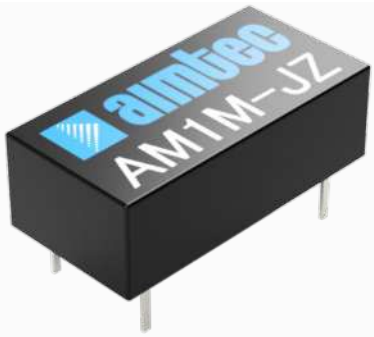
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AM1M-JZ



DIP14 Package

The AM1M-JZ is a 1W DIP14 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 12-24VDC as well as an output voltage of 5-15V. This compact DIP14 design will surely benefit your new system design.

This new series offers great operating temperatures, from -40 to 105°C with full power up to 85°C. Also, an isolation of 3000VDC for improved reliability and system safety as well as a great 3,500,000h MTBF come standard.

The AM1M-JZ is suitable for instrumentation, industrial controls, industrial applications, communication and IoT applications.

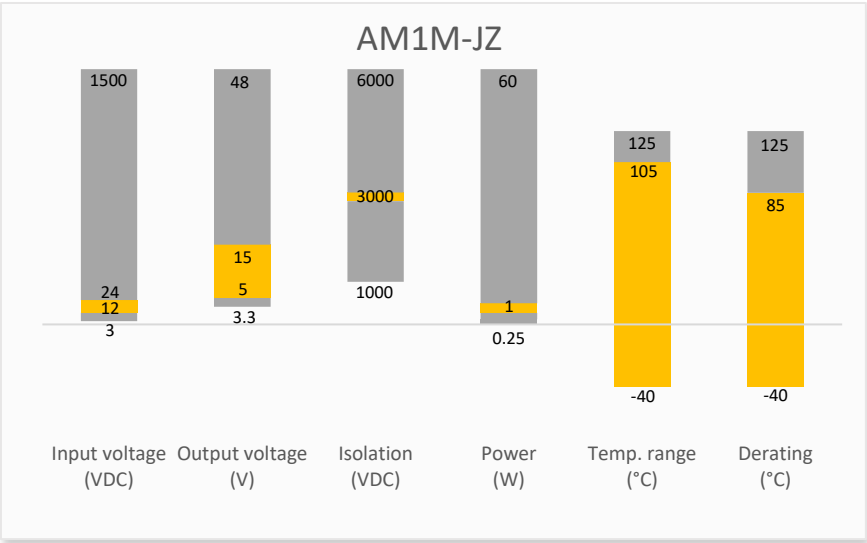
Features

- High I/O Isolation of 3000VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +105 °C
- Industry standard DIP14 pin-out
- Efficiency up to 81%
- Unregulated output

RoHS

3yr Warranty

Summary



Training



Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

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. (%)
AM1M-1205SH30JZ	12 (10.8-13.2)	5	104 / 8	200 / 20	3000	2400	80
AM1M-1212SH30JZ	12 (10.8-13.2)	12	103 / 8	83 / 9	3000	560	81
AM1M-1215SH30JZ	12 (10.8-13.2)	15	103 / 8	67 / 7	3000	560	81
AM1M-1515SH30JZ	15 (13.5-16.5)	15	103 / 8	67 / 7	3000	560	81
AM1M-2405SH30JZ	24 (21.6-26.4)	5	52 / 8	200 / 20	3000	2400	79

* Performance will be degraded if the load is not within the output current range.

Dual 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. (%)
AM1M-1205DH30JZ	12 (10.8-13.2)	±5	104 / 8	±100 / ±10	3000	±1200	80
AM1M-1209DH30JZ	12 (10.8-13.2)	±9	104 / 8	±55 / ±6	3000	±560	80
AM1M-1212DH30JZ	12 (10.8-13.2)	±12	103 / 8	±42 / ±5	3000	±220	81
AM1M-1215DH30JZ	12 (10.8-13.2)	±15	103 / 8	±34 / ±4	3000	±220	81
AM1M-1515DH30JZ	15 (13.5-16.5)	±15	103 / 8	±34 / ±4	3000	±220	81
AM1M-2405DH30JZ	24 (21.6-26.4)	±5	52 / 8	±100 / ±10	3000	±1200	80
AM1M-2409DH30JZ	24 (21.6-26.4)	±9	52 / 8	±55 / ±6	3000	±560	80
AM1M-2412DH30JZ	24 (21.6-26.4)	±12	51 / 8	±42 / ±5	3000	±220	81
AM1M-2415DH30JZ	24 (21.6-26.4)	±15	53 / 8	±34 / ±4	3000	±220	79

* 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		15		mA

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 1mA	>3000		VDC
Resistance	500VDC	>1000		MΩ
Capacitance	100kHz/0.1V	20		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	See output voltage tolerance	10		%
Line regulation	Per 1% Vin change		1.2	%
Load regulation	10-100% load, 5Vout models	5	15	%

	10-100% load, 9/12/15Vout models	3	10	%
Ripple & Noise*		30	75	mV pk-pk
Temperature coefficient		±0.02		%/°C
* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.				

