aimtec
Your Power Partner

Series AM2S-Z

2 Watt | DC-DC Converter

FEATURES:

- RoHS Compliant
- 4 Pin SIP Package
- Ultra Miniature Package
- High Efficiency up to 84%
- Operating Temperature -40ºC to +85ºC
- Input / Output Isolation 1000 and 3000VDC
- Pin Compatible With Multiple Manufacturers

RoHS CE

Models
Single Output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load, Max (µF)	Input Current Full | No Load (mA)		Isolation (VDC)	Efficiency (%)
AM2S-0503SZ	4.5-5.5	3.3	400	470	487	35	1000	78
AM2S-0505SZ	4.5-5.5	5	400	470	487	35	1000	81
AM2S-0507SZ	4.5-5.5	7.2	278	470	152	35	1000	80
AM2S-0509SZ	4.5-5.5	9	222	470	213	35	1000	83
AM2S-0512SZ	4.5-5.5	12	167	470	208	35	1000	84
AM2S-0515SZ	4.5-5.5	15	133	470	203	35	1000	85
AM2S-0518SZ	4.5-5.5	18	111	470	198	35	1000	80
AM2S-0524SZ	4.5-5.5	24	83	470	198	35	1000	86
AM2S-1203SZ	10.8-13.2	3.3	400	470	198	20	1000	72
AM2S-1205SZ	10.8-13.2	5	400	470	203	20	1000	81
AM2S-1207SZ	10.8-13.2	7.2	278	470	120	20	1000	80
AM2S-1209SZ	10.8-13.2	9	222	470	170	20	1000	85
AM2S-1212SZ	10.8-13.2	12	167	470	166	20	1000	85
AM2S-1215SZ	10.8-13.2	15	133	470	162	20	1000	85
AM2S-1218SZ	10.8-13.2	18	111	470	158	20	1000	84
AM2S-1224SZ	10.8-13.2	24	83	470	158	25	1000	85
AM2S-2403SZ	21.6-26.4	3.3	400	470	158	18	1000	81
AM2S-2405SZ	21.6-26.4	5	400	470	162	18	1000	83
AM2S-2407SZ	21.6-26.4	7.2	278	470	74	18	1000	82
AM2S-2409SZ	21.6-26.4	9	222	470	104	18	1000	85
AM2S-2412SZ	21.6-26.4	12	167	470	104	18	1000	86
AM2S-2415SZ	21.6-26.4	15	133	470	99	18	1000	86
AM2S-2418SZ	21.6-26.4	18	111	470	99	18	1000	83
AM2S-2424SZ	21.6-26.4	24	83	470	99	18	1000	88
AM2S-4803SZ	43.2-52.8	3.3	400	470	99	10	1000	74
AM2S-4805SZ	43.2-52.8	5	400	470	99	10	1000	79
AM2S-4807SZ	43.2-52.8	7.2	278	470	38	10	1000	83
AM2S-4809SZ	43.2-52.8	9	222	470	53	10	1000	83
AM2S-4812SZ	43.2-52.8	12	167	470	52	10	1000	81
AM2S-4815SZ	43.2-52.8	15	133	470	51	10	1000	82
AM2S-4818SZ	43.2-52.8	18	111	470	52	10	1000	82
AM2S-4824SZ	43.2-52.8	24	83	470	51	10	1000	86
AM2S-0503SH30Z	4.5-5.5	3.3	400	470	487	35	3000	78
AM2S-0505SH30Z	4.5-5.5	5	400	470	487	35	3000	81
AM2S-0507SH30Z	4.5-5.5	7.2	278	470	152	35	3000	80
AM2S-0509SH30Z	4.5-5.5	9	222	470	213	35	3000	83
AM2S-0512SH30Z	4.5-5.5	12	167	470	208	35	3000	84
AM2S-0515SH30Z	4.5-5.5	15	133	470	203	35	3000	85
AM2S-0518SH30Z	4.5-5.5	18	111	470	198	35	3000	80
AM2S-0524SH30Z	4.5-5.5	24	83	470	198	35	3000	86
AM2S-1203SH30Z	10.8-13.2	3.3	400	470	198	20	3000	72
AM2S-1205SH30Z	10.8-13.2	5	400	470	203	20	3000	81
AM2S-1207SH30Z	10.8-13.2	7.2	278	470	120	20	3000	80
AM2S-1209SH30Z	10.8-13.2	9	222	470	170	20	3000	85
AM2S-1212SH30Z	10.8-13.2	12	167	470	166	20	3000	85

