aimtec
Your Power Partner

Series AM2F-Z

2 Watt | DC-DC Converter



FEATURES:

- RoHS compliant
- 12 Pin SIP Package
- Low ripple and noise
- High efficiency up to 72%
- Operating temperature -25ºC to + 85ºC
- Input / Output Isolation 1000, 3000 or 5200VDC
- Continuous Short Circuit Protection

RoHS

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	Efficiency (%)
AM2F-0503SZ	4.5-5.5	3.3	500	330	559	68	1000	59
AM2F-0505SZ	4.5-5.5	5	400	330	588	45	1000	68
AM2F-0507SZ	4.5-5.5	7.2	278	330	625	90	1000	64
AM2F-0509SZ	4.5-5.5	9	222	330	563	75	1000	71
AM2F-0512SZ	4.5-5.5	12	167	330	597	80	1000	67
AM2F-0515SZ	4.5-5.5	15	134	330	571	95	1000	70
AM2F-0518SZ	4.5-5.5	18	111	330	580	95	1000	69
AM2F-0524SZ	4.5-5.5	24	83	330	597	76	1000	67
AM2F-1203SZ	10.8-13.2	3.3	500	330	250	30	1000	55
AM2F-1205SZ	10.8-13.2	5	400	330	249	20	1000	67
AM2F-1207SZ	10.8-13.2	7.2	278	330	253	30	1000	66
AM2F-1209SZ	10.8-13.2	9	222	330	253	45	1000	66
AM2F-1212SZ	10.8-13.2	12	167	330	249	60	1000	67
AM2F-1215SZ	10.8-13.2	15	134	330	245	60	1000	68
AM2F-1218SZ	10.8-13.2	18	111	330	256	50	1000	65
AM2F-1224SZ	10.8-13.2	24	83	330	231	35	1000	72
AM2F-2403SZ	21.6-26.4	3.3	500	330	127	25	1000	54
AM2F-2405SZ	21.6-26.4	5	400	330	132	25	1000	63
AM2F-2407SZ	21.6-26.4	7.2	278	330	123	22	1000	68
AM2F-2409SZ	21.6-26.4	9	222	330	117	20	1000	71
AM2F-2412SZ	21.6-26.4	12	167	330	119	20	1000	70
AM2F-2415SZ	21.6-26.4	15	134	330	124	25	1000	67
AM2F-2418SZ	21.6-26.4	18	111	330	117	20	1000	71
AM2F-2424SZ	21.6-26.4	24	83	330	116	20	1000	72
AM2F-0503SH30Z	4.5-5.5	3.3	500	330	559	68	3000	59
AM2F-0505SH30Z	4.5-5.5	5	400	330	588	45	3000	68
AM2F-0507SH30Z	4.5-5.5	7.2	278	330	625	90	3000	64
AM2F-0509SH30Z	4.5-5.5	9	222	330	563	75	3000	71
AM2F-0512SH30Z	4.5-5.5	12	167	330	597	80	3000	67
AM2F-0515SH30Z	4.5-5.5	15	134	330	571	95	3000	70
AM2F-0518SH30Z	4.5-5.5	18	111	330	580	95	3000	69
AM2F-0524SH30Z	4.5-5.5	24	83	330	597	76	3000	67
AM2F-1203SH30Z	10.8-13.2	3.3	500	330	250	30	3000	55
AM2F-1205SH30Z	10.8-13.2	5	400	330	249	20	3000	67
AM2F-1207SH30Z	10.8-13.2	7.2	278	330	253	30	3000	66
AM2F-1209SH30Z	10.8-13.2	9	222	330	253	45	3000	66
AM2F-1212SH30Z	10.8-13.2	12	167	330	249	60	3000	67
AM2F-1215SH30Z	10.8-13.2	15	134	330	245	60	3000	68
AM2F-1218SH30Z	10.8-13.2	18	111	330	256	50	3000	65
AM2F-1224SH30Z	10.8-13.2	24	83	330	231	35	3000	72
AM2F-2403SH30Z	21.6-26.4	3.3	500	330	127	25	3000	54
AM2F-2405SH30Z	21.6-26.4	5	400	330	132	25	3000	63
AM2F-2407SH30Z	21.6-26.4	7.2	278	330	123	22	3000	68
AM2F-2409SH30Z	21.6-26.4	9	222	330	117	20	3000	71
AM2F-2412SH30Z	21.6-26.4	12	167	330	119	20	3000	70

