

AM1SR-JZ







The AM1SR-JZ is a 0.75W SIP4 DC/DC converter that offers great cost savings thanks to an improved manufacturing process. It also features excellent reliability and performance while offering a standard input voltage range of 5-24VDC as well as an output voltage of 3.3-15V. This compact SIP4 design will surely benefit your new system design.

This new series offers great operating temperatures, from -40 to 85°C with full power up to 71°C. Also, an isolation of 1500VDC for improved reliability and system safety as well as a great 3,500,000h MTBF come standard.

The AM1SR-JZ is suitable for instrumentation, industrial controls, communication and IoT applications.

Features



- High I/O Isolation of 1500VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +85 °C
- Industry standard SIP4 pin-out
- Efficiency up to 74%
- Regulated output





Training



Product Training Video (click to open)

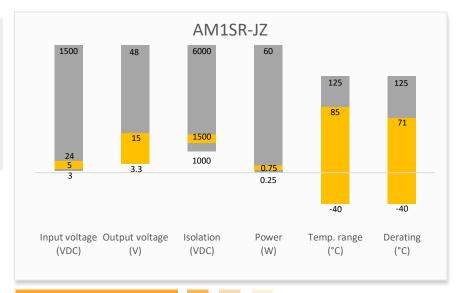


Coming Soon!

Application Notes

Summary





Applications









IoT Industrial

Telecom

Portable Equipment



Models & Specifications



Single Output							
Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current Full No load typ. (mA)	Output Current max min (mA)*	Isolation (VDC)	Maximum capacitive Load (μF)	Efficiency Typ. (%)
AM1SR-0503SJZ	5 (4.75-5.25)	3.3	209 / 5	200 / 20	1500	2400	68
AM1SR-0505SJZ	5 (4.75-5.25)	5	209 / 5	150 / 15	1500	2400	72
AM1SR-0509SJZ	5 (4.75-5.25)	9	208 / 12	83 / 9	1500	1000	72
AM1SR-0512SJZ	5 (4.75-5.25)	12	208 / 12	62 / 7	1500	560	73
AM1SR-0515SJZ	5 (4.75-5.25)	15	202 / 18	50 / 5	1500	560	74
AM1SR-1203SJZ	12 (11.4-12.6)	3.3	92 / 8	200 / 20	1500	2400	68
AM1SR-1205SJZ	12 (11.4-12.6)	5	87 / 8	150 / 15	1500	2400	72
AM1SR-1212SJZ	12 (11.4-12.6)	12	86 / 8	62 / 7	1500	560	73
AM1SR-1215SJZ	12 (11.4-12.6)	15	85 / 8	50 / 5	1500	560	74
AM1SR-2403SJZ	24 (22.8-25.2)	3.3	46 / 8	200 / 20	1500	2400	68
AM1SR-2405SJZ	24 (22.8-25.2)	5	44 / 8	150 / 15	1500	2400	72
AM1SR-2412SJZ	24 (22.8-25.2)	12	43 / 8	62 / 7	1500	560	73
AM1SR-2415SJZ	24 (22.8-25.2)	15	43 / 8	50 / 5	1500	560	74
* Performance will be degraded if the load is not within the output current range.							

Input Specification				
Parameters	Conditions	Typical	Maximum	Units
Filter	Capacitor			
Input reflected ripple current	5Vin models	15		mA
	Other models	30		mA

Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
T-1-11/01	60 sec, leakage ≤ 1mA for all models	>1500		VDC
Tested I/O voltage	1 sec, leakage ≤ 1mA for 5Vin models	>3000		VDC
Resistance	500VDC	>1000		ΜΩ
Capacitance	100kHz/0.1V	20		pF

Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy			±3	%
Line regulation	Per 1% Vin change		±0.25	%
Load regulation	10-100% load, 3.3Vout		±3	%
	10-100% load, others		±2	%
	5Vin models	30	75	mV pk-pk
Ripple & Noise*	12/24Vin, 15Vout models	80	150	mV pk-pk
	12/24Vin, other models	30	100	mV pk-pk
Temperature coefficient		±0.02		%/°C
* Ripple and Noise are measured	d at 20MHz bandwidth. Please refer to the application note for	specific details.		



