

**FEATURES:**

- I/O Isolation 4200VDC
- Operating temperature -40°C to + 105°C
- Rated working voltage 250Vrms/400VDC
- SMD open frame package
- Efficiency up to 75%
- High MTBF of over 8Mh



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max Min (mA)		Input Current Full No Load (mA)		Isolation (VDC)	Max Capacitive Load(uF)	Efficiency (%)
AM1LO-0303SH421	2.97-3.63	3.3	303	30	421	50	4200	220	72
AM1LO-0303SH421	2.97-3.63	5	200	20	410	50	4200	220	74
AM1LO-0503SH421	4.5-5.5	3.3	303	30	278	40	4200	220	72
AM1LO-0505SH421	4.5-5.5	5	200	20	267	40	4200	220	75

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

NOTE: 2. All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	3.3 5	2.97-3.63 4.5-5.5		VDC
Filter	Capacitor			
Absolute Maximum Rating	3.3 Vin 5 Vin	-0.7-5 -0.7-9		VDC
Peak Input Voltage time		100		ms
Input Reflected Ripple Current	3.3 & 5V Input	20		mA p-p
External fuse	Recommended slow blow type	1		A

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4200	VDC
Resistance		>1000		MOhm
Capacitance		25		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		See tolerance chart		
Short Circuit protection		Momentary, 0.5s		
Short circuit restart		Auto-Recovery		
Line voltage regulation	For $\pm 1\%$ of Vin	± 1.2		% of Vin
Load voltage regulation	10% - 100% load	15		%
Temperature coefficient	100% load	± 0.03		%/°C
Ripple & Noise*	20MHz Bandwidth	150		mV p-p

*Ripple and Noise measured with a 10uF EC and 0.1uF CC.

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		50-80		KHz
Operating temperature	With derating above +100	-40 to +105		°C
Storage temperature		-55 to +125		°C
Cooling		Free air convection (30-65LFM)		
Humidity	Non-Condensing		95	% RH
Base material		Non-conductive black plastic (UL94-V0)		
Weight		1.52		g

Dimensions (L x W x H)	0.50 x 0.44 x 0.27 inches	12.70 x 11.20 x 6.85 mm
MTBF	> 8Mhrs (MIL-HDBK -217F, Ground Benign, t=+25°C)	
Reflow temperature	10 sec max	245 °C

Environmental Specifications

Parameters

Vibration	Test mode	Per MIL-STD-810F
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Safety Specifications

Parameters

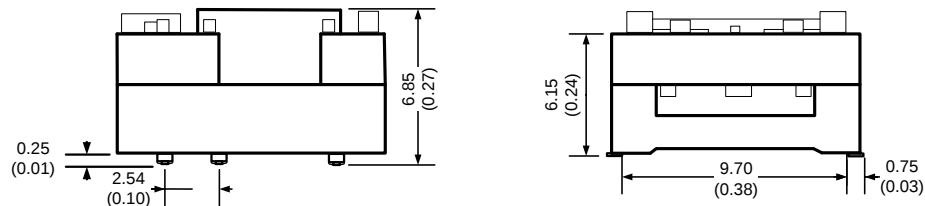
Standards	Designed to meet IEC60950-1	
	EMI - Conducted and radiated emission	EN55032, class B (with the recommended EMI circuit) EN55024: 2010
	Electrostatic Discharge Immunity	IEC 61000-4-2: Criteria A
	RF, Electromagnetic Field Immunity	IEC 61000-4-3: Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4: Criteria A (with the recommended EMC circuit)
	Surge Immunity (600VDC Vin)	IEC 61000-4-5: Criteria A (with the recommended EMC circuit)
	RF, Conducted Disturbance Immunity	IEC 61000-4-6: Criteria A
	Power frequency Magnetic Field Immunity	IEC 61000-4-8: Criteria A

Pin Out Specifications

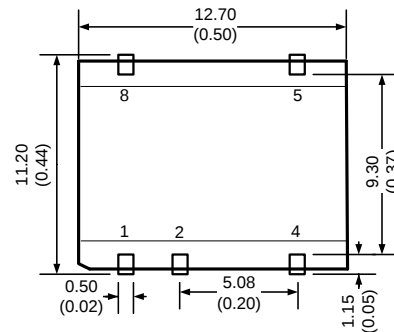
Pin	Single
1	- V Input
2	+ V Input
3	No Pin
4	-V Output
5	+V Output
6	No Pin
7	No Pin
8	N.C.

