aimtec
Your Power Partner

Series AM1/4S-Z

0.25 Watt | DC-DC Converter

FEATURES:

- RoHS compliant
- 4 Pin SIP Package
- Low ripple and noise
- High efficiency up to 72%
- Operating temperature -40°C to + 85°C
- Input / Output isolation 1000 and 3000VDC
- Pin compatible with multiple manufacturers

RoHS

Models

Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Input Current Full | NoLoad (mA)		Max Capacitive Load (uF)	Efficiency (%)
AM1/4S-0503SZ	4.5-5.5	3.3	75.7	1000	78	20	100	64
AM1/4S-0505SZ	4.5-5.5	5	50	1000	70	17	100	71
AM1/4S-0507SZ	4.5-5.5	7.2	34.7	1000	74	18	100	68
AM1/4S-0509SZ	4.5-5.5	9	27.77	1000	68	15	100	73
AM1/4S-0512SZ	4.5-5.5	12	20.83	1000	68	14	100	76
AM1/4S-0515SZ	4.5-5.5	15	16.67	1000	70	20	100	71
AM1/4S-0518SZ	4.5-5.5	18	13.88	1000	69	17	100	72
AM1/4S-0524SZ	4.5-5.5	24	10.41	1000	65	18	100	77
AM1/4S-1203SZ	10.8-13.2	3.3	75.7	1000	32	10	100	65
AM1/4S-1205SZ	10.8-13.2	5	50	1000	31	12	100	67
AM1/4S-1207SZ	10.8-13.2	7.2	34.7	1000	31	10	100	67
AM1/4S-1209SZ	10.8-13.2	9	27.7	1000	33	12	100	64
AM1/4S-1212SZ	10.8-13.2	12	20.8	1000	33	15	100	63
AM1/4S-1215SZ	10.8-13.2	15	16.6	1000	31	13	100	67
AM1/4S-1218SZ	10.8-13.2	18	13.8	1000	32	13	100	65
AM1/4S-1224SZ	10.8-13.2	24	10.4	1000	38	18	100	55
AM1/4S-1505SZ	13.5–16.5	5	50	1000	27	8	100	62
AM1/4S-2403SZ	21.6-26.4	3.3	75.7	1000	17	8	100	60
AM1/4S-2405SZ	21.6-26.4	5	50	1000	17	7	100	58
AM1/4S-2407SZ	21.6-26.4	7.2	34.7	1000	18	8	100	57
AM1/4S-2409SZ	21.6-26.4	9	27.7	1000	17	8	100	62
AM1/4S-2412SZ	21.6-26.4	12	20.8	1000	19	10	100	56
AM1/4S-2415SZ	21.6-26.4	15	16.6	1000	19	7	100	55
AM1/4S-2418SZ	21.6-26.4	18	13.8	1000	18	10	100	57
AM1/4S-2424SZ	21.6-26.4	24	10.4	1000	18	10	100	59
AM1/4S-4803SZ	43.2-52.8	3.3	75.7	1000	9	8	100	55
AM1/4S-4805SZ	43.2-52.8	5	50	1000	10	8	100	53
AM1/4S-4807SZ	43.2-52.8	7.2	34.7	1000	10	8	100	54
AM1/4S-4809SZ	43.2-52.8	9	27.7	1000	10	8	100	54
AM1/4S-4812SZ	43.2-52.8	12	20.8	1000	9	8	100	55
AM1/4S-4815SZ	43.2-52.8	15	16.6	1000	10	8	100	54
AM1/4S-4818SZ	43.2-52.8	18	13.88	1000	11	8	100	49
AM1/4S-4824SZ	43.2-52.8	24	10.4	1000	11	10	100	49
AM1/4S-0503SH30Z	4.5-5.5	3.3	75.7	3000	78	20	100	64
AM1/4S-0505SH30Z	4.5-5.5	5	50	3000	70	17	100	71
AM1/4S-0507SH30Z	4.5-5.5	7.2	34.7	3000	74	18	100	68
AM1/4S-0509SH30Z	4.5-5.5	9	27.77	3000	68	15	100	73
AM1/4S-0512SH30Z	4.5-5.5	12	20.83	3000	68	14	100	76
AM1/4S-0515SH30Z	4.5-5.5	15	16.67	3000	70	20	100	71
AM1/4S-0518SH30Z	4.5-5.5	18	13.88	3000	69	17	100	72
AM1/4S-0524SH30Z	4.5-5.5	24	10.41	3000	65	18	100	77
AM1/4S-1203SH30Z	10.8-13.2	3.3	75.7	3000	32	10	100	65
AM1/4S-1205SH30Z	10.8-13.2	5	50	3000	31	12	100	67
AM1/4S-1207SH30Z	10.8-13.2	7.2	34.7	3000	31	10	100	67
AM1/4S-1209SH30Z	10.8-13.2	9	27.7	3000	33	12	100	64
AM1/4S-1212SH30Z	10.8-13.2	12	20.8	3000	33	15	100	63
AM1/4S-1215SH30Z	10.8-13.2	15	16.6	3000	31	13	100	67
AM1/4S-1218SH30Z	10.8-13.2	18	13.8	3000	32	13	100	65

