Your Power Partner

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 -40ºC to + 85ºC
- Input / Output Isolation 1000, 3000 and 5200VDC
- Pin compatible with multiple manufacturers
- Continuous short circuit protection

RoHS CE

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	58
AM3N-0505SZ	4.5-5.5	5	600	1000	66
AM3N-0507SZ	4.5-5.5	7.2	417	1000	65
AM3N-0509SZ	4.5-5.5	9	333	1000	68
AM3N-0512SZ	4.5-5.5	12	250	1000	71
AM3N-0515SZ	4.5-5.5	15	200	1000	72
AM3N-0518SZ	4.5-5.5	18	167	1000	70
AM3N-0524SZ	4.5-5.5	24	125	1000	67
AM3N-1203SZ	10.8-13.2	3.3	600	1000	71
AM3N-1205SZ	10.8-13.2	5	600	1000	66
AM3N-1207SZ	10.8-13.2	7.2	417	1000	71
AM3N-1209SZ	10.8-13.2	9	333	1000	71
AM3N-1212SZ	10.8-13.2	12	250	1000	72
AM3N-1215SZ	10.8-13.2	15	200	1000	74
AM3N-1218SZ	10.8-13.2	18	167	1000	75
AM3N-1224SZ	10.8-13.2	24	125	1000	71
AM3N-2403SZ	21.6-26.4	3.3	700	1000	61
AM3N-2405SZ	21.6-26.4	5	600	1000	67
AM3N-2407SZ	21.6-26.4	7.2	417	1000	66
AM3N-2409SZ	21.6-26.4	9	333	1000	68
AM3N-2412SZ	21.6-26.4	12	250	1000	69
AM3N-2415SZ	21.6-26.4	15	200	1000	70
AM3N-2418SZ	21.6-26.4	18	167	1000	74
AM3N-2424SZ	21.6-26.4	24	125	1000	75
AM3N-0503SH30Z	4.5-5.5	3.3	600	3000	58
AM3N-0505SH30Z	4.5-5.5	5	600	3000	66
AM3N-0507SH30Z	4.5-5.5	7.2	417	3000	65
AM3N-0509SH30Z	4.5-5.5	9	333	3000	68
AM3N-0512SH30Z	4.5-5.5	12	250	3000	71
AM3N-0515SH30Z	4.5-5.5	15	200	3000	72
AM3N-0518SH30Z	4.5-5.5	18	167	3000	70
AM3N-0524SH30Z	4.5-5.5	24	125	3000	67
AM3N-1203SH30Z	10.8-13.2	3.3	600	3000	71
AM3N-1205SH30Z	10.8-13.2	5	600	3000	66
AM3N-1207SH30Z	10.8-13.2	7.2	417	3000	71
AM3N-1209SH30Z	10.8-13.2	9	333	3000	71
AM3N-1212SH30Z	10.8-13.2	12	250	3000	72
AM3N-1215SH30Z	10.8-13.2	15	200	3000	74
AM3N-1218SH30Z	10.8-13.2	18	167	3000	75
AM3N-1224SH30Z	10.8-13.2	24	125	3000	71
AM3N-2403SH30Z	21.6-26.4	3.3	700	3000	61
AM3N-2405SH30Z	21.6-26.4	5	600	3000	67
AM3N-2407SH30Z	21.6-26.4	7.2	417	3000	66

