

Series AM2D-RZ

2 Watt | DC-DC Converter



FEATURES:

- RoHS Compliant
- High efficiency up to 89%
- Low ripple and noise
- 7 pin SIP package
- Operating temperature -40°C to +85°C
- Pin compatible with multiple manufacturers
- Input / Output Isolation 1000, 3000 VDC
- Non-Conductive Plastic Case

Models Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM2D-0505S-RZ	4.5-5.5	5	400	1000	220	81
AM2D-0509S-RZ	4.5-5.5	9	222	1000	220	85
AM2D-0512S-RZ	4.5-5.5	12	167	1000	100	85
AM2D-0515S-RZ	4.5-5.5	15	134	1000	100	86
AM2D-1205S-RZ	10.8-13.2	5	400	1000	220	84
AM2D-1209S-RZ	10.8-13.2	9	222	1000	220	86
AM2D-1212S-RZ	10.8-13.2	12	167	1000	100	88
AM2D-1215S-RZ	10.8-13.2	15	134	1000	100	88
AM2D-1505S-RZ	13.5-16.5	5	400	1000	220	85
AM2D-1509S-RZ	13.5-16.5	9	222	1000	220	87
AM2D-1512S-RZ	13.5-16.5	12	167	1000	100	87
AM2D-1515S-RZ	13.5-16.5	15	134	1000	100	88
AM2D-2405S-RZ	21.6-26.4	5	400	1000	220	82
AM2D-2409S-RZ	21.6-26.4	9	222	1000	220	84
AM2D-2412S-RZ	21.6-26.4	12	167	1000	100	86
AM2D-2415S-RZ	21.6-26.4	15	134	1000	100	87
AM2D-4805S-RZ	43.2-52.8	5	400	1000	220	82
AM2D-4809S-RZ	43.2-52.8	9	222	1000	220	84
AM2D-4812S-RZ	43.2-52.8	12	167	1000	100	86
AM2D-4815S-RZ	43.2-52.8	15	134	1000	100	87
AM2D-0505SH30-RZ	4.5-5.5	5	400	3000	220	81
AM2D-0509SH30-RZ	4.5-5.5	9	222	3000	220	85
AM2D-0512SH30-RZ	4.5-5.5	12	167	3000	100	85
AM2D-0515SH30-RZ	4.5-5.5	15	134	3000	100	86
AM2D-1205SH30-RZ	10.8-13.2	5	400	3000	220	84
AM2D-1209SH30-RZ	10.8-13.2	9	222	3000	220	86
AM2D-1212SH30-RZ	10.8-13.2	12	167	3000	100	88
AM2D-1215SH30-RZ	10.8-13.2	15	134	3000	100	88
AM2D-1505SH30-RZ	13.5-16.5	5	400	3000	220	85
AM2D-1509SH30-RZ	13.5-16.5	9	222	3000	220	87
AM2D-1512SH30-RZ	13.5-16.5	12	167	3000	100	87
AM2D-1515SH30-RZ	13.5-16.5	15	134	3000	100	88
AM2D-2405SH30-RZ	21.6-26.4	5	400	3000	220	82
AM2D-2409SH30-RZ	21.6-26.4	9	222	3000	220	84
AM2D-2412SH30-RZ	21.6-26.4	12	167	3000	100	86
AM2D-2415SH30-RZ	21.6-26.4	15	134	3000	100	87
AM2D-4805SH30-RZ	43.2-52.8	5	400	3000	220	82
AM2D-4809SH30-RZ	43.2-52.8	9	222	3000	220	84
AM2D-4812SH30-RZ	43.2-52.8	12	167	3000	100	86
AM2D-4815SH30-RZ	43.2-52.8	15	134	3000	100	87