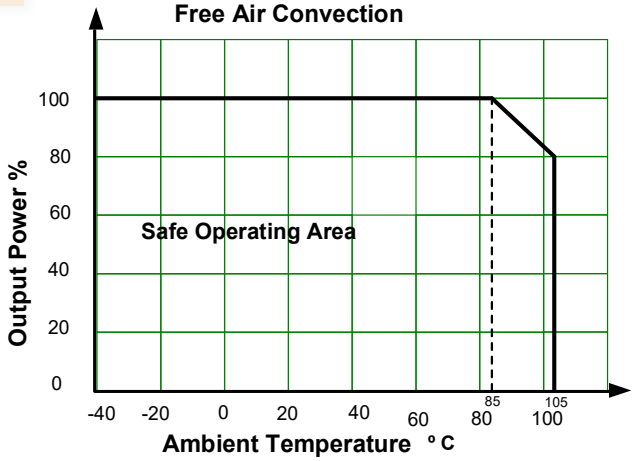
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	Full load, nominal input	260		KHz
Short circuit protection	Continuous, Auto recovery			
Operating temperature	With derating	-40 to +105		°C
Storage temperature		-55 to +125		°C
Case temperature rise	Ta = 25°C	25		°C
Manual soldering temperature	1.5mm away from case, duration ≤ 10sec		300	°C
Cooling	Free air convection			
Humidity	Non-condensing	>5	95	% RH
Vibration	10-150Hz, 5G, 0.75mm, along all axis			
Case material	Black plastic (flammability to UL 94V-0)			
Weight		2.4		g
Dimensions (L x W x H)	0.46 x 0.30 x 0.40 inches (20.00 x 10.00 x 7.00 mm)			
MTBF	3 500 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			
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.				

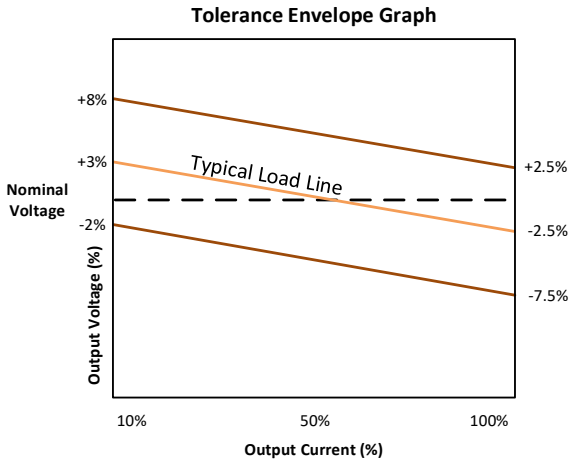
Safety Specifications

Parameters		
Standards	Designed to meet UL62368-1	
	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

