

Series AM1DR-RZ

1 Watt | DC-DC Converter



FEATURES:

- Regulated Single Output
- Continuous Short Circuit Protection
- RoHS Compliant
- MTBF>1,500,000 hours
- 1000VDC Isolation
- Operating temperature: -40°C to +85°C
- Industry Standard Pinout
- SIP7 Package

Models Single output



Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Input Current Max NoLoad (mA)	Max Capacitive Load (uF)	Efficiency (%)
AM1DR-0503S-RZ	4.5-5.5	3.3	303	1000	351 35	220	57
AM1DR-0505S-RZ	4.5-5.5	5	200	1000	308 30	220	65
AM1DR-0507S-RZ	4.5-5.5	7.2	139	1000	299 37	220	67
AM1DR-0509S-RZ	4.5-5.5	9	111	1000	299 30	220	67
AM1DR-0512S-RZ	4.5-5.5	12	83	1000	308 36	220	65
AM1DR-0515S-RZ	4.5-5.5	15	67	1000	308 47	220	65
AM1DR-1203S-RZ	10.8-13.2	3.3	303	1000	137 20	220	61
AM1DR-1205S-RZ	10.8-13.2	5	200	1000	132 20	220	63
AM1DR-1207S-RZ	10.8-13.2	7.2	139	1000	126 20	220	66
AM1DR-1209S-RZ	10.8-13.2	9	111	1000	124 22	220	67
AM1DR-1212S-RZ	10.8-13.2	12	83	1000	124 22	220	67
AM1DR-1215S-RZ	10.8-13.2	15	67	1000	123 20	220	68
AM1DR-2403S-RZ	21.6- 26.4	3.3	303	1000	68 10	220	61
AM1DR-2405S-RZ	21.6- 26.4	5	200	1000	61 10	220	68
AM1DR-2407S-RZ	21.6- 26.4	7.2	139	1000	61 10	220	68
AM1DR-2409S-RZ	21.6- 26.4	9	111	1000	61 10	220	68
AM1DR-2412S-RZ	21.6- 26.4	12	83	1000	61 10	220	68
AM1DR-2415S-RZ	21.6- 26.4	15	67	1000	62 12	220	67

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 12 24	4.5- 5.5 10.8-13.2 21.6- 26.4		VDC
Filter	Capacitor			
Absolute Maximum Rating (100 ms)	5 12 24		7 15 28	VDC
No load inputcurrent			45	mA
Input reflected ripple current		20		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1000	VDC
Resistance	At 500VDC	>1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Short Circuit protection	Continuous			
Short circuit restart	Auto-Recovery			

Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Line voltage regulation	LL ~ HL	±0.5		% of Vin
Load voltage regulation	From 0% to 100% Load	±0.5		%
Load voltage regulation (3.3V output)	From 0% to 100% Load	±1		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	20MHz Bandwidth	50		mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		50 (variable)		KHz
Operating temperature	Full load	-40 to +85		°C
Storage temperature		-40 to +125		°C
Maximum case temperature			100	°C
Cooling	Free Air Convection			
Humidity			95	% RH
Case material	Non-Conductive Plastic (UL94V-0)			
Weight		2.7		g
Dimensions (L x W x H)	19.50 x 7.20 x 10.00 mm (0.77 x 0.28 x 0.39 inches)			
MTBF	>1,500,000 hrs dual (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C

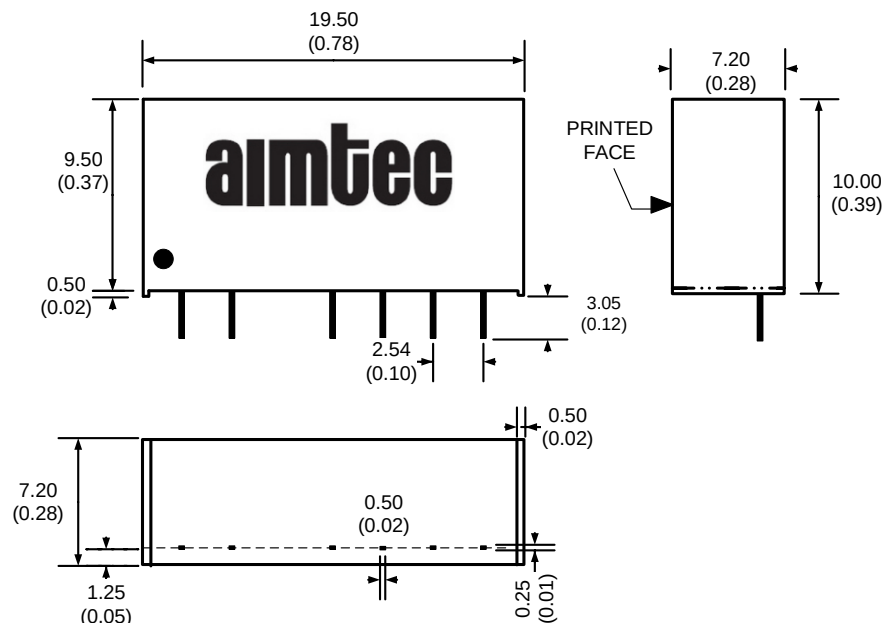
Safety Specifications

Parameters	
Agency Approvals	CE
Safety Standards	EN 55022, Class B(With recommended EMC circuit) IEC61000-4-2 IEC61000-4-3 IEC61000-4-4 IEC61000-4-6 IEC61000-4-8 Also designed to meet IEC 60950-1