Models
Single Output (continued)

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Capacitive Load, Max (µF)	Input Current Full | No Load (mA)		Isolation (VDC)	Efficiency (%)
AM2S-1215SH30Z	10.8-13.2	15	133	470	162	20	3000	85
AM2S-1218SH30Z	10.8-13.2	18	111	470	158	20	3000	84
AM2S-1224SH30Z	10.8-13.2	24	83	470	158	25	3000	85
AM2S-2403SH30Z	21.6-26.4	3.3	400	470	158	18	3000	81
AM2S-2405SH30Z	21.6-26.4	5	400	470	162	18	3000	83
AM2S-2407SH30Z	21.6-26.4	7.2	278	470	74	18	3000	82
AM2S-2409SH30Z	21.6-26.4	9	222	470	104	18	3000	85
AM2S-2412SH30Z	21.6-26.4	12	167	470	104	18	3000	86
AM2S-2415SH30Z	21.6-26.4	15	133	470	99	18	3000	86
AM2S-2418SH30Z	21.6-26.4	18	111	470	99	18	3000	83
AM2S-2424SH30Z	21.6-26.4	24	83	470	99	18	3000	88
AM2S-4803SH30Z	43.2-52.8	3.3	400	470	99	10	3000	74
AM2S-4805SH30Z	43.2-52.8	5	400	470	99	10	3000	79
AM2S-4807SH30Z	43.2-52.8	7.2	278	470	38	10	3000	83
AM2S-4809SH30Z	43.2-52.8	9	222	470	53	10	3000	83
AM2S-4812SH30Z	43.2-52.8	12	167	470	52	10	3000	81
AM2S-4815SH30Z	43.2-52.8	15	133	470	51	10	3000	82
AM2S-4818SH30Z	43.2-52.8	18	111	470	52	10	3000	82
AM2S-4824SH30Z	43.2-52.8	24	83	470	51	10	3000	86

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5	4.5-5.5	-0.7 - 7	VDC
	12	10.8-13.2	-0.7 - 15	
	24	21.6-25.4	-0.7 - 28	
	48	43.2-52.8	-0.7 - 54	
Filter	Capacitor			
Turn on Transient Process Time			25	ms
Start-up time		200		ms
Absolute Maximum Rating	5 Vin	0-7		VDC
	12 Vin	0-15		
	24 Vin	0-28		
	48 Vin	0-54		
Peak Input Voltage time		100		ms

Isolation Specifications

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

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage Accuracy		±3		%
Short Circuit Protection	Momentary (1sec)			
Over Current Protection	110% Iout max			
Line Voltage Regulation	For 1.0% of Vin	±1.2		%
Load Voltage Regulation	20…100% load	±10		%
Load Voltage Regulation (3.3V Output Models)	20…100% load	±20		%
Temperature Coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth	150		mV p-p
Rising Time		100		ms

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency	100% load	70		KHz

Operating Temperature		-40 to +85		ºC
Storage Temperature		-40 to +125		ºC
Max Case Temperature			100	ºC
Cooling	Free air convection			
Humidity			95	%
Case material	Plastic UL94-VO			
Weight	1.9			g
Dimensions(L x W x H)		0.46 x 0.29 x 0.40 inches	11.68 x 7.50 x 10.15 mm	
MTBF	>1121 000hrs(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.