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	Efficiency (%)
AM2F-2415SH30Z	21.6-26.4	15	134	330	124	25	3000	67
AM2F-2418SH30Z	21.6-26.4	18	111	330	117	20	3000	71
AM2F-2424SH30Z	21.6-26.4	24	83	330	116	20	3000	72
AM2F-0503SH52Z	4.5-5.5	3.3	500	330	559	68	5200	59
AM2F-0505SH52Z	4.5-5.5	5	400	330	588	45	5200	68
AM2F-0507SH52Z	4.5-5.5	7.2	278	330	625	90	5200	64
AM2F-0509SH52Z	4.5-5.5	9	222	330	563	75	5200	71
AM2F-0512SH52Z	4.5-5.5	12	167	330	597	80	5200	67
AM2F-0515SH52Z	4.5-5.5	15	134	330	571	95	5200	70
AM2F-0518SH52Z	4.5-5.5	18	111	330	580	95	5200	69
AM2F-0524SH52Z	4.5-5.5	24	83	330	597	76	5200	67
AM2F-1203SH52Z	10.8-13.2	3.3	500	330	250	30	5200	55
AM2F-1205SH52Z	10.8-13.2	5	400	330	249	20	5200	67
AM2F-1207SH52Z	10.8-13.2	7.2	278	330	253	30	5200	66
AM2F-1209SH52Z	10.8-13.2	9	222	330	253	45	5200	66
AM2F-1212SH52Z	10.8-13.2	12	167	330	249	60	5200	67
AM2F-1215SH52Z	10.8-13.2	15	134	330	245	60	5200	68
AM2F-1218SH52Z	10.8-13.2	18	111	330	256	50	5200	65
AM2F-1224SH52Z	10.8-13.2	24	83	330	231	35	5200	72
AM2F-2403SH52Z	21.6-26.4	3.3	500	330	127	25	5200	54
AM2F-2405SH52Z	21.6-26.4	5	400	330	132	25	5200	63
AM2F-2407SH52Z	21.6-26.4	7.2	278	330	123	22	5200	68
AM2F-2409SH52Z	21.6-26.4	9	222	330	117	20	5200	71
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AM2F-2415SH52Z	21.6-26.4	15	134	330	124	25	5200	67
AM2F-2418SH52Z	21.6-26.4	18	111	330	117	20	5200	71
AM2F-2424SH52Z	21.6-26.4	24	83	330	116	20	5200	72

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	5 12 24	4.5-5.5 10.8-13.2 21.6-25.4		VDC
Filter	Capacitor			
Absolute Maximum Rating	5 Vin 12 Vin 24 Vin	0-7 0-15 0-28		VDC
Peak Input Voltage time		100		ms
Input Reflected Ripple Current *		20		mA p-p

* The input reflected ripple current should be measured with a 12µH inductor.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1000, 3000, or 5200	VDC
Resistance		> 1000		MOhm
Capacitance		60		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy			±2	%
Short Circuit protection	Continuous			
Short Circuit restart	Auto-recovery			
Line voltage regulation			±0.5	%

Load voltage regulation	Load 0 – 100%		±0.5	%
Load voltage regulation	Load 0 – 100%, 3.3V output		±1.5	%
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	50		KHz
Operating temperature	Derating above 71°C	-25 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		7		g
Dimensions(L x W x H)	1.26 x 0.31 x 0.55inches 32.00 x 8.00 x 14.00mm			
MTBF	>1 120 000 hrs(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

