

Series AM1DR-Z

1 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- Regulated output voltage
- Low ripple and noise
- High efficiency up to 70%
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1000 & 3000VDC
- Pin compatible with multiple manufacturers
- 7 pin SIP package



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Max Capacitive Load (uF)	Efficiency (Full load) (%)
AM1DR-0503SZ	4.5-5.5	3.3	300	1000	220	57
AM1DR-0505SZ	4.5-5.5	5	200	1000	220	67
AM1DR-0507SZ	4.5-5.5	7.2	138	1000	220	65
AM1DR-0509SZ	4.5-5.5	9	111	1000	220	67
AM1DR-0512SZ	4.5-5.5	12	84	1000	220	70
AM1DR-0515SZ	4.5-5.5	15	67	1000	220	70
AM1DR-1203SZ	10.8-13.2	3.3	300	1000	220	57
AM1DR-1205SZ	10.8-13.2	5	200	1000	220	65
AM1DR-1207SZ	10.8-13.2	7.2	138	1000	220	65
AM1DR-1209SZ	10.8-13.2	9	111	1000	220	67
AM1DR-1212SZ	10.8-13.2	12	84	1000	220	70
AM1DR-1215SZ	10.8-13.2	15	67	1000	220	70
AM1DR-2403SZ	21.6-26.4	3.3	300	1000	220	60
AM1DR-2405SZ	21.6-26.4	5	200	1000	220	68
AM1DR-2407SZ	21.6-26.4	7.2	138	1000	220	65
AM1DR-2409SZ	21.6-26.4	9	111	1000	220	68
AM1DR-2412SZ	21.6-26.4	12	84	1000	220	70
AM1DR-2415SZ	21.6-26.4	15	67	1000	220	70
AM1DR-0503SH30Z	4.5-5.5	3.3	300	3000	220	57
AM1DR-0505SH30Z	4.5-5.5	5	200	3000	220	67
AM1DR-0507SH30Z	4.5-5.5	7.2	138	3000	220	65
AM1DR-0509SH30Z	4.5-5.5	9	111	3000	220	67
AM1DR-0512SH30Z	4.5-5.5	12	84	3000	220	70
AM1DR-0515SH30Z	4.5-5.5	15	67	3000	220	70
AM1DR-1203SH30Z	10.8-13.2	3.3	300	3000	220	57
AM1DR-1205SH30Z	10.8-13.2	5	200	3000	220	65
AM1DR-1207SH30Z	10.8-13.2	7.2	138	3000	220	65
AM1DR-1209SH30Z	10.8-13.2	9	111	3000	220	67
AM1DR-1212SH30Z	10.8-13.2	12	84	3000	220	70
AM1DR-1215SH30Z	10.8-13.2	15	67	3000	220	70
AM1DR-2403SH30Z	21.6-26.4	3.3	300	3000	220	60
AM1DR-2405SH30Z	21.6-26.4	5	200	3000	220	65
AM1DR-2407SH30Z	21.6-26.4	7.2	138	3000	220	65
AM1DR-2409SH30Z	21.6-26.4	9	111	3000	220	68
AM1DR-2412SH30Z	21.6-26.4	12	84	3000	220	70
AM1DR-2415SH30Z	21.6-26.4	15	67	3000	220	70

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	24	21.6-26.4		
Filter	Capacitor			
Turn on Transient process time			100	ms
Start up time		200		ms

Input Specifications (continued)

Parameters	Nominal	Typical	Maximum	Units
Absolute Maximum Rating	5 Vin	0-7		VDC
	12 Vin	0-15		
	24 Vin	0-28		
Peak Input Voltage time		100		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	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		%
Short Circuit protection		Momentary (1 sec)		
Line voltage regulation (Single)		±0.5		%
Load voltage regulation (Single)	0% to 100% load	±0.5		%
Load voltage regulation (Single) 3.3V output model	0% to 100% load	±1.0		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	60		mV p-p
Capacitive load			220	µF
Rising time		50		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	125		KHz
Max Case temperature			+95	°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		2.7		g
Dimensions (L x W x H)		0.76 x 0.28 x 0.37 inch	19.50 x 7.20 x 9.50 mm	
MTBF		>880 000 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

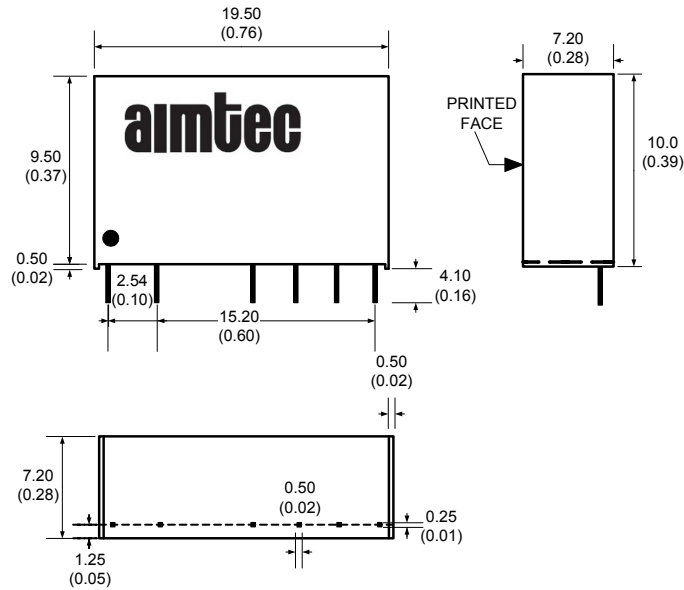
Safety Specifications

Parameters	
Agency Approvals	CE
Safety Standards	EN 55022, Class B IEC61000-4-2 IEC61000-4-3 IEC61000-4-4 IEC61000-4-6 IEC61000-4-8

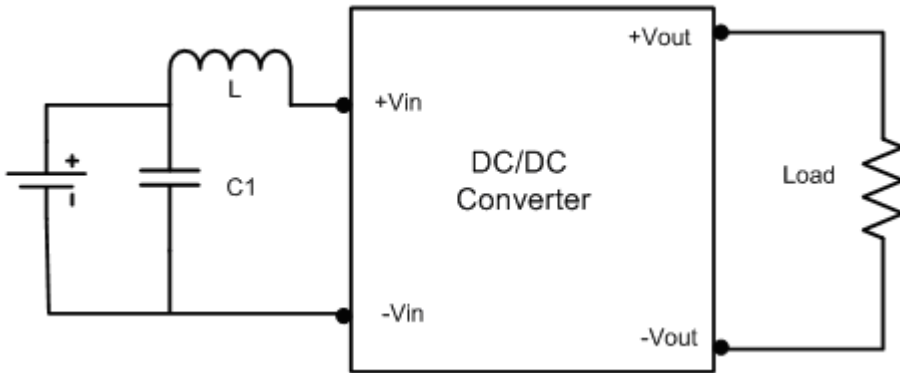
Pin Out Specifications

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

Dimensions



Radiated and Conducted Emissions Application circuit:



C1	L1
470µF/100V	12 µH

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