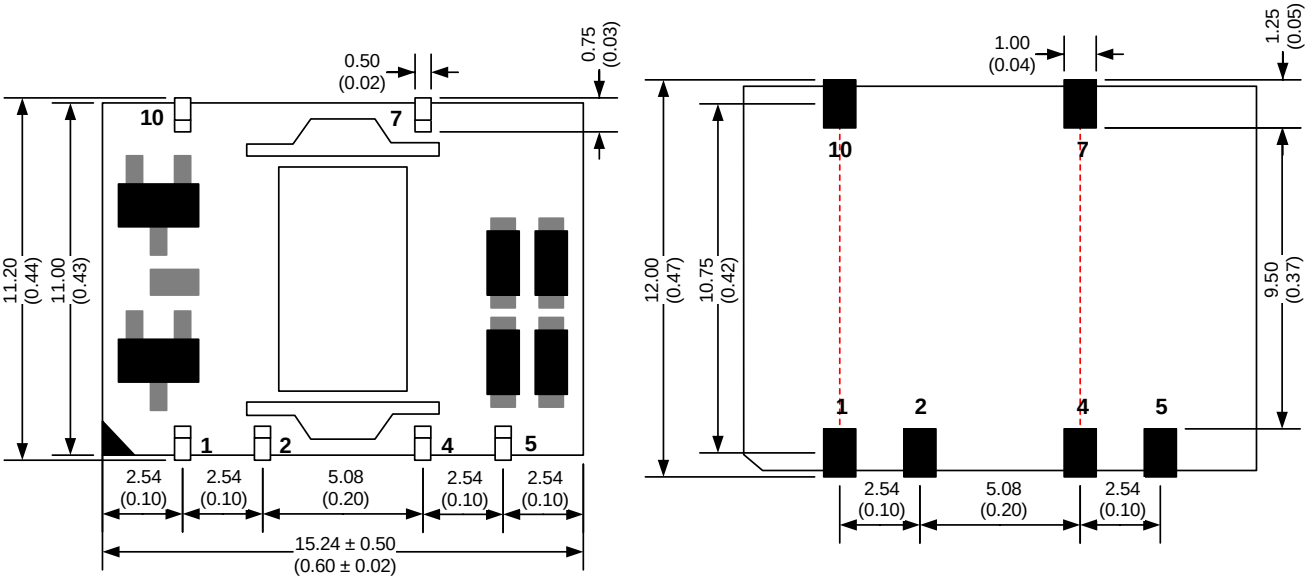


Notes:
All dimensions are typical in millimeters (inches).
Stand-off tolerance ±0.25 (±0.01)

Dual output models



Pin Out Specifications	
Pin	Single
1	-V Input
2	+V Input
4	Common
5	-V Output
7	+V Output
10	N.C



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