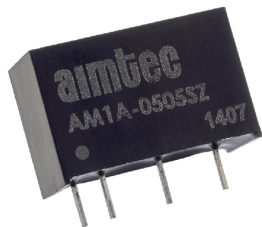


Series AM1A-Z

1 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- Regulated output voltage
- Low ripple and noise
- High efficiency up to 80%
- No Minimum Load Required
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1500 VDC
- Pin compatible with multiple manufacturers
- 6 pin SIP package
- Wide 2:1 Input Range



Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max Min (mA)		Isolation (VDC)	Input Current FL No Load mA		Max Capacitive Load (uF)	Efficiency (Full load) (%)
AM1A-0505SZ	4.5 - 9	5	200	0	1500	263	22	1680	76
AM1A-0512SZ	4.5 - 9	12	83	0	1500	259	22	820	77
AM1A-0515SZ	4.5 - 9	15	67	0	1500	254	22	680	79
AM1A-0524SZ	4.5 - 9	24	42	0	1500	265	22	470	76
AM1A-1205SZ	9 - 18	5	200	0	1500	108	20	1680	77
AM1A-1212SZ	9 - 18	12	83	0	1500	108	20	820	77
AM1A-1215SZ	9 - 18	15	67	0	1500	105	20	680	80
AM1A-1224SZ	9 - 18	24	42	0	1500	109	20	470	77
AM1A-2405SZ	18 - 36	5	200	0	1500	54	10	1680	77
AM1A-2412SZ	18 - 36	12	83	0	1500	52	10	820	80
AM1A-2415SZ	18 - 36	15	67	0	1500	52	10	680	80
AM1A-2424SZ	18 - 36	24	42	0	1500	55	10	470	77
AM1A-4805SZ	36 - 75	5	200	0	1500	27	7	1680	77
AM1A-4812SZ	36 - 75	12	83	0	1500	27	7	820	78
AM1A-4815SZ	36 - 75	15	67	0	1500	27	7	680	78
AM1A-4824SZ	36 - 75	24	42	0	1500	28	7	470	76

FL= Full Load

Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max Min (mA)		Isolation (VDC)	Input Current FL No Load mA		Max Capacitive Load (uF)	Efficiency (Full load) (%)
AM1A-0512DZ	4.5 - 9	±12	±42	0	1500	259	22	±470	77
AM1A-0515DZ	4.5 - 9	±15	±33	0	1500	254	22	±330	79
AM1A-1212DZ	9 - 18	±12	±42	0	1500	108	20	±470	77
AM1A-1215DZ	9 - 18	±15	±33	0	1500	105	20	±330	80
AM1A-2412DZ	18 - 36	±12	±42	0	1500	52	10	±470	80
AM1A-2415DZ	18 - 36	±15	±33	0	1500	52	10	±330	80
AM1A-4812DZ	36 - 75	±12	±42	0	1500	27	7	±470	78
AM1A-4815DZ	36 - 75	±15	±33	0	1500	27	7	±330	78

FL= Full Load

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5 - 9		VDC
	12	9 - 18		
	15	18 - 36		
	24	36 - 75		
Filter	Capacitor			
Turn on Transient process time		1		ms
Start up time		50		ms
Absolute Maximum Rating	5 Vin	0-15		VDC
	12 Vin	0-25		
	15 Vin	0-50		
	24 Vin	0-100		
Peak Input Voltage time		100		ms
Input Reflected Ripple Current		35		mA pk-pk

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Resistance		> 1000		MOhm
Capacitance		80		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Short Circuit protection		Continuous with auto recovery		
Line voltage regulation (Single)		±0.2		%
Load voltage regulation (Single)	0% to 100% load	±1.0		%
Cross Regulation (Dual)	25% to 100% coupled to full load	±5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	50		mV p-p

General Specifications

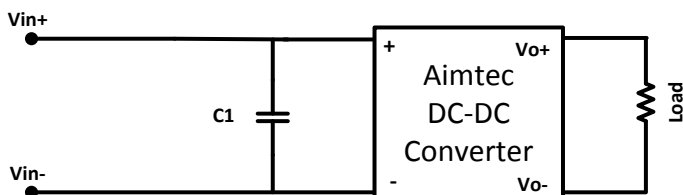
Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	200 - 400		KHz
Max Case temperature			+100	°C
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-55 to +125		°C
Derating		Not Required		
Cooling		Free air convection		
Humidity			95	%
Case material		Non conductive black plastic		
Weight		5.0		g
Dimensions (L x W x H)		0.67 x 0.43 x 0.30 inch	17.0 x 10.9 x 7.6 mm	
MTBF		>280000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)		