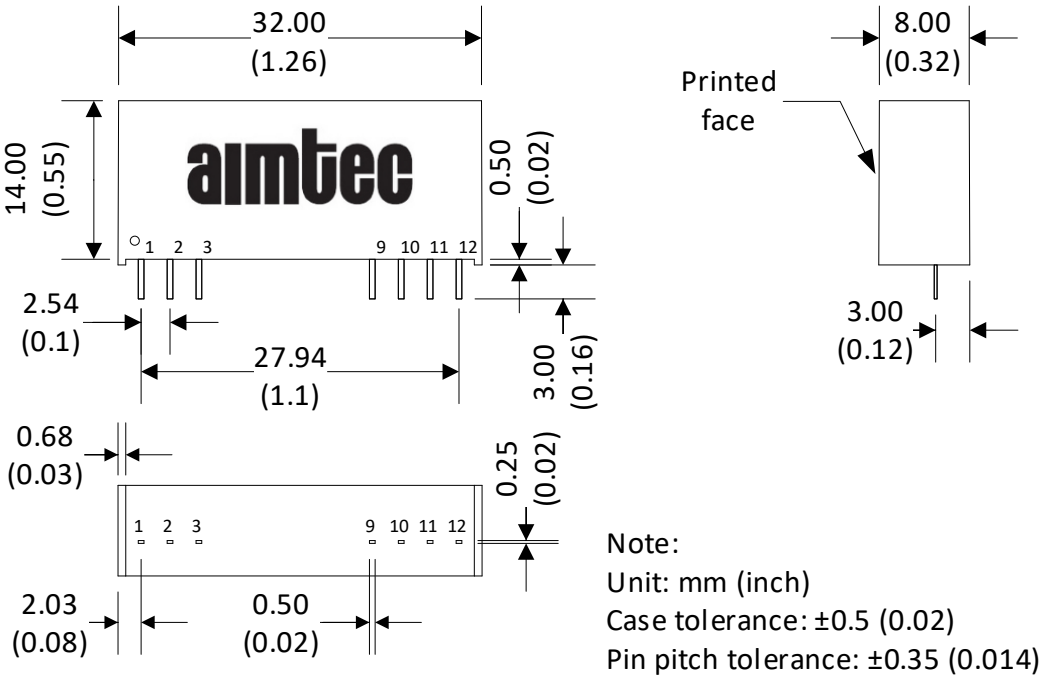
Safety Specifications

Standards	
Safety	Designed to meet IEC/EN/UL 60950-1, 62368-1
	EN55032, class B, with the recommended EMI circuit
	IEC61000-4-2(ESD) Criteria A
	IEC61000-4-3(Radiated immunity) Criteria A
	IEC61000-4-4(EFT) Criteria A, with the recommended EFT/Surge external circuit
	IEC61000-4-5(Surge) Criteria A, with the recommended EFT/Surge external circuit
	IEC61000-4-6(CS) Criteria A
	IEC61000-4-8(PFMF) Criteria A

Pin Out Specifications

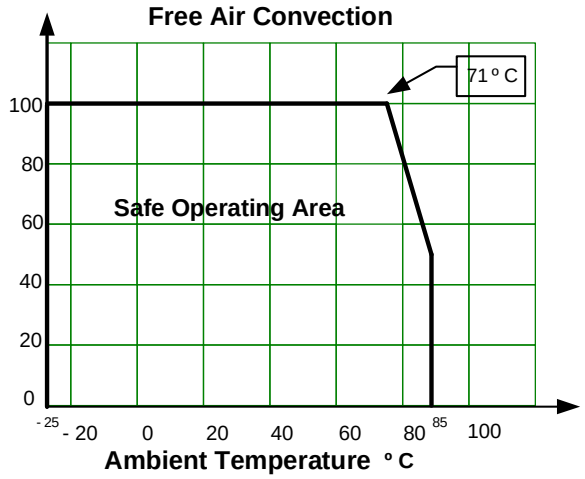
Pin	1000VDC	3000 & 5200VDC
1	+V Input	+V Input
2	N.C.	-V Input
3	N.C.	N.C.
9	N.C.	N.C.
10	-V Output	-V Output
11	+V Output	+V Output
12	-V Input	N.C.

Dimensions

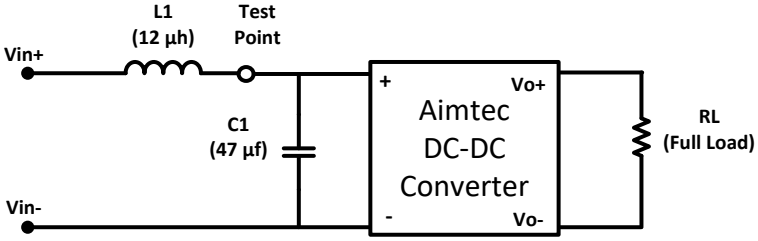


Note:
Unit: mm (inch)
Case tolerance: ±0.5 (0.02)
Pin pitch tolerance: ±0.35 (0.014)

Derating

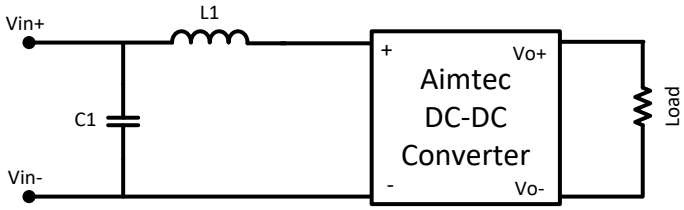


Input Reflected Ripple Test Circuit



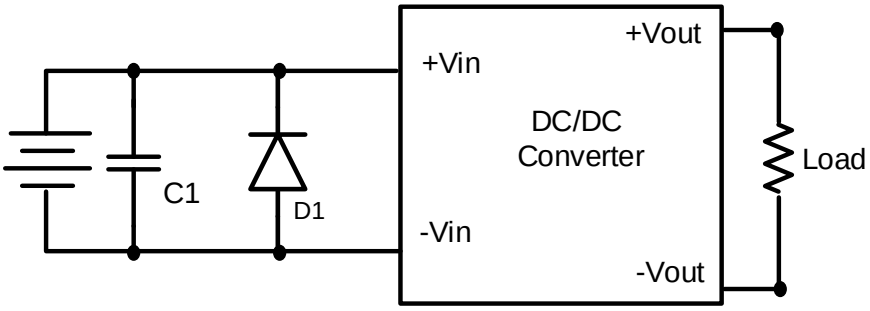
* Tested at full load, and nominal input