Dimensions

Side View

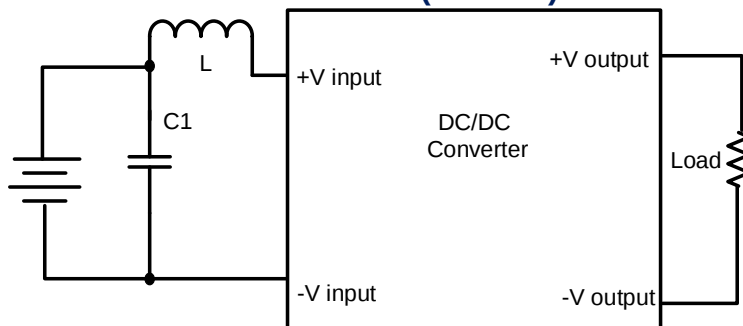


Top View



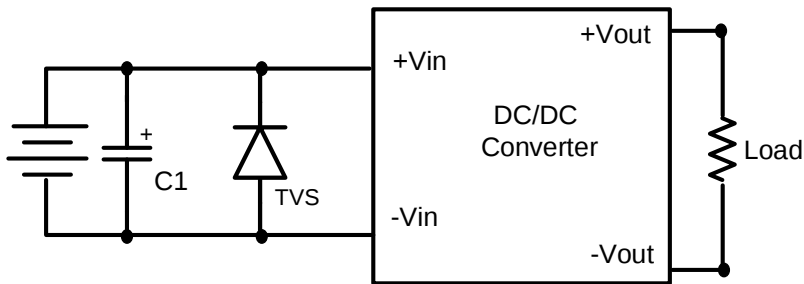
All dimensions are in mm (inch)
Pin Tolerance: $\pm 0.25\text{mm}$ (0.01inch)
Case Tolerance: $\pm 0.50\text{mm}$ (0.02inch)

EMI Recommended Circuit (Class B)



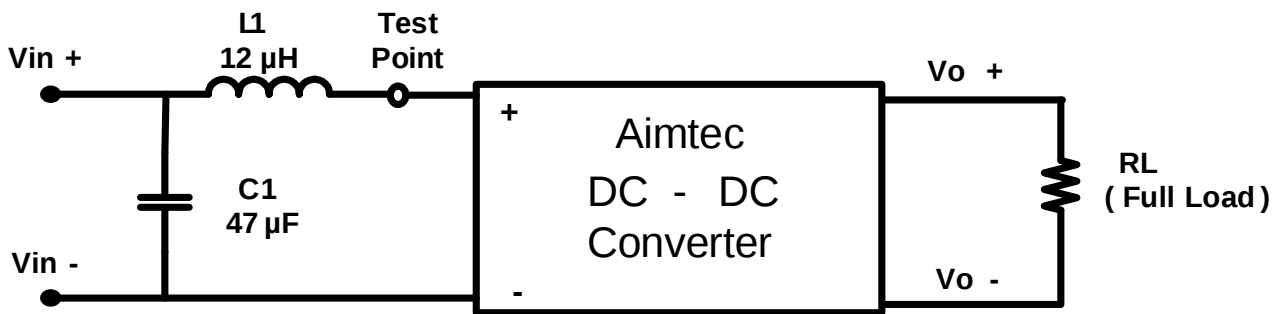
C1	L
22 μF / 10V	6.8 μH

EMC Recommended Circuit



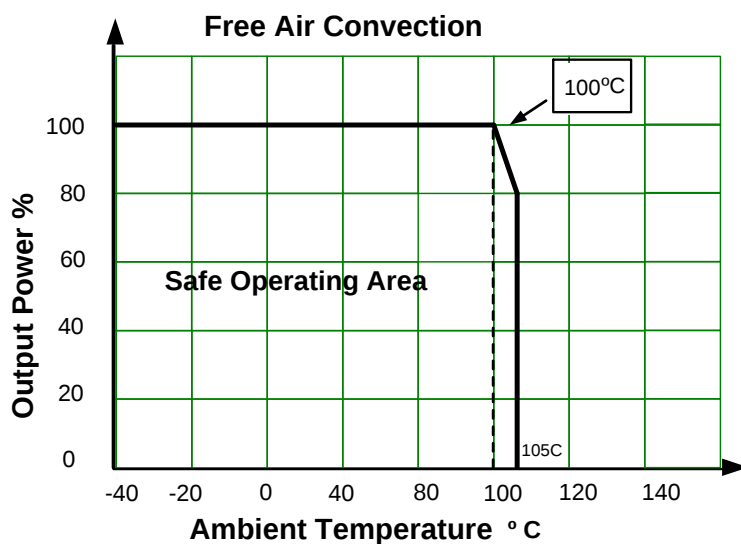
C1	TVS
330 μ F / 50V	9V

Input Reflected Ripple Current Test Circuit



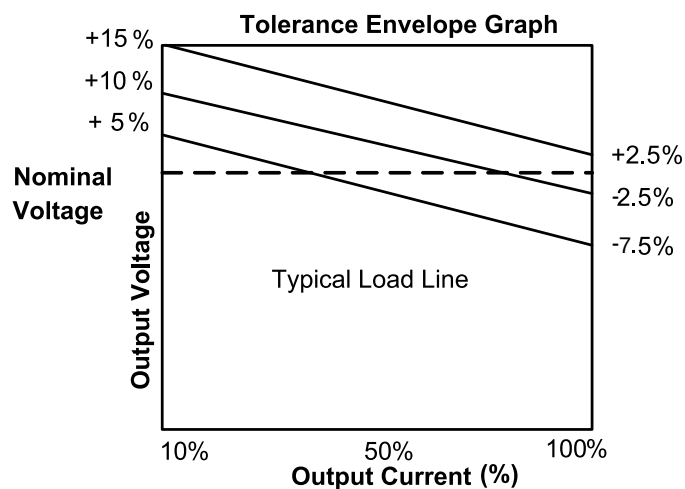
* Tested at full load and nominal input
C1 – ESR<1 Ω at 100KHz

