

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 -40°C to +85°C
- Input / Output Isolation 1000 and 3000VDC
- Pin Compatible With Multiple Manufacturers

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	°C
Storage Temperature		-40 to +125	°C
Max Case Temperature		100	°C
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=+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.

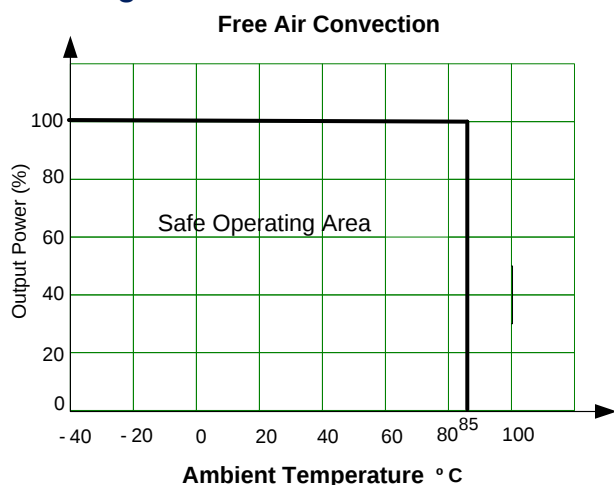
Safety Specifications

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

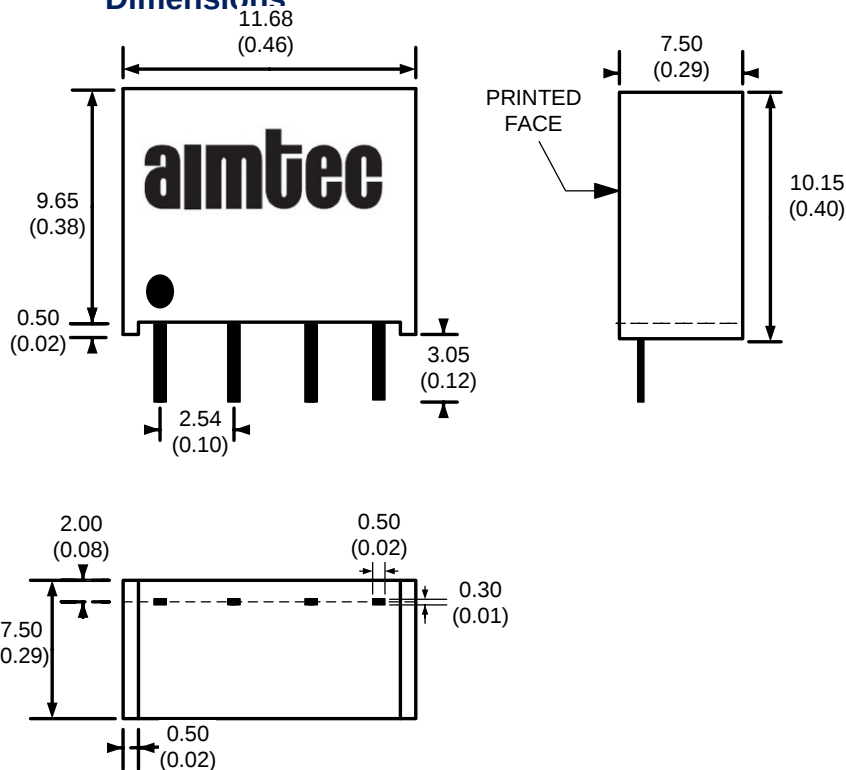
Pin Out Specifications

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

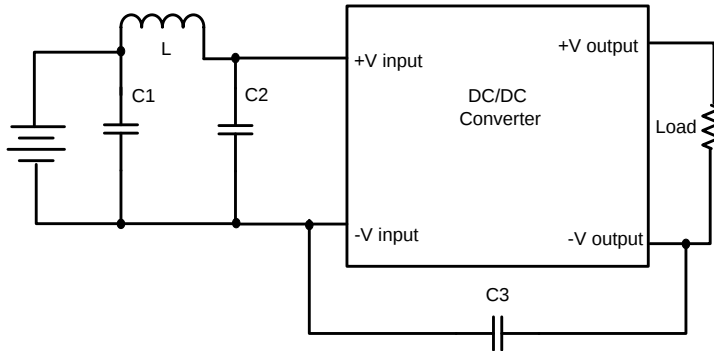
Derating



Dimensions

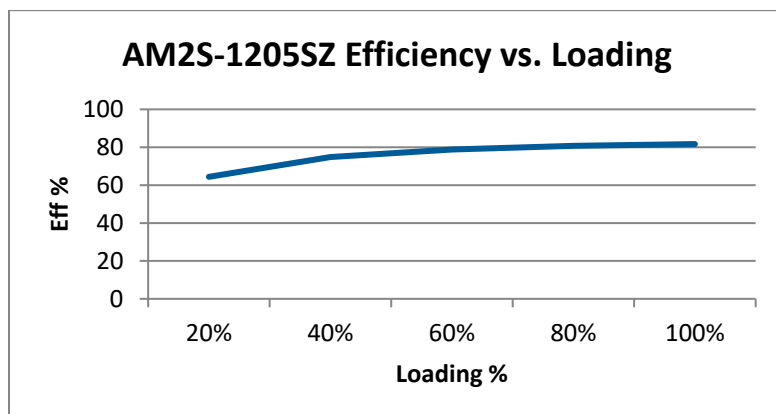
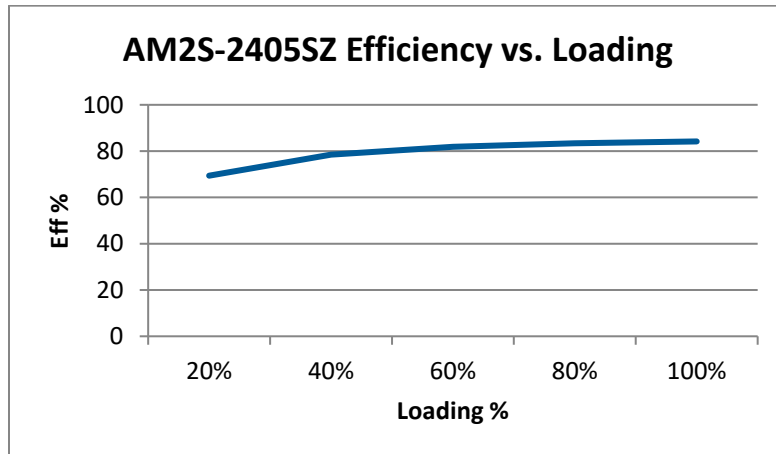


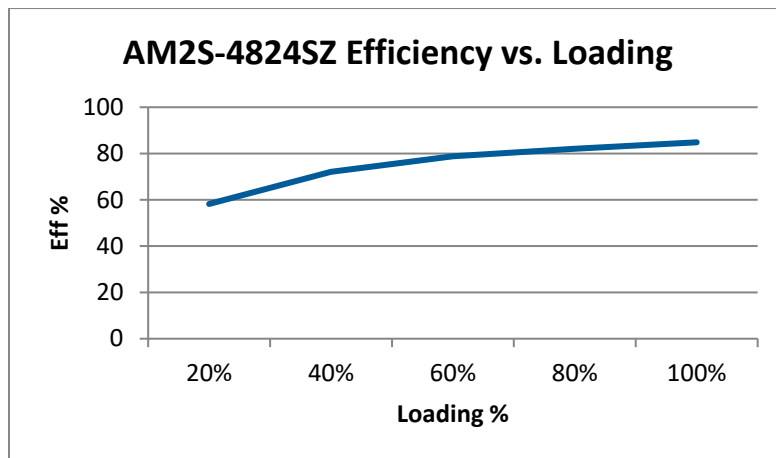
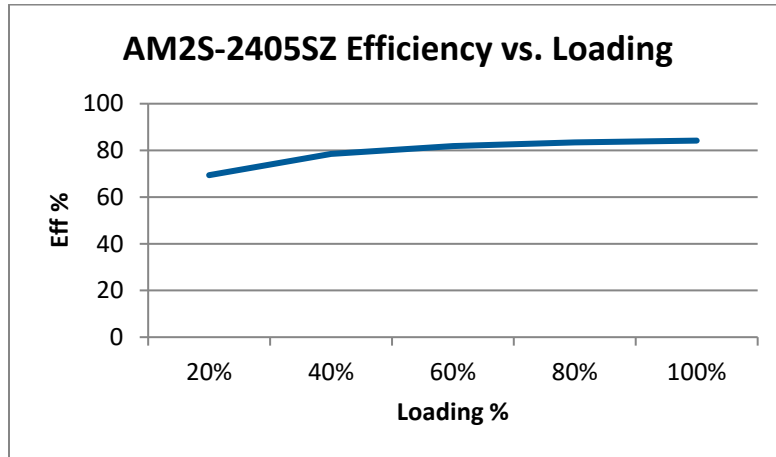
Application Circuit, & Conducted Emissions



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





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