Recommended EMI Filter Circuit



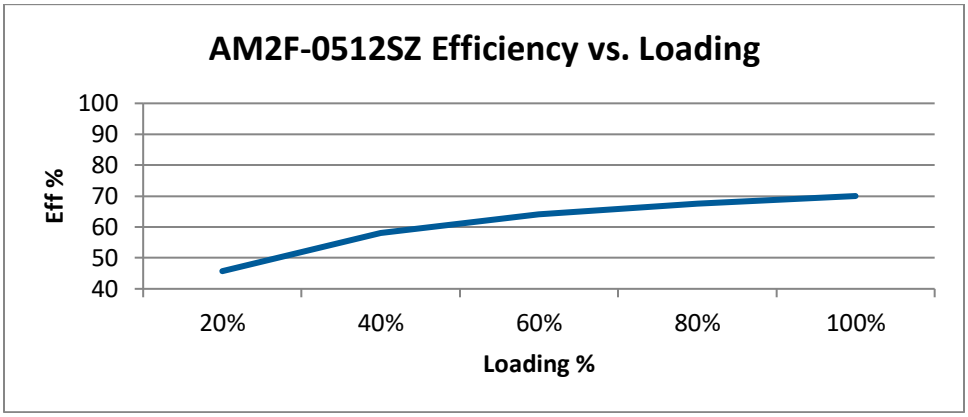
C1	L1
220µF/100V	12µH

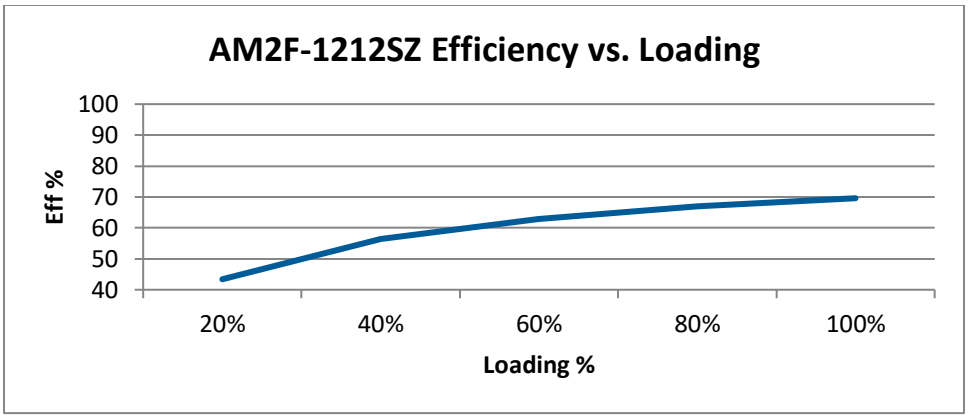
EFT/Surge Application circuit

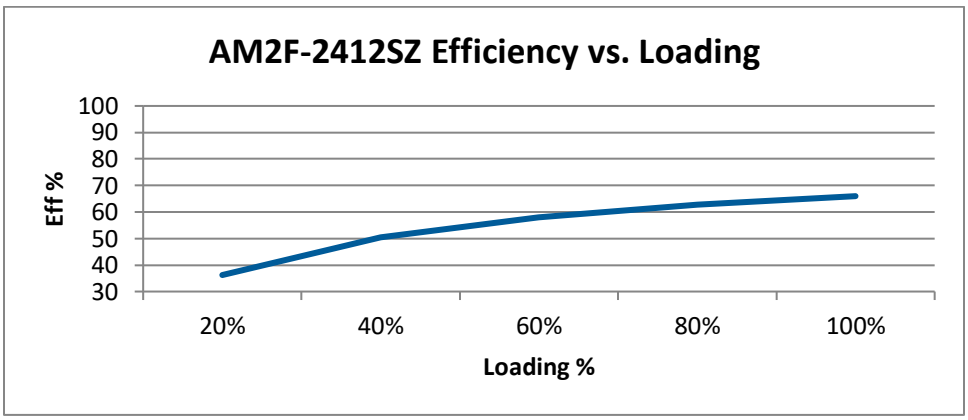


Vin	C1	D1
5VDC	1000µF/50V	TVS, 9V
12VDC		TVS, 14V
24VDC		TVS, 26V

Typical Efficiency Example Charts







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