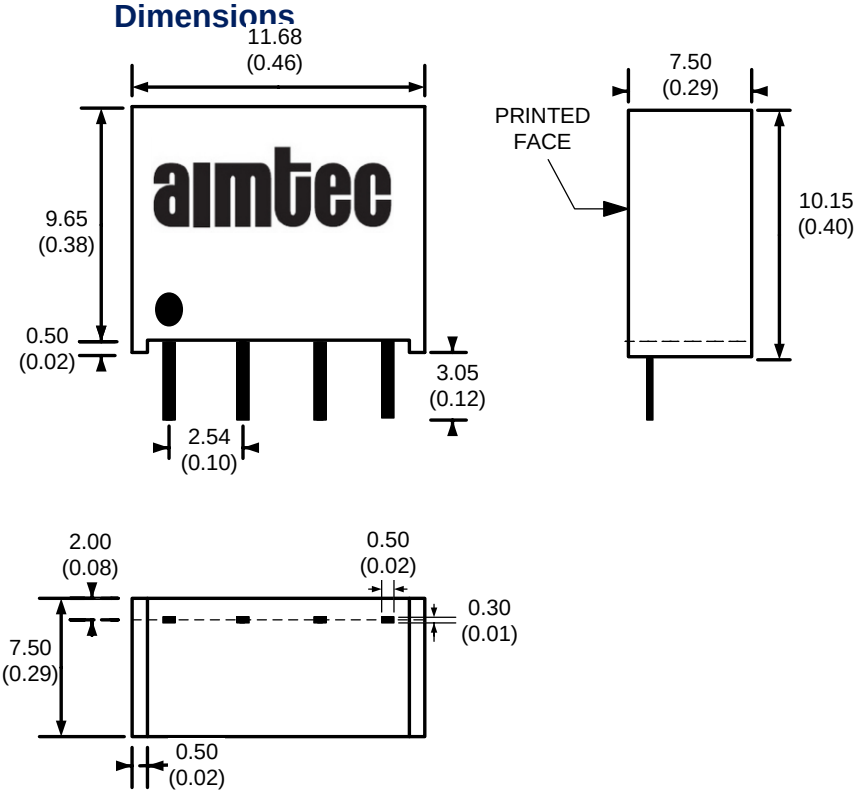
Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55032 (Radiated Emissions) class B
	EN55024 (Noise Immunity)
	IEC61000-4-2(ESD)
	IEC61000-4-3(Radiated immunity)

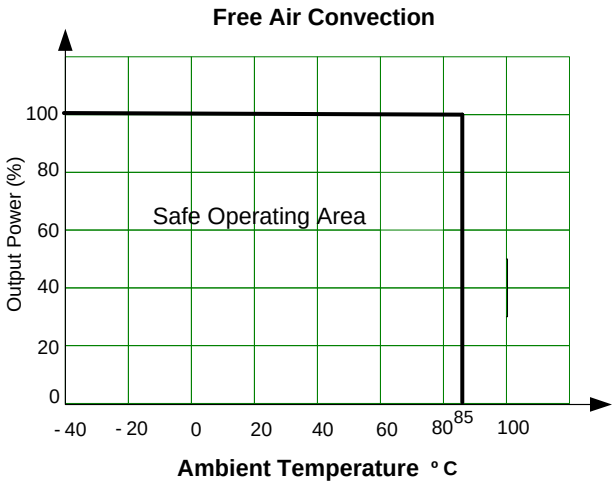
Pin Out Specifications

Pin	1000 and 3000VDC
1	-V Input
2	+V Input
3	-V Output
4	+V Output

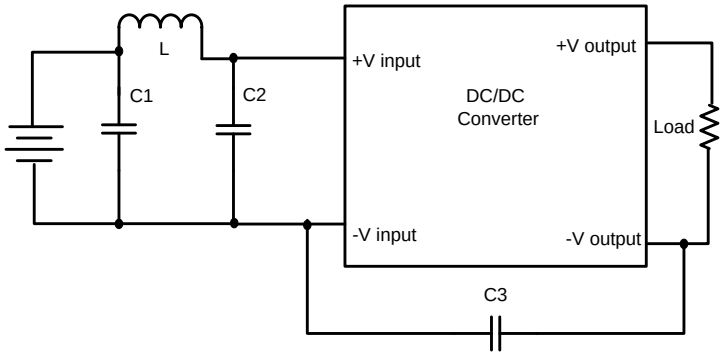
Dimensions



Derating



Application Circuit, & Conducted Emissions



Input Voltage (VDC)	C1	L	C2	C3
5	2.2uF/100V	18uH	N/A	N/A
12	2.2uF/100V	18uH	N/A	N/A
15	2.2uF/100V	18uH	N/A	N/A
24	2.2uF/100V	18uH	2.2uF/100V	470pF/2KV
48	2.2uF/100V	18uH	2.2uF/100V	470pF/2KV

Typical Efficiency Example Charts