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	69
AM3N-2415SH30Z	21.6-26.4	15	200	3000	70
AM3N-2418SH30Z	21.6-26.4	18	167	3000	74
AM3N-2424SH30Z	21.6-26.4	24	125	3000	75
AM3N-0503SH52Z	4.5-5.5	3.3	600	5200	58
AM3N-0505SH52Z	4.5-5.5	5	600	5200	66
AM3N-0507SH52Z	4.5-5.5	7.2	417	5200	65
AM3N-0509SH52Z	4.5-5.5	9	333	5200	68
AM3N-0512SH52Z	4.5-5.5	12	250	5200	71
AM3N-0515SH52Z	4.5-5.5	15	200	5200	72
AM3N-0518SH52Z	4.5-5.5	18	167	5200	70
AM3N-0524SH52Z	4.5-5.5	24	125	5200	67
AM3N-1203SH52Z	10.8-13.2	3.3	600	5200	71
AM3N-1205SH52Z	10.8-13.2	5	600	5200	66
AM3N-1207SH52Z	10.8-13.2	7.2	417	5200	71
AM3N-1209SH52Z	10.8-13.2	9	333	5200	71
AM3N-1212SH52Z	10.8-13.2	12	250	5200	72
AM3N-1215SH52Z	10.8-13.2	15	200	5200	74
AM3N-1218SH52Z	10.8-13.2	18	167	5200	75
AM3N-1224SH52Z	10.8-13.2	24	125	5200	71
AM3N-2403SH52Z	21.6-26.4	3.3	700	5200	61
AM3N-2405SH52Z	21.6-26.4	5	600	5200	67
AM3N-2407SH52Z	21.6-26.4	7.2	417	5200	66
AM3N-2409SH52Z	21.6-26.4	9	333	5200	68
AM3N-2412SH52Z	21.6-26.4	12	250	5200	69
AM3N-2415SH52Z	21.6-26.4	15	200	5200	70
AM3N-2418SH52Z	21.6-26.4	18	167	5200	74
AM3N-2424SH52Z	21.6-26.4	24	125	5200	75

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			
Input reflective ripple current	With a 12µH inductor	35		mAp-p
Absolute Maximum Rating	5 Vin 12 Vin 24 Vin		7 15 28	VDC
Peak Input Voltage time			100	ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested voltage	H30 models, 60 sec H52 models, 60 sec Other models, 60 sec		3000 5200 1000	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy			±2	%
Short Circuit protection	Continuous, Auto recovery			

Output Specifications (continued)

Parameters	Conditions	Typical	Maximum	Units
Line voltage regulation			±0.5	%
Load voltage regulation	0 to 100% load, 3.3Vout models 0 to 100% load, other models		±2 ±1	%
Temperature coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth		75	mV p-p

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			100	°C
Maximum soldering temperature	1.5mm from case, maximum duration 10s		260	°C
Cooling	Free air convection			
Humidity	Non-condensing		95	%
Case material	1000V and 3000V isolation models 5200V isolation models	Nickel-coated copper Plastic		
Weight	1000V and 3000V isolation models 5200V isolation models	17.0 12.5		g
Dimensions (L x W x H)	1000V and 3000V isolation models 5200V isolation models	1.25 x 0.80 x 0.40 inches 31.75 x 20.32 x 10.20mm 1.25 x 0.80 x 0.40 inches 31.75 x 20.32 x 10.16mm		
MTBF	>1 000 000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			

Safety Specifications

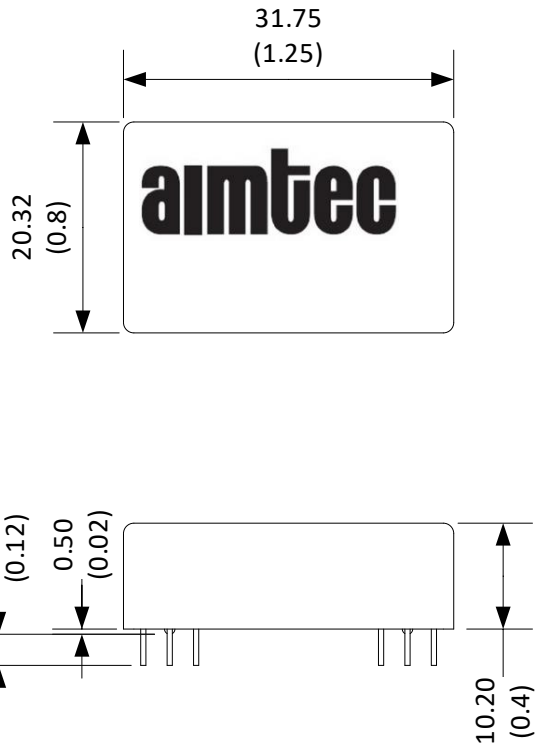
Standards	
Agency Approval / Marking	CE (EMC)
Safety Standards	Designed to meet IEC/EN/UL 62368-1
	EN55032 Class A, with the recommended circuit to meet conducted emission
	IEC61000-4-2, Perf. Criteria A
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria A (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria A (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