Models

Single output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current max (mA)	Isolation (VDC)	Input Current Full (mA)	Input Current NoLoad (mA)	Max Capacitive Load (uF)	Efficiency (%)
AM1/4S-1224SH30Z	10.8-13.2	24	10.4	3000	38	18	100	55
AM1/4S-2403SH30Z	21.6-26.4	3.3	75.7	3000	17	8	100	60
AM1/4S-2405SH30Z	21.6-26.4	5	50	3000	17	7	100	58
AM1/4S-2407SH30Z	21.6-26.4	7.2	34.7	3000	18	8	100	57
AM1/4S-2409SH30Z	21.6-26.4	9	27.7	3000	17	8	100	62
AM1/4S-2412SH30Z	21.6-26.4	12	20.8	3000	19	10	100	56
AM1/4S-2415SH30Z	21.6-26.4	15	16.6	3000	19	7	100	55
AM1/4S-2418SH30Z	21.6-26.4	18	13.8	3000	18	10	100	57
AM1/4S-2424SH30Z	21.6-26.4	24	10.4	3000	18	10	100	59
AM1/4S-4803SH30Z	43.2-52.8	3.3	75.7	3000	9	8	100	55
AM1/4S-4805SH30Z	43.2-52.8	5	50	3000	10	8	100	53
AM1/4S-4807SH30Z	43.2-52.8	7.2	34.7	3000	10	8	100	54
AM1/4S-4809SH30Z	43.2-52.8	9	27.7	3000	10	8	100	54
AM1/4S-4812SH30Z	43.2-52.8	12	20.8	3000	9	8	100	55
AM1/4S-4815SH30Z	43.2-52.8	15	16.6	3000	10	8	100	54
AM1/4S-4818SH30Z	43.2-52.8	18	13.88	3000	11	8	100	49
AM1/4S-4824SH30Z	43.2-52.8	24	10.4	3000	11	10	100	49

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5		VDC
	12	10.8-13.2		
	15	13.5 – 16.5		
	24	21.6-26.4		
	48	43.2-52.8		
Filter	Capacitor			
Turn on transient process time			25	ms
Start up time		200		ms
Absolute maximum rating	5 Vin	7		VDC
	12 Vin	15		
	15 Vin	17		
	24 Vin	28		
	48 Vin	54		
Peak input voltage time		100		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60sec		1000 and 3000	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±3		%
Short circuit protection	Momentary (1sec)			
Line voltage regulation	For 1% change of Vin	±1.2		% of Vin
Load voltage regulation	Load 20 – 100%	±10		%
Load voltage regulation 3.3V output model	Load 20 – 100%	±20		%
Temperature coefficient		±0.02		%/ºC
Ripple & noise	At 20MHz Bandwidth	100		mV p-p
Capacitive load			100	µF
Rising time		50		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	80		KHz
Operating temperature	Without derating	-40to +85		ºC
Storage temperature		-40 to +125		ºC
Maximumcase temperature			100	ºC
Cooling	Free air convection			
Humidity			95	%
Case material	Non-conductive black plastic			
Weight		1.5		g
Dimensions (Lx W x H)	0.46 x 0.24 x 0.40 inches 11.68 x 6.00 x 10.16 mm			
MTBF	>1121000 hrs(MIL-HDBK -217F, Ground Benign, t=+25ºC)			

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

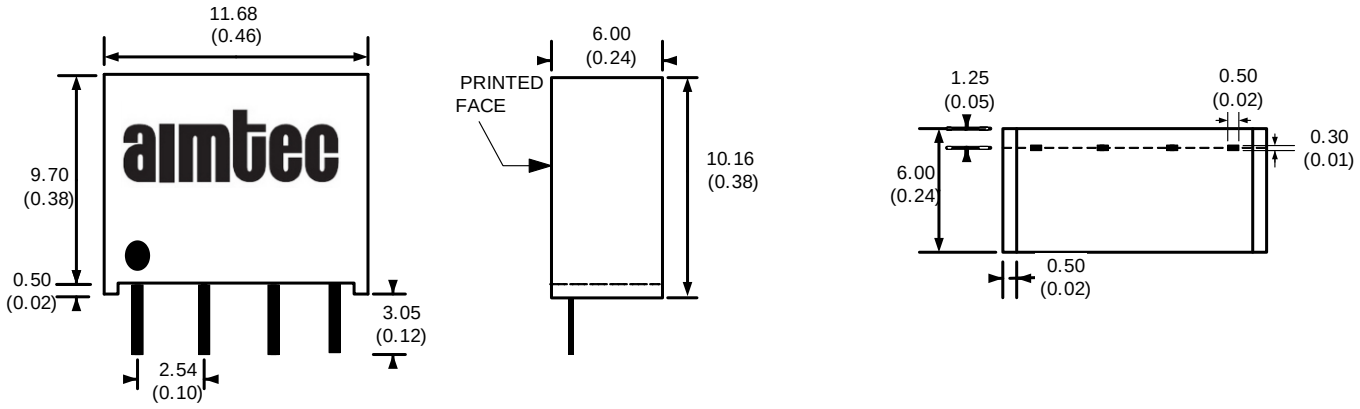
Safety Specifications

Parameters	
Agency approvals	CE
Standards	EN55032 Class B (see recommended circuit)

