

Series AM3N-S-Z

3 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- 24 Pin DIP Package
- Low ripple and noise
- High efficiency up to 74%
- Operating temperature -40°C to + 85°C
- Input / Output Isolation 1000, 3000 and 5200VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection



Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM3N-0503SZ	4.5-5.5	3.3	600	1000	55
AM3N-0505SZ	4.5-5.5	5	600	1000	65
AM3N-0507SZ	4.5-5.5	7.2	417	1000	62
AM3N-0509SZ	4.5-5.5	9	333	1000	70
AM3N-0512SZ	4.5-5.5	12	250	1000	70
AM3N-0515SZ	4.5-5.5	15	200	1000	70
AM3N-0518SZ	4.5-5.5	18	167	1000	65
AM3N-0524SZ	4.5-5.5	24	125	1000	67
AM3N-1203SZ	10.8-13.2	3.3	600	1000	60
AM3N-1205SZ	10.8-13.2	5	600	1000	66
AM3N-1207SZ	10.8-13.2	7.2	417	1000	69
AM3N-1209SZ	10.8-13.2	9	333	1000	68
AM3N-1212SZ	10.8-13.2	12	250	1000	74
AM3N-1215SZ	10.8-13.2	15	200	1000	68
AM3N-1218SZ	10.8-13.2	18	167	1000	70
AM3N-1224SZ	10.8-13.2	24	125	1000	70
AM3N-2403SZ	21.6-26.4	3.3	600	1000	52
AM3N-2405SZ	21.6-26.4	5	600	1000	66
AM3N-2407SZ	21.6-26.4	7.2	417	1000	61
AM3N-2409SZ	21.6-26.4	9	333	1000	68
AM3N-2412SZ	21.6-26.4	12	250	1000	70
AM3N-2415SZ	21.6-26.4	15	200	1000	70
AM3N-2418SZ	21.6-26.4	18	167	1000	70
AM3N-2424SZ	21.6-26.4	24	125	1000	74
AM3N-0503SH30Z	4.5-5.5	3.3	600	3000	55
AM3N-0505SH30Z	4.5-5.5	5	600	3000	65
AM3N-0507SH30Z	4.5-5.5	7.2	417	3000	62
AM3N-0509SH30Z	4.5-5.5	9	333	3000	70
AM3N-0512SH30Z	4.5-5.5	12	250	3000	70
AM3N-0515SH30Z	4.5-5.5	15	200	3000	70
AM3N-0518SH30Z	4.5-5.5	18	167	3000	65
AM3N-0524SH30Z	4.5-5.5	24	125	3000	67
AM3N-1203SH30Z	10.8-13.2	3.3	600	3000	60
AM3N-1205SH30Z	10.8-13.2	5	600	3000	66
AM3N-1207SH30Z	10.8-13.2	7.2	417	3000	69
AM3N-1209SH30Z	10.8-13.2	9	333	3000	68
AM3N-1212SH30Z	10.8-13.2	12	250	3000	74
AM3N-1215SH30Z	10.8-13.2	15	200	3000	68
AM3N-1218SH30Z	10.8-13.2	18	167	3000	70
AM3N-1224SH30Z	10.8-13.2	24	125	3000	70
AM3N-2403SH30Z	21.6-26.4	3.3	600	3000	52
AM3N-2405SH30Z	21.6-26.4	5	600	3000	66
AM3N-2407SH30Z	21.6-26.4	7.2	417	3000	61

Models

Single output (Continue)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Efficiency (%)
AM3N-2409SH30Z	21.6-26.4	9	333	3000	68
AM3N-2412SH30Z	21.6-26.4	12	250	3000	70
AM3N-2415SH30Z	21.6-26.4	15	200	3000	70
AM3N-2418SH30Z	21.6-26.4	18	167	3000	70
AM3N-2424SH30Z	21.6-26.4	24	125	3000	74
AM3N-0503SH52Z	4.5-5.5	3.3	600	5200	55
AM3N-0505SH52Z	4.5-5.5	5	600	5200	65
AM3N-0507SH52Z	4.5-5.5	7.2	417	5200	62
AM3N-0509SH52Z	4.5-5.5	9	333	5200	70
AM3N-0512SH52Z	4.5-5.5	12	250	5200	70
AM3N-0515SH52Z	4.5-5.5	15	200	5200	70
AM3N-0518SH52Z	4.5-5.5	18	167	5200	65
AM3N-0524SH52Z	4.5-5.5	24	125	5200	67
AM3N-1203SH52Z	10.8-13.2	3.3	600	5200	60
AM3N-1205SH52Z	10.8-13.2	5	600	5200	66
AM3N-1207SH52Z	10.8-13.2	7.2	417	5200	69
AM3N-1209SH52Z	10.8-13.2	9	333	5200	68
AM3N-1212SH52Z	10.8-13.2	12	250	5200	74
AM3N-1215SH52Z	10.8-13.2	15	200	5200	72
AM3N-1218SH52Z	10.8-13.2	18	167	5200	70
AM3N-1224SH52Z	10.8-13.2	24	125	5200	70
AM3N-2403SH52Z	21.6-26.4	3.3	700	5200	52
AM3N-2405SH52Z	21.6-26.4	5	600	5200	66
AM3N-2407SH52Z	21.6-26.4	7.2	417	5200	61
AM3N-2409SH52Z	21.6-26.4	9	333	5200	68
AM3N-2412SH52Z	21.6-26.4	12	250	5200	70
AM3N-2415SH52Z	21.6-26.4	15	200	5200	70
AM3N-2418SH52Z	21.6-26.4	18	167	5200	70
AM3N-2424SH52Z	21.6-26.4	24	125	5200	74