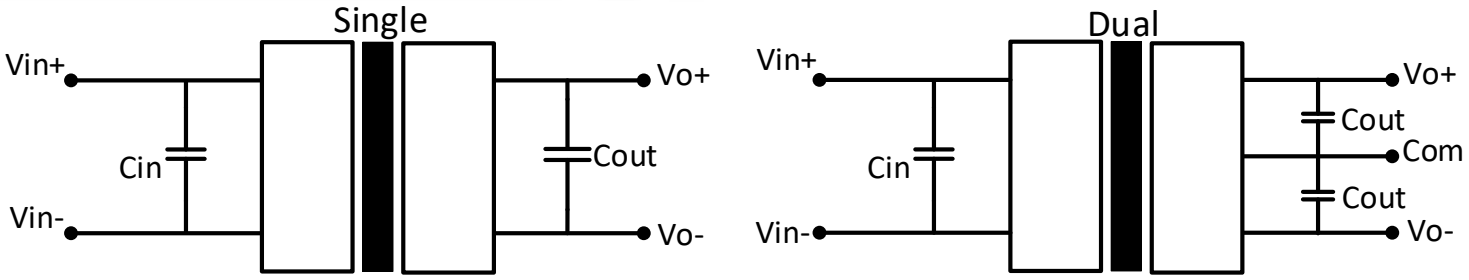
Derating



Output voltage tolerance

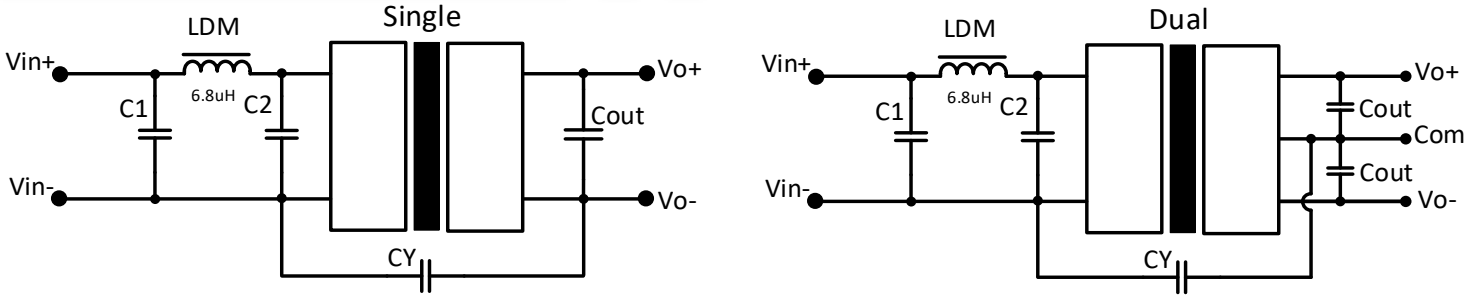


Typical application circuit



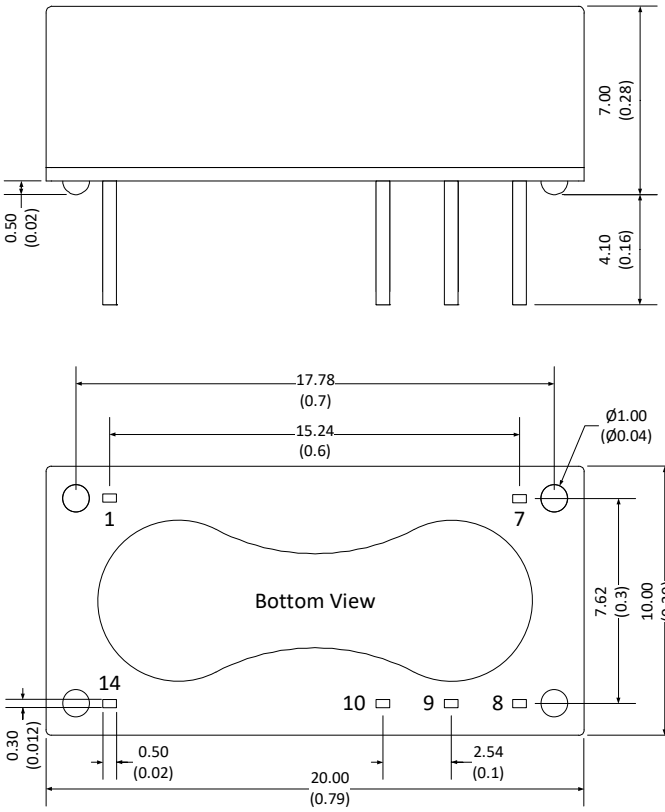
Vin	Cin	Single output models		Dual output models	
		Vout	Cout	Vout	Cout
12	2.2μF/25V	5V	10μF/16V	±5V	4.7μF/16V
15	2.2μF/25V	9V	2.2μF/25V	±9V	1μF/25V
24	1μF/50V	12V	2.2μF/25V	±12V	1μF/25V
-	-	15V	1μF/25V	±15V	0.47μF/25V

Recommended EMI circuit



Vin	C1/C2	Vout	CY	Cout
12V/15V/24V	4.7μF/50V	All output	270pF/3kVdc	Refer to Cout in typical circuit

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	3KV isolation models	
	Single output	Dual output
1	-V Input	-V Input
7	NC	NC
8	+V Output	+V Output
9	No pin	Com
10	-V Output	-V Output
14	+V Input	+V Input

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