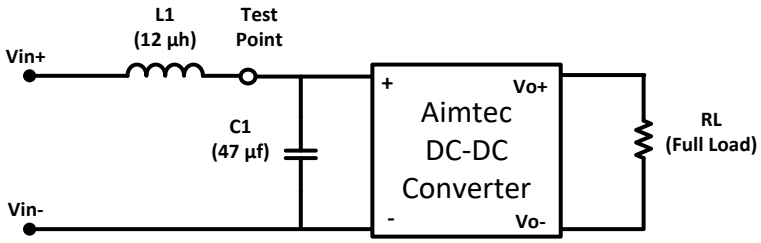
Pin Out Specifications

Pin	Single
1	- V Input
2	+V Input
3	- V Output
4	+V Output

Dimensions



Input Reflected Ripple Current Measurement

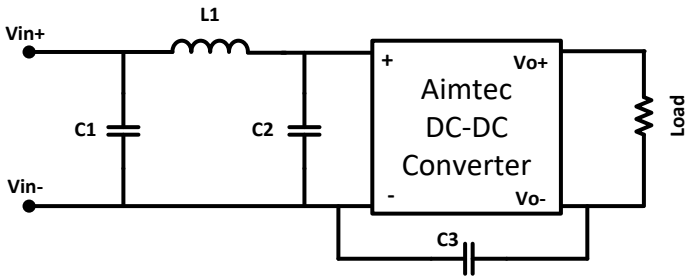


* Tested at full load, and nominal input

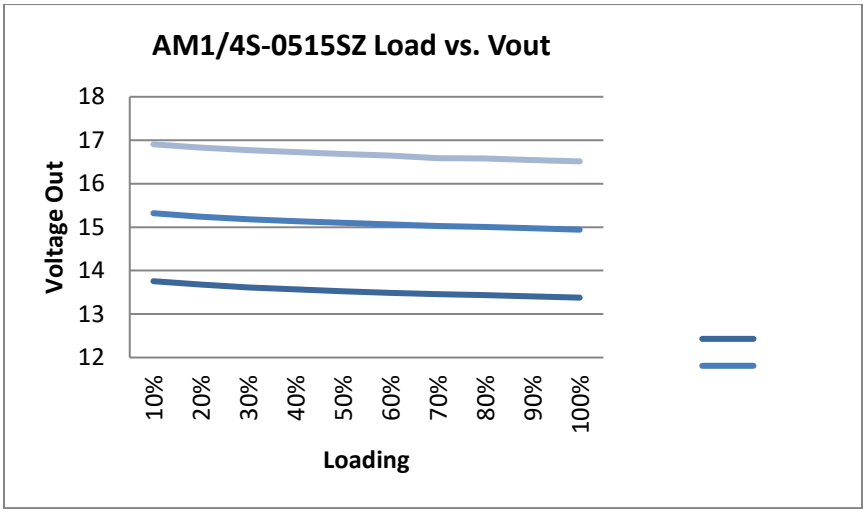
EMI Filter Circuit Example

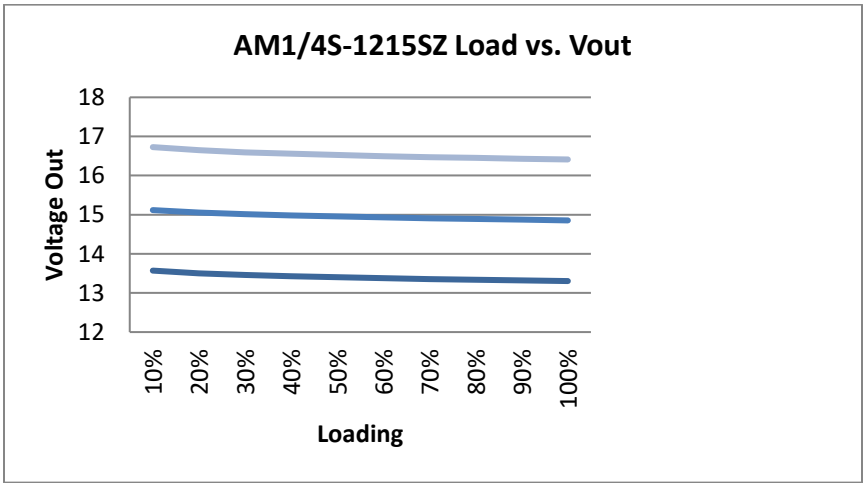
Vin	C1	L1	C2	C3
3.3V	2.2 µF / 100V	18 µH		
5 V	2.2 µF / 100V	18 µH		
12 V	2.2 µF / 100V	18 µH		
15 V	2.2 µF / 100V	18 µH		
24 V	2.2 µF / 100V	18 µH	2.2 µF / 100V	470 pF/ 2kV
48 V	*2.2 µF / 100V	18 µH	2.2 µF / 100V	470 pF/ 2kV

*** Electrolytic type**



Typical Performance Examples





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