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	π (Pi) Network			
Turn on Transient process time			100	ms
Start up time		300		ms
Absolute Maximum Rating	5 Vin 12 Vin 24 Vin	0-7 0-15 0-28		VDC
Peak Input Voltage time		100		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested voltage	3 sec		1000, 3000 and 5200	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

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

Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
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	±1.5		%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	75		mV p-p
Rising time		150		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	40		KHz
Operating temperature	Full Load without Derating	-40 to +85		°C
Storage temperature		-40 to +125		°C
Maximum Case temperature			95	°C
Cooling	Free air convection			
Humidity	Non condensing		90	%
Case material	Nickel-coated copper, at 5200VDC plastic			
Weight		14.5		g
Dimensions (L x W xH)	Tolerance ±0.5 mm or ±0.02 inches	1.25 x 0.80 x 0.40 inches	31.75 x 20.32 x 10.16 mm	
MTBF	>954 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

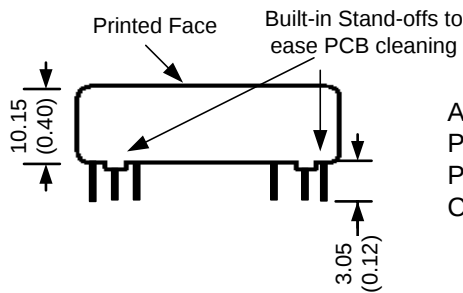
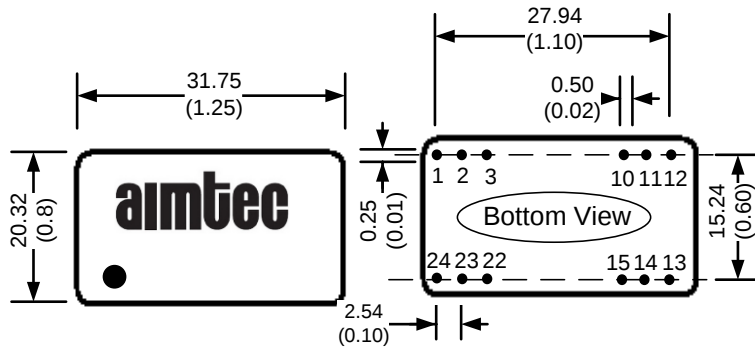
Safety Specifications

Standards	
Agency Approval / Marking	CE
Safety Standards	EN55022 Class A,
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

Pin Out Specifications

Pin	1000VDC	3000 and 5200VDC
	Single	Single
1	+V Input	+V Input
2	N.C.	+V Input
3	N.C.	No pin
10	-V Output	No pin
11	+V Output	No pin
12	-V Input	-V Output
13	-V Input	+V Output
14	+V Output	No pin
15	-V Output	No pin
22	N.C.	No pin
23	N.C.	-V Input
24	+V Input	-V Input

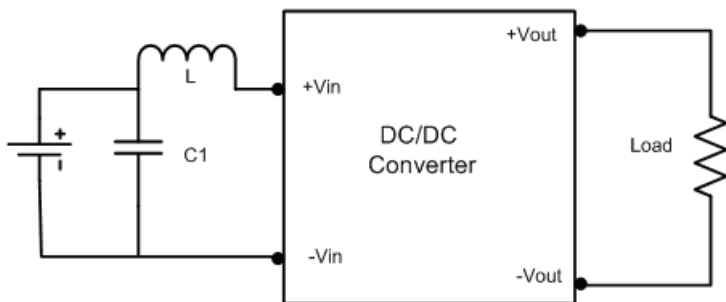
Dimensions



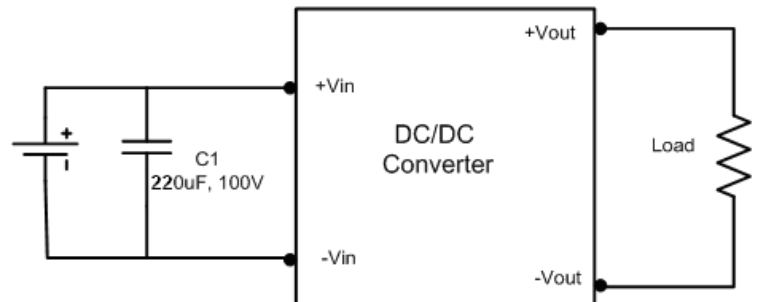
All dimensions are typical: millimeters (inches)
Pin Diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin Pitch Tolerance: ± 0.35 (± 0.014)
Case Tolerance: ± 0.5 (± 0.02)

Test Circuits

Conducted Emissions:



Surge:



C1	L1
220μF/100V	12μH

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