Models

Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (%)
AM2D-0505D-RZ	4.5-5.5	±5	±200	1000	±100	82
AM2D-0509D-RZ	4.5-5.5	±9	±111	1000	±100	85
AM2D-0512D-RZ	4.5-5.5	±12	±83	1000	±47	86
AM2D-0515D-RZ	4.5-5.5	±15	±67	1000	±47	87
AM2D-1205D-RZ	10.8-13.2	±5	±200	1000	±100	84
AM2D-1209D-RZ	10.8-13.2	±9	±111	1000	±100	88
AM2D-1212D-RZ	10.8-13.2	±12	±83	1000	±47	89
AM2D-1215D-RZ	10.8-13.2	±15	±67	1000	±47	89
AM2D-1505D-RZ	13.5-16.5	±5	±200	1000	±100	85
AM2D-1509D-RZ	13.5-16.5	±9	±111	1000	±100	88
AM2D-1512D-RZ	13.5-16.5	±12	±83	1000	±47	88
AM2D-1515D-RZ	13.5-16.5	±15	±67	1000	±47	88
AM2D-2405D-RZ	21.6-26.4	±5	±200	1000	±100	82
AM2D-2409D-RZ	21.6-26.4	±9	±111	1000	±100	85
AM2D-2412D-RZ	21.6-26.4	±12	±83	1000	±47	86
AM2D-2415D-RZ	21.6-26.4	±15	±67	1000	±47	87
AM2D-4805D-RZ	43.2-52.8	±5	400	1000	±100	82
AM2D-4809D-RZ	43.2-52.8	±9	222	1000	±100	84
AM2D-4812D-RZ	43.2-52.8	±12	167	1000	±47	86
AM2D-4815D-RZ	43.2-52.8	±15	134	1000	±47	87
AM2D-0505DH30-RZ	4.5-5.5	±5	±200	3000	±100	82
AM2D-0509DH30-RZ	4.5-5.5	±9	±111	3000	±100	85
AM2D-0512DH30-RZ	4.5-5.5	±12	±83	3000	±47	86
AM2D-0515DH30-RZ	4.5-5.5	±15	±67	3000	±47	87
AM2D-1205DH30-RZ	10.8-13.2	±5	±200	3000	±100	84
AM2D-1209DH30-RZ	10.8-13.2	±9	±111	3000	±100	88
AM2D-1212DH30-RZ	10.8-13.2	±12	±83	3000	±47	89
AM2D-1215DH30-RZ	10.8-13.2	±15	±67	3000	±47	89
AM2D-1505DH30-RZ	13.5-16.5	±5	±200	3000	±100	85
AM2D-1509DH30-RZ	13.5-16.5	±9	±111	3000	±100	88
AM2D-1512DH30-RZ	13.5-16.5	±12	±83	3000	±47	88
AM2D-1515DH30-RZ	13.5-16.5	±15	±67	3000	±47	88
AM2D-2405DH30-RZ	21.6-26.4	±5	±200	3000	±100	82
AM2D-2409DH30-RZ	21.6-26.4	±9	±111	3000	±100	85
AM2D-2412DH30-RZ	21.6-26.4	±12	±83	3000	±47	86
AM2D-2415DH30-RZ	21.6-26.4	±15	±67	3000	±47	87
AM2D-4805DH30-RZ	43.2-52.8	±5	400	3000	±100	82
AM2D-4809DH30-RZ	43.2-52.8	±9	222	3000	±100	84
AM2D-4812DH30-RZ	43.2-52.8	±12	167	3000	±47	86
AM2D-4815DH30-RZ	43.2-52.8	±15	134	3000	±47	87

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.