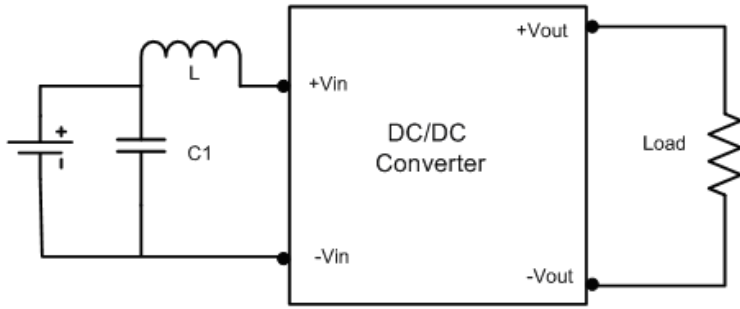
Pin Out Specifications

Pin	Single
1	+ V input
2	- V input
4	- V output
5	No Pin
6	+ V output
7	No Pin

Dimensions

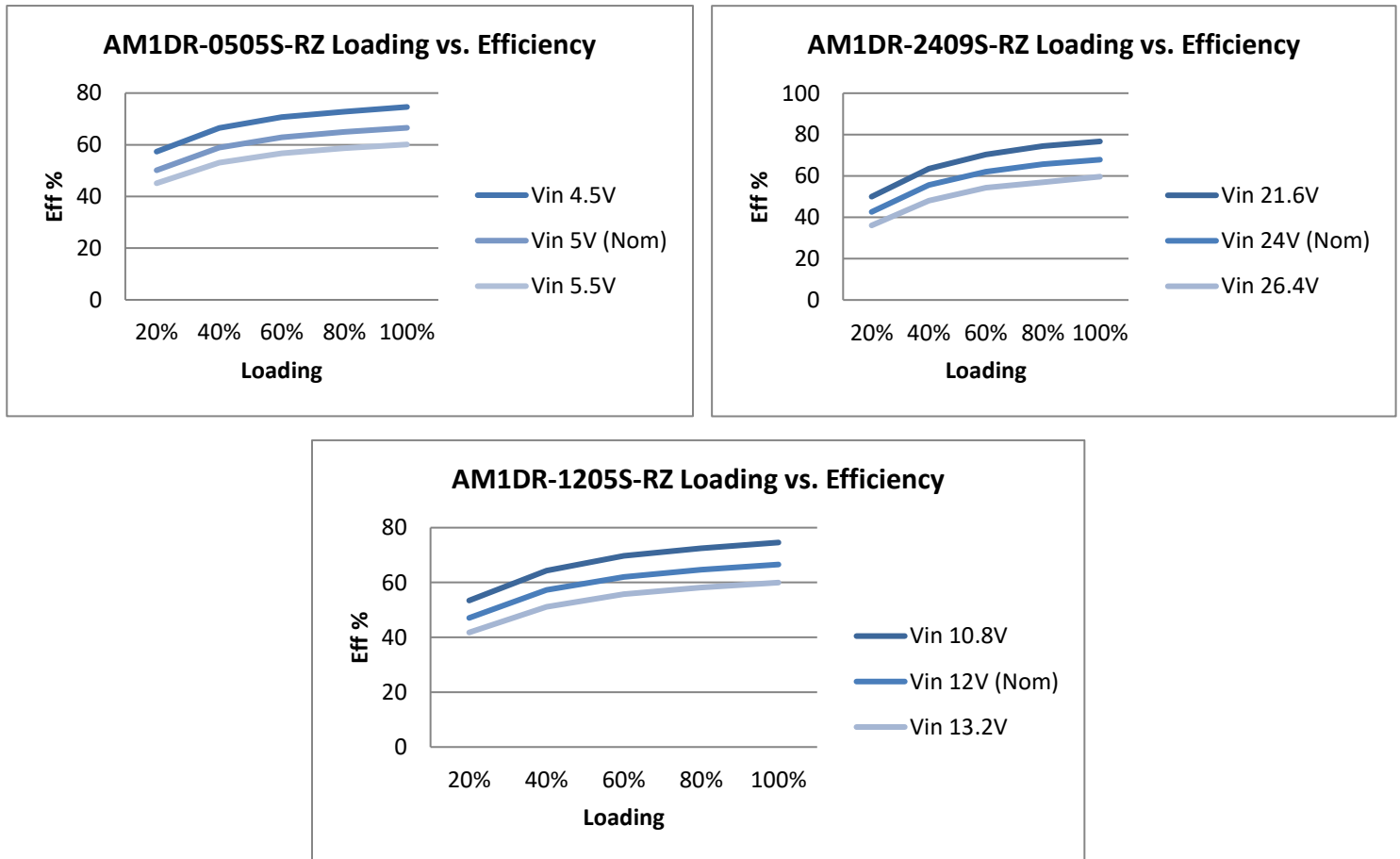


Radiated and Conducted Emissions Application circuit:



C1	L1
470 μ F/100V	12 μ H

Typical Efficiency Graphs



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