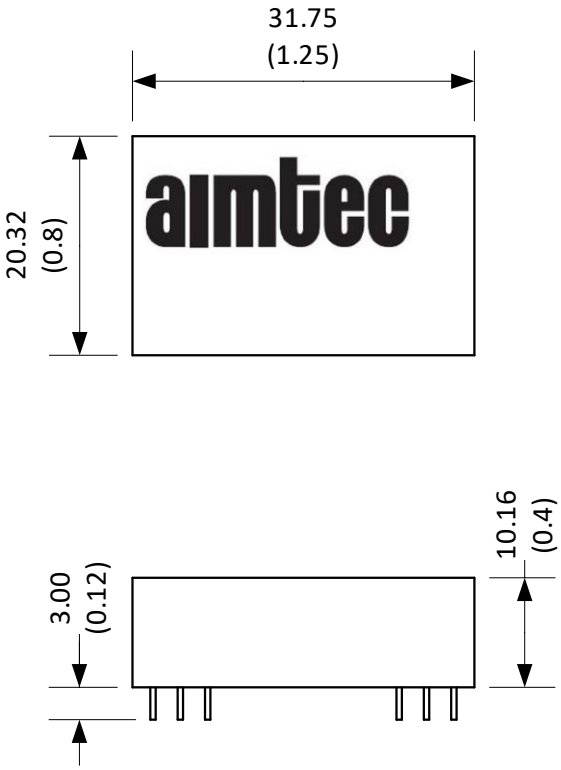
Dimensions

1000V and 3000V isolation models



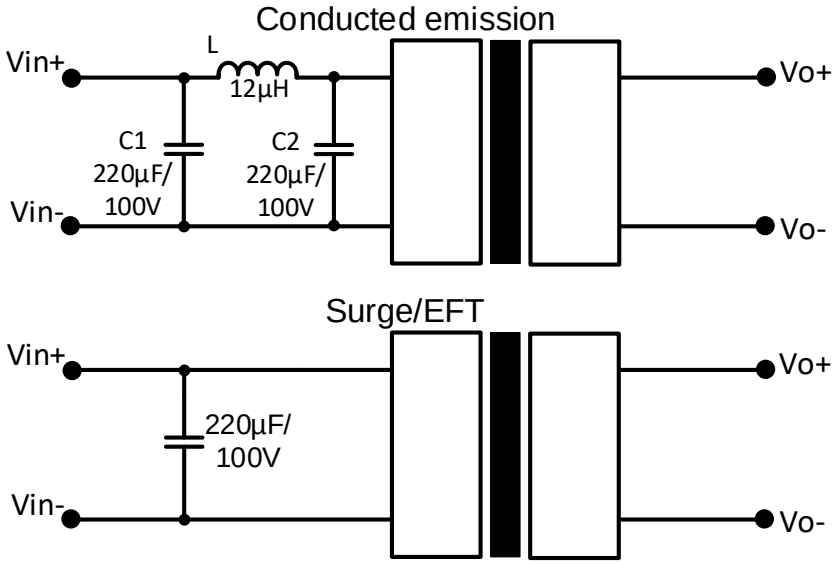
Unit: millimeters (inches)
Pin diameter: 0.50 ± 0.05 (0.02 ± 0.002)
Pin pitch tolerance: ± 0.35 (±0.014)
Case tolerance: ± 0.5 (±0.02)
Stand-off tolerance: ± 0.1 (±0.004)

5200V isolation models



Unit: 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)

Recommended Circuits



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