

Series AM2S-Z

2 Watt | DC-DC Converter



FEATURES:

- RoHS Compliant
- 4 Pin SIP Package
- Ultra Miniature Package
- High Efficiency up to 88%
- 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 (mA)		Isolation (VDC)	Efficiency (%)
					Full Load typ.	No Load max.		
AM2S-0503SZ	4.5-5.5	3.3	400	470	338	32	1000	78
AM2S-0505SZ	4.5-5.5	5	400	470	494	30	1000	81
AM2S-0507SZ	4.5-5.5	7.2	278	470	500	40	1000	80
AM2S-0509SZ	4.5-5.5	9	222	470	482	30	1000	83
AM2S-0512SZ	4.5-5.5	12	167	470	476	38	1000	84
AM2S-0515SZ	4.5-5.5	15	133	470	471	35	1000	85
AM2S-0518SZ	4.5-5.5	18	111	470	500	28	1000	80
AM2S-0524SZ	4.5-5.5	24	83	470	465	35	1000	86
AM2S-1203SZ	10.8-13.2	3.3	400	470	152	20	1000	72
AM2S-1205SZ	10.8-13.2	5	400	470	206	25	1000	81
AM2S-1207SZ	10.8-13.2	7.2	278	470	208	20	1000	80
AM2S-1209SZ	10.8-13.2	9	222	470	200	23	1000	83
AM2S-1212SZ	10.8-13.2	12	167	470	196	20	1000	85
AM2S-1215SZ	10.8-13.2	15	133	470	196	20	1000	85
AM2S-1218SZ	10.8-13.2	18	111	470	198	18	1000	84
AM2S-1224SZ	10.8-13.2	24	83	470	196	30	1000	85
AM2S-2403SZ	21.6-26.4	3.3	400	470	68	7	1000	81
AM2S-2405SZ	21.6-26.4	5	400	470	100	9	1000	83
AM2S-2407SZ	21.6-26.4	7.2	278	470	102	12	1000	82
AM2S-2409SZ	21.6-26.4	9	222	470	98	10	1000	85
AM2S-2412SZ	21.6-26.4	12	167	470	97	12	1000	86
AM2S-2415SZ	21.6-26.4	15	133	470	98	8	1000	86
AM2S-2418SZ	21.6-26.4	18	111	470	100	12	1000	83
AM2S-2424SZ	21.6-26.4	24	83	470	95	10	1000	88
AM2S-0503SH30Z	4.5-5.5	3.3	400	470	338	32	3000	78
AM2S-0505SH30Z	4.5-5.5	5	400	470	494	30	3000	81
AM2S-0507SH30Z	4.5-5.5	7.2	278	470	500	40	3000	80
AM2S-0509SH30Z	4.5-5.5	9	222	470	482	30	3000	83
AM2S-0512SH30Z	4.5-5.5	12	167	470	476	38	3000	84
AM2S-0515SH30Z	4.5-5.5	15	133	470	471	35	3000	85
AM2S-0524SH30Z	4.5-5.5	24	83	470	465	35	3000	86
AM2S-1203SH30Z	10.8-13.2	3.3	400	470	152	20	3000	72
AM2S-1205SH30Z	10.8-13.2	5	400	470	206	25	3000	81
AM2S-1207SH30Z	10.8-13.2	7.2	278	470	208	20	3000	80
AM2S-1209SH30Z	10.8-13.2	9	222	470	200	23	3000	83
AM2S-1212SH30Z	10.8-13.2	12	167	470	196	20	3000	85
AM2S-1215SH30Z	10.8-13.2	15	133	470	196	20	3000	85
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AM2S-2403SH30Z	21.6-26.4	3.3	400	470	68	7	3000	81
AM2S-2405SH30Z	21.6-26.4	5	400	470	100	9	3000	83
AM2S-2407SH30Z	21.6-26.4	7.2	278	470	102	12	3000	82
AM2S-2409SH30Z	21.6-26.4	9	222	470	98	10	3000	85
AM2S-2412SH30Z	21.6-26.4	12	167	470	97	12	3000	86
AM2S-2415SH30Z	21.6-26.4	15	133	470	97	8	3000	86
AM2S-2424SH30Z	21.6-26.4	24	83	470	95	10	3000	88

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	VDC
	24	21.6-25.4	-0.7 - 28	VDC
Filter	Capacitor			
Absolute Maximum Rating	5 Vin	0-7		VDC
	12 Vin	0-15		VDC
	24 Vin	0-28		VDC
Peak Input Voltage time		100		ms
Input reflected input current*		20		mA p-p

*Measured with 12μH source inductance and 47μF (ESR<1Ω at 100KHz) source capacitor.

