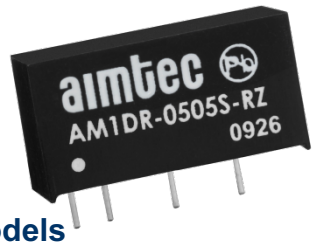
aimtec
Your Power Partner

Series AM1DR-RZ

1 Watt | DC-DC Converter



FEATURES:

- Regulated Single Output
- Continuous Short Circuit Protection
- RoHS Compliant
- MTBF>3,500,000 hours
- 1000VDC Isolation
- Operating temperature: -40°C to +85°C
- Industry Standard Pinout
- SIP7 Package

RoHS CE

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	variable	50		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 0.39inches)			
MTBF	>3,500,000 hrs dual (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Maximum soldering temperature	1.5mm from case for 10 sec		260	°C

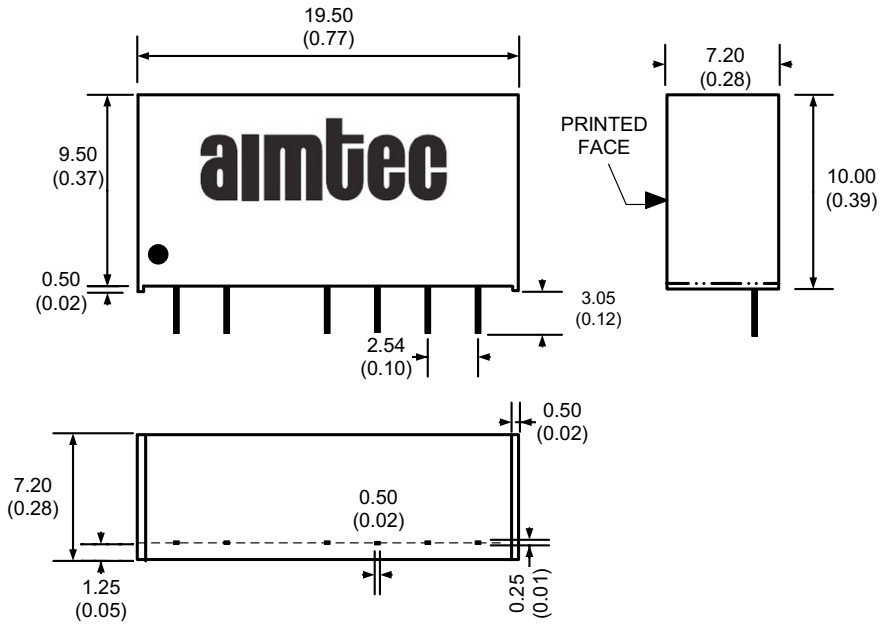
Safety Specifications

Parameters	
Agency Approvals	CE
Safety Standards	EN 55032, 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

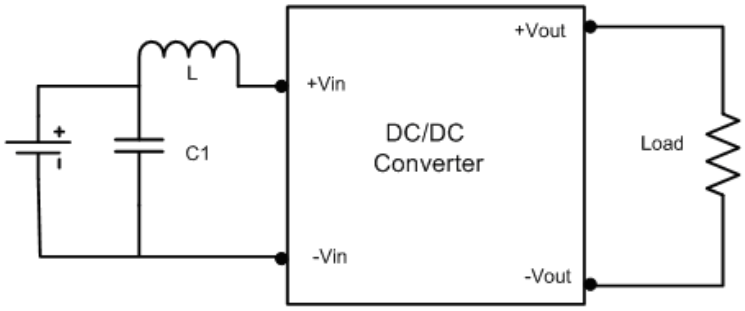
Pin Out Specifications

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

Dimensions

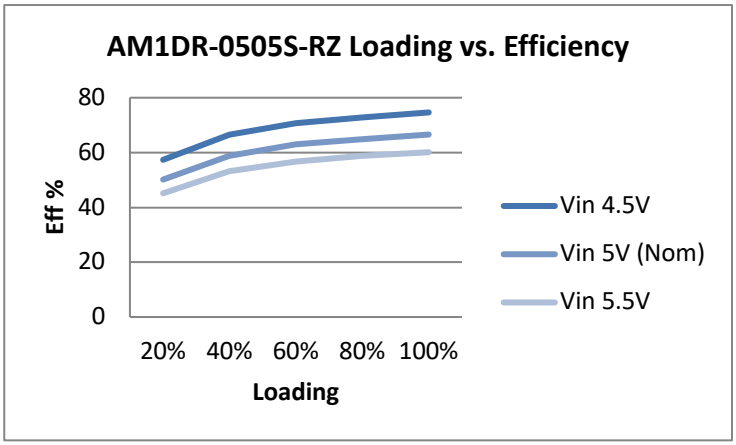


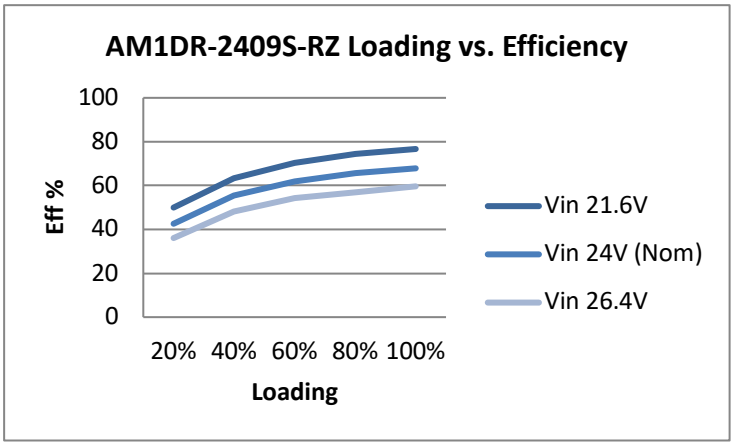
Radiated and Conducted Emissions Application circuit:

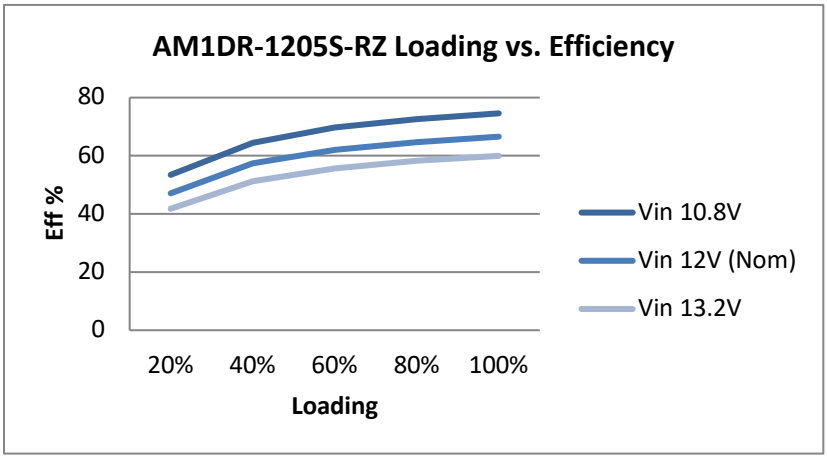


C1	L1
470µF/100V	12 µH

Typical Efficiency Graphs







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