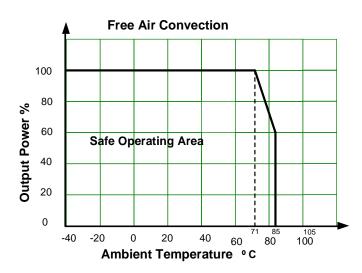
General Specifications			
Conditions	Typical	Maximum	Units
Full load, nominal input, 5Vin models	270		KHz
Full load, nominal input, other models	260		KHz
Continuous, Auto	recovery		
With derating at 71°C	-40 to +85		°C
	-55 to +125		°C
Ambient temperature at 25°C, 5Vin, 5/9/12/15Vout models	25		°C
Ambient temperature at 25°C, other models	30		°C
1.5mm away from case, duration ≤ 10sec		300	°C
Free air convection			
Non-condensing	>5	95	% RH
10-150Hz, 5G, 30Min, along all axis			
Black plastic (flammability to UL 94V-0)			
	1.3		g
	0.46 x 0.24 x 0.40	0 inches (11.60 x 6	i.00 x 10.16 mm)
3 500 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			
	Full load, nominal input, 5Vin models Full load, nominal input, other models Continuous, Auto With derating at 71°C Ambient temperature at 25°C, 5Vin, 5/9/12/15Vout models Ambient temperature at 25°C, other models 1.5mm away from case, duration ≤ 10sec Free air conversions Non-condensing 10-150Hz, 5G, 30Min, Black plastic (flammability)	Full load, nominal input, 5Vin models 270 Full load, nominal input, other models 260 Continuous, Auto recovery With derating at 71°C -40 to +85 -55 to +125 Ambient temperature at 25°C, 5Vin, 5/9/12/15Vout models 25 Ambient temperature at 25°C, other models 30 1.5mm away from case, duration \leq 10sec Free air convection Non-condensing $>$ 5 10-150Hz, 5G, 30Min, along all axis Black plastic (flammability to UL 94V-0) 1.3 0.46 x 0.24 x 0.4	Full load, nominal input, 5Vin models 270 Full load, nominal input, other models 260 Continuous, Auto recovery With derating at 71°C -40 to +85 -55 to +125 Ambient temperature at 25°C, 5Vin, 5/9/12/15Vout models 25 Ambient temperature at 25°C, other models 30 1.5mm away from case, duration \leq 10sec 300 Free air convection Non-condensing >5 95 10-150Hz, 5G, 30Min, along all axis Black plastic (flammability to UL 94V-0) 1.3 0.46 x 0.24 x 0.40 inches (11.60 x 6

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 Specification	ıs		
Parameters			
	Information technology Equipment	Design to meet EN/UL62368 (5Vin models only)	
Standards	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B with the recommended EMI circuit	
	Electrostatic Discharge Immunity	IEC 61000-4-2 Air ±8KV, Contact ±6KV, Criteria B for 5Vin models	
	Liectiostatic discharge infinitinty	IEC 61000-4-2 Contact ±6KV, Criteria B for 12/24Vin models	

Derating

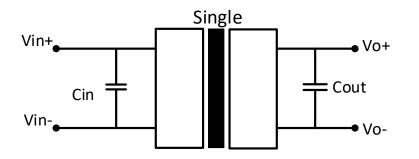






Typical application circuit



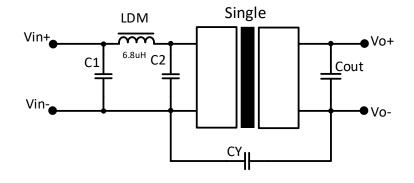


Vin	Cin	Single output models		
VIII	CIII	Vout	Cout	
5V	4.7μF	3.3/5V	10μF/16V	
12V	2.2μF/25V	9V	2.2μF	
24V	1μF/50V	12V	2.2μF/25V	
-	-	15V	1μF/25V	

Recommended EMI circuit

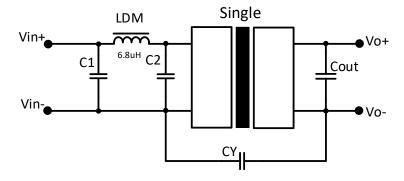


5Vin models



Vout	C1/C2	CY
3.3/5/9V	4.7μF/25V	100pF/4kVdc
12/15V	4.7μF/25V	1nF/4kVdc

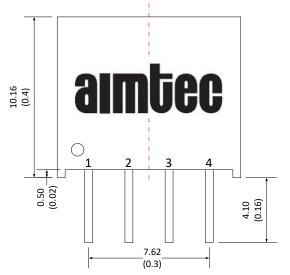
12/15/24Vin models

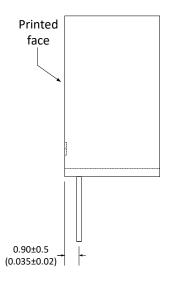


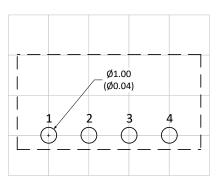
Isolation	C1/C2	СҮ
1.5KV	4.7μF/50V	270pF/2kVdc



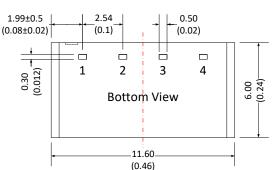
Dimensions







Grid size: 2.54*2.54mm



Note:

Unit: mm(inch)

General tolerance: ±0.25 (0.01) Pin tolerance: ±0.1 (0.004)

Pin Out Specifications		
Pin	Single output	
1	-V Input	
2	+V Input	
3	-V Output	
4	+V Output	

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