Isolation Specifications

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

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage Accuracy			±3	%
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	20...100% load (3.3V Output Models)		±20	%
Temperature Coefficient		±0.02		%/°C
Ripple & Noise	At 20MHz Bandwidth		150	mV p-p

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	>1 121 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.

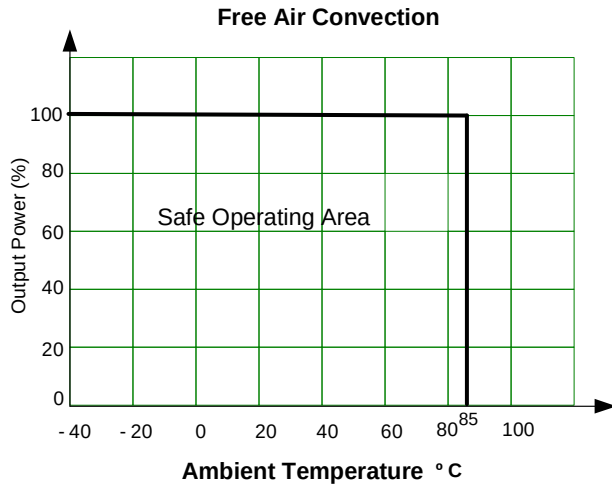
Safety Specifications

Parameters	
Agency Approval	CE
Standards	EN55032 (Radiated Emissions) class B
	EN55032 (Conducted Emissions) class B (with the Application Circuit)
	Electrostatic Discharge Immunity IEC 61000-4-2 Criteria A
	RF, Electromagnetic Field Immunity IEC 61000-4-3 Criteria A
	Electrical Fast Transient/Burst Immunity IEC 61000-4-4 Criteria A (with a 470μF/100V filter capacitor)
	Surge Immunity IEC 61000-4-5 Criteria A (with a 470μF/100V filter capacitor)
	RF, Conducted Disturbance Immunity IEC 61000-4-6 Criteria A
	Power frequency Magnetic Field Immunity IEC 61000-4-8 Criteria A