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	15	13.5-16.5		
	24	21.6-26.4		
	48	43.2-52.8		
Filter	Capacitor			
Absolute Maximum Rating	5 Vin		9	VDC
	12 Vin		18	
	15 Vin		20	
	24 Vin		30	
	48 Vin		54	
Peak Input Voltage time			100	ms
No Load Input Current		50		mA

Isolation Specifications

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	3 sec		1000, 3000	VDC
Resistance		>1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		+2, -4		%
Short Circuit protection		Momentary (1sec).		
Line voltage regulation	For 1.0% of Vin	1.2		% of Vin
Load voltage regulation	Load 10~100%	±5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	50		mV p-p
Minimum Load Current		10		% of Max

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	70		KHz
Operating temperature		-40 to +85		°C
Storage temperature		-40 to +125		°C
Maximum case temperature			100	°C
Cooling		Free Air Convection		
Humidity			95	% RH
Case material		Plastic UL94V-0		
Weight		2.8		g
Dimensions (L x W x H)		0.76 x 0.28 x 0.39 inch	19.50 x 7.20 x 10.00 mm	
MTBF		>1.9 Mhrs (MIL-HDBK -217F, Ground Benign, t=+25°C)hours		
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C

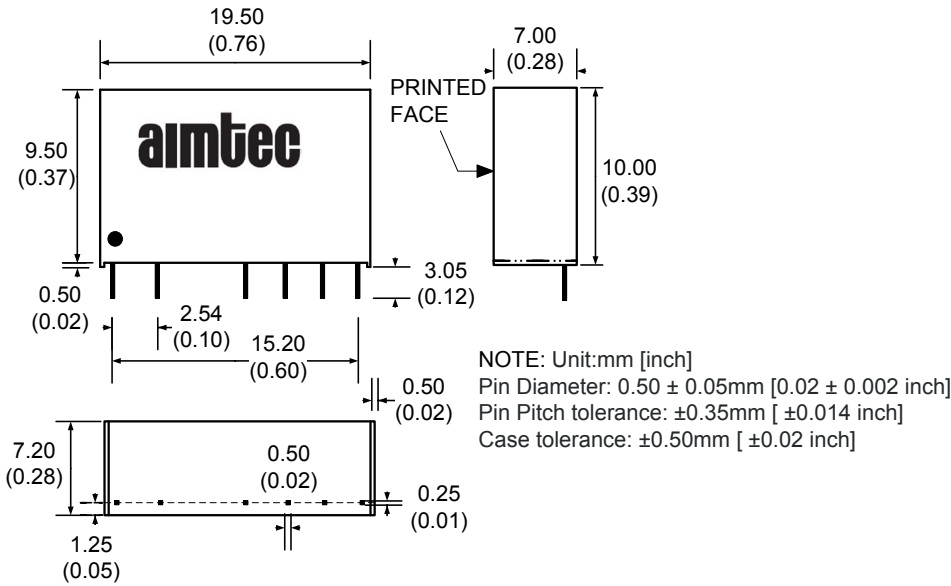
Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55022: 2006 + A1: 2007, Class B
	EN55024: 1998 + A1: 2001 + A2:2003
	IEC61000-4-2:2008
	IEC61000-4-3: 2006 + A1: 2007
	IEC61000-4-4, 2004
	IEC61000-4-6: 2008
	IEC61000-4-8: 1993 + A1:2000

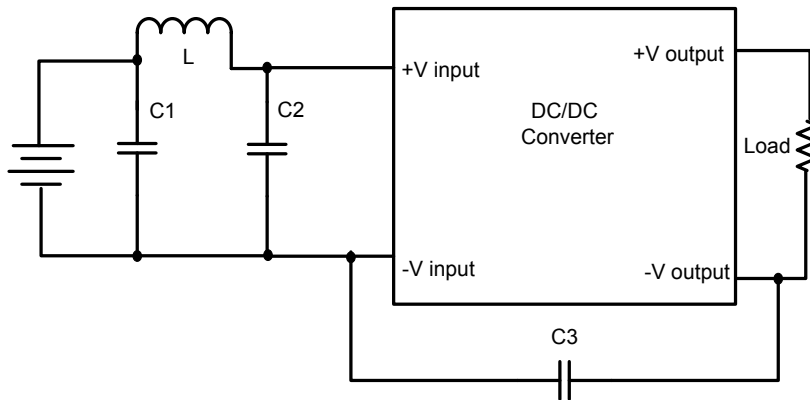
Pin Out Specifications

Pin	1000 VDC		3000 VDC	
	Single	Dual	Single	Dual
1	+ V Input	+ V Input	+ V Input	+ V Input
2	- V Input	- V Input	- V Input	- V Input
4	- V Output	- V Output	No pin	No pin
5	No pin	Common	-V Output	-V Output
6	+ V Output	+ V Output	No pin	Common
7	No pin	No pin	+V Output	+V Output