NOTE: 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

Safety Specifications

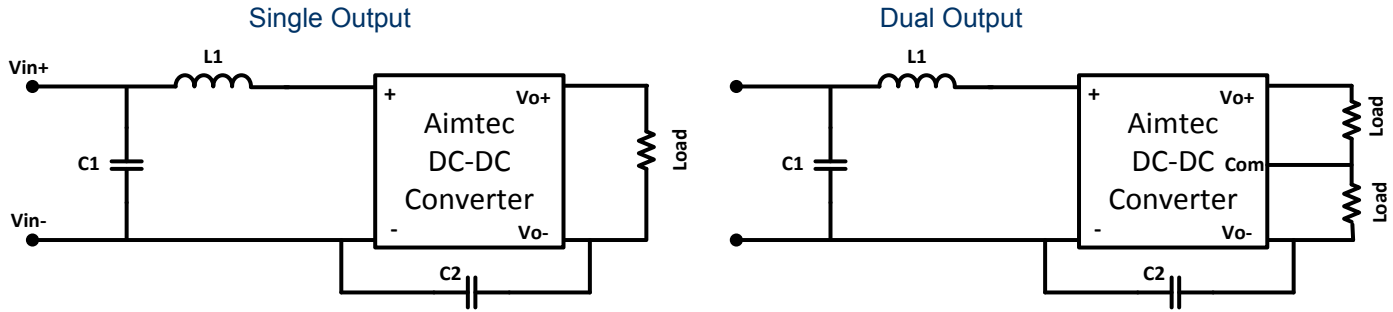
Parameters	
Agency Approval & Safety	CE EN 55022: 2010+AC: 2011, Class A EN 55024: 2010 IEC 61000-4-2: 2008 IEC 61000-4-3: 2010 IEC 61000-4-4: 2012 IEC 61000-4-5: 2005 IEC 61000-4-6: 2008 IEC 61000-4-8: 2009 Designed to meet IEC / EN 60950-1

Recommended Surge Protective Circuit



C1: 5V input models = 330 µF / 100V, all other models = 220 µF / 100V

Recommended Circuits for Conducted Emissions

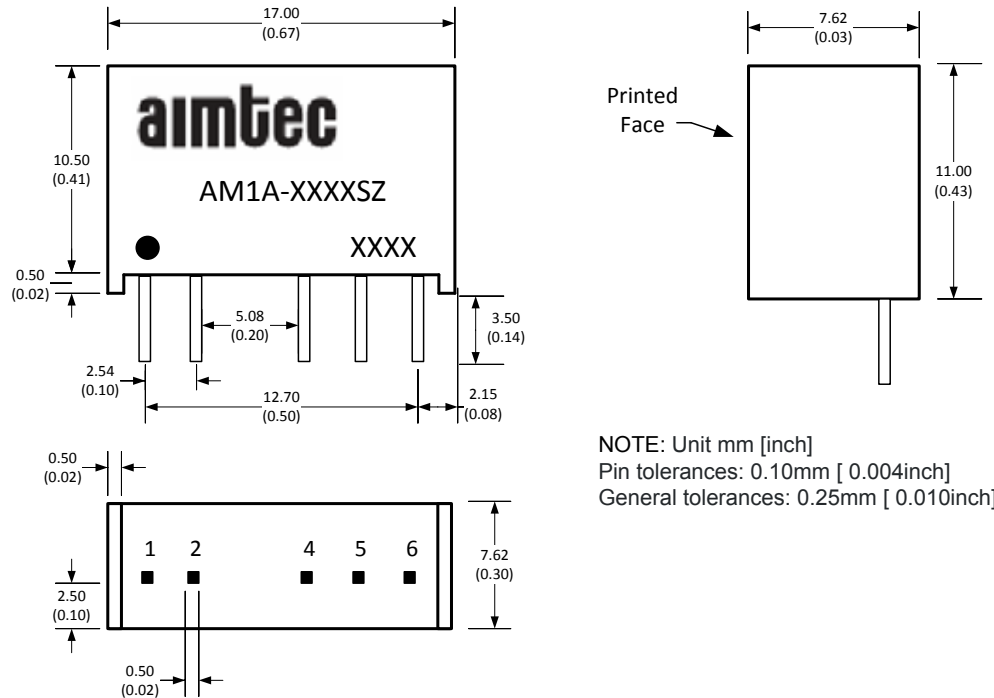


Model	C1	L1	C2
5 Vin	MLCC 4.7 μ F / 50V	4.7 μ H	MLCC 220pF / 3kV
12 Vin	MLCC 4.7 μ F / 50V	4.7 μ H	MLCC 220pF / 3kV
24 Vin	MLCC 4.7 μ F / 50V	18 μ H	MLCC 220pF / 3kV
48 Vin	MLCC 4.7 μ F / 100V	18 μ H	MLCC 220pF / 3kV

Pin Out Specifications

Pin	Single	Dual
1	- V Input	- V Input
2	+ V Input	+ V Input
4	+ V Output	+ V Output
5	No pin	Common
6	- V Output	- V Output

Dimensions



NOTE: Unit mm [inch]
Pin tolerances: 0.10mm [0.004inch]
General tolerances: 0.25mm [0.010inch]

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.