Derating

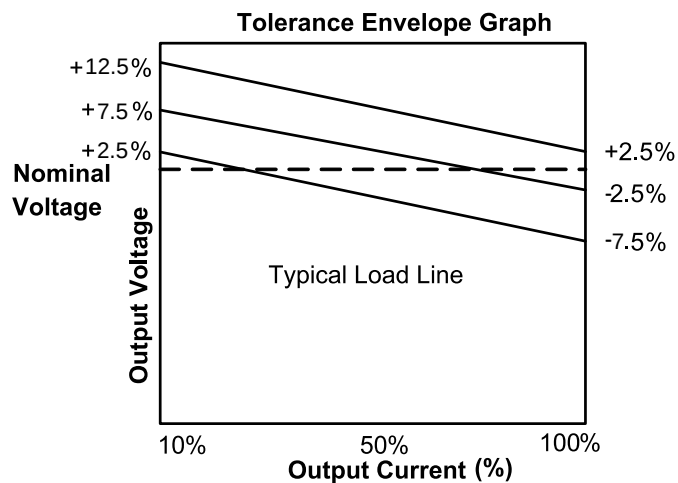


Load Accuracy Tolerance Graph

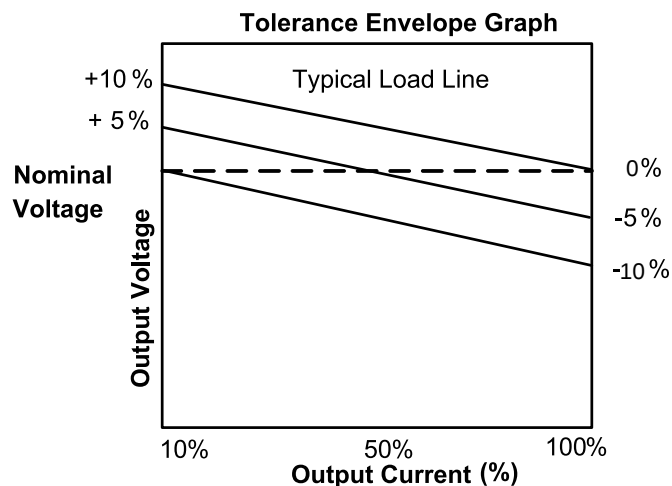
AM1LO-0503SH421



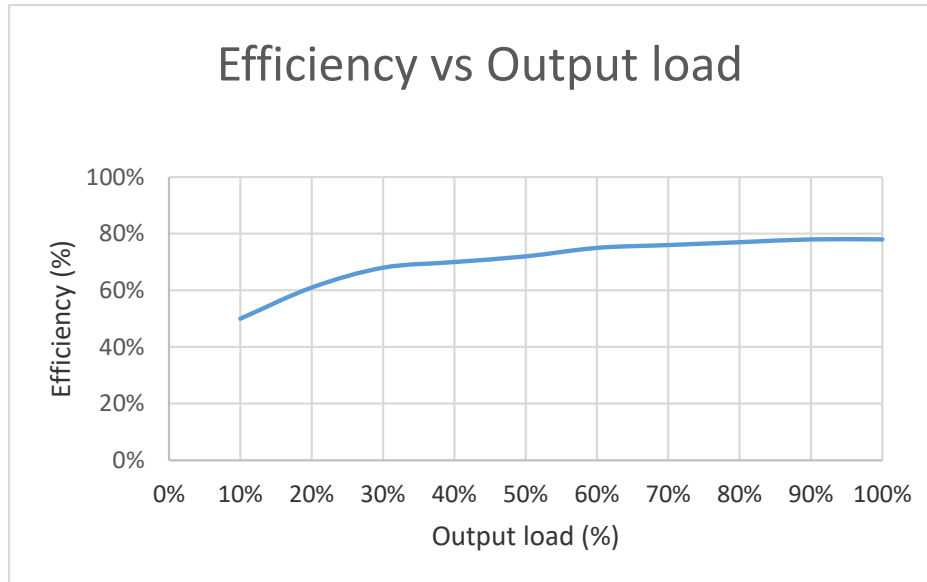
AM1LO-0303SH421 & AM1LO-0505SH421



AM1LO-0305SH421



Typical Efficiency vs. Loading



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