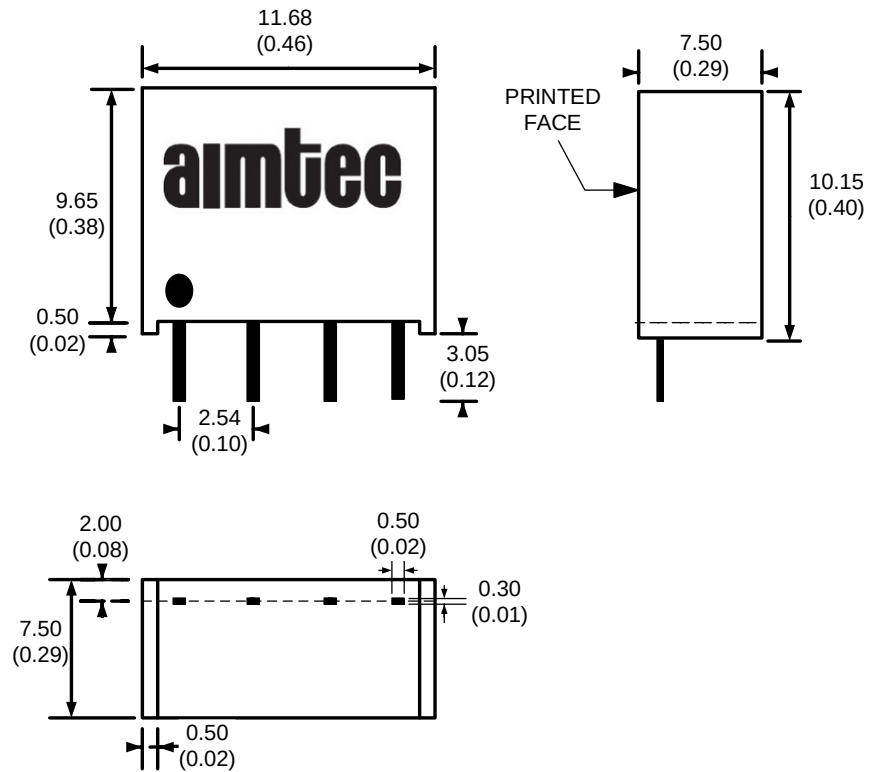
Pin Out Specifications

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

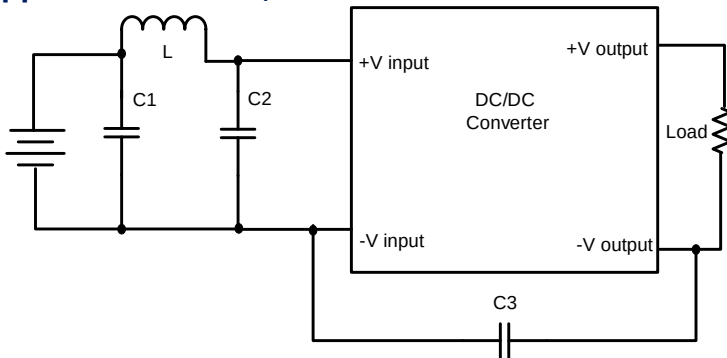
Derating



Dimensions

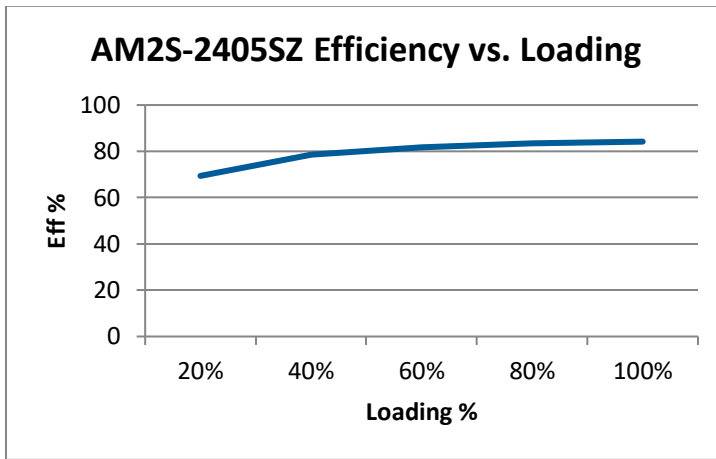
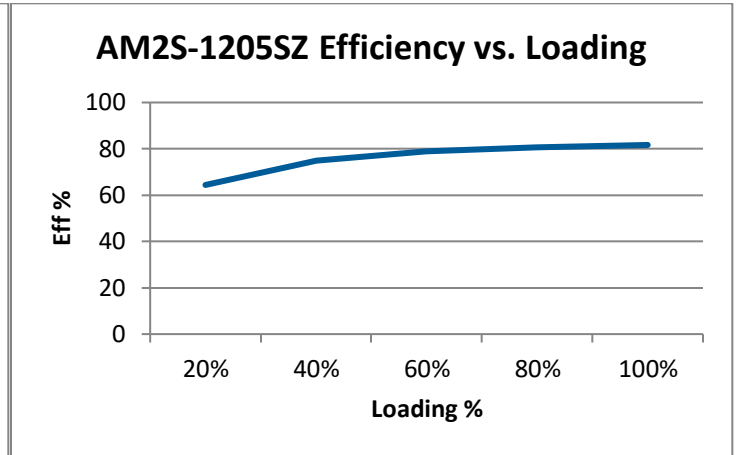
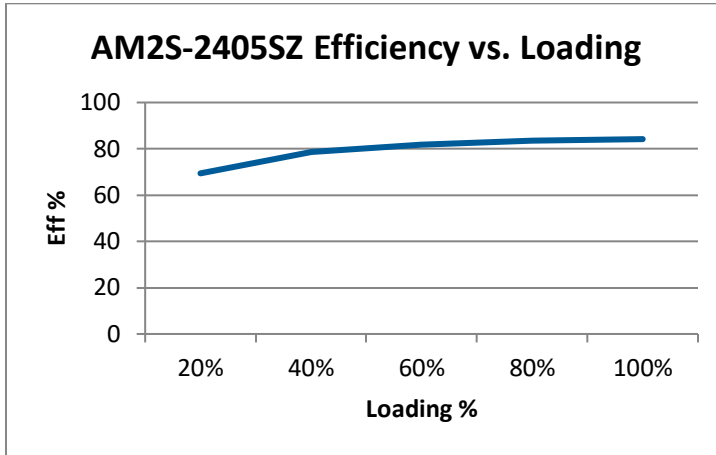


Application Circuit, & Conducted Emissions



Vin	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

Typical Efficiency Example Charts



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