Dimensions

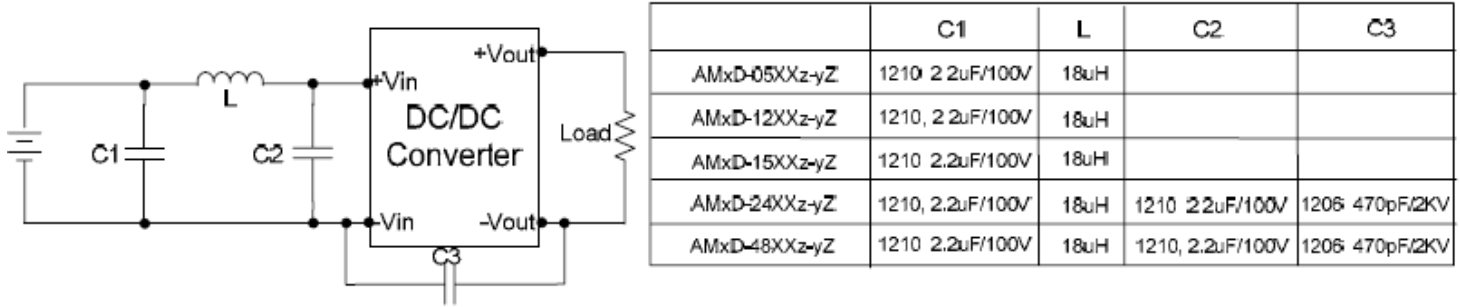


Application Circuit

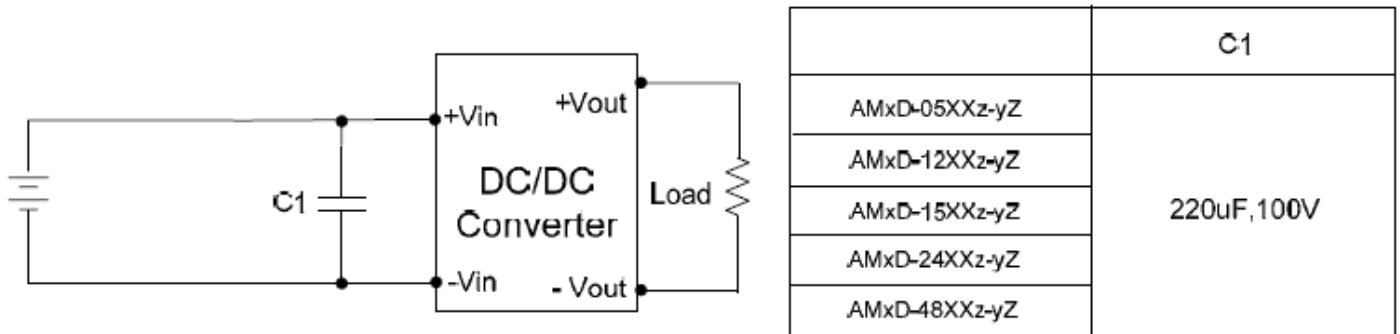


Input Voltage (VDC)	C1	L	C2	C3
5	2.2uF/100V	18uH	N/A	N/A
12	2.2uF/100V	18uH	N/A	N/A
15	2.2uF/100V	18uH	N/A	N/A
24	2.2uF/100V	18uH	2.2uF/100V	470pF/2KV

Conducted Emissions



EFT



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.