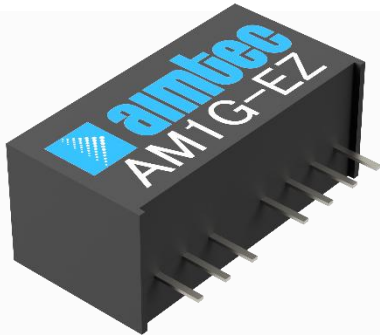


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AM1G-EZ



SIP8 Package

The AM1G-EZ is a 1W SIP8 DC/DC converter that offers great cost savings thanks to an improved manufacturing process. It also features excellent reliability and performance while offering a wide input voltage range of 5-72VDC as well as an output voltage of -24 to 24V. This compact SIP8 design will surely benefit your new system design.

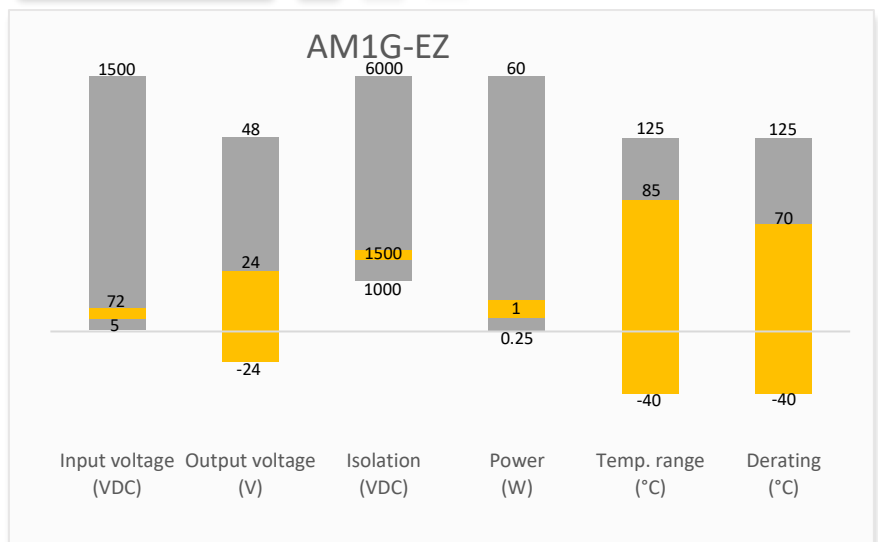
This new series offers a great operating temperature range from -40 to 85°C. Also, an isolation of 1500VDC for improved reliability and system safety as well as a great 1,500,000h MTBF come standard.

The AM1G-EZ is suitable for many applications such as industrial systems, portable equipment, and internet of things.

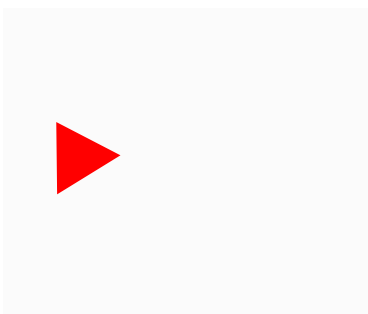
Features

- I/O Isolation of 1500VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +85 °C
- Industry standard SIP8 pin-out
- Regulated output
- Made in Taiwan

Summary



Training



Product Training Video
(click to open)



Press Release

Coming Soon!

Application Notes

Applications



Industrial



Portable Equipment



IoT

Models & Specifications

Single Output					
Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max (mA)	Isolation (VDC)	Efficiency Typ. (%)
AM1G-0505SEZ	5 (5-9)	5	200	1500	60
AM1G-0509SEZ	5 (5-9)	9	111	1500	70
AM1G-0512SEZ	5 (5-9)	12	84	1500	70
AM1G-0515SEZ	5 (5-9)	15	67	1500	70
AM1G-0524SEZ	5 (5-9)	24	42	1500	70
AM1G-1205SEZ	12 (9-18)	5	200	1500	70
AM1G-1209SEZ	12 (9-18)	9	111	1500	80
AM1G-1212SEZ	12 (9-18)	12	84	1500	80
AM1G-1215SEZ	12 (9-18)	15	67	1500	80
AM1G-1224SEZ	12 (9-18)	24	42	1500	80
AM1G-2405SEZ	24 (18-36)	5	200	1500	75
AM1G-2409SEZ	24 (18-36)	9	111	1500	80
AM1G-2412SEZ	24 (18-36)	12	84	1500	80
AM1G-2415SEZ	24 (18-36)	15	67	1500	80
AM1G-2424SEZ	24 (18-36)	24	42	1500	80
AM1G-4805SEZ	48 (36-72)	5	200	1500	70
AM1G-4809SEZ	48 (36-72)	9	111	1500	80
AM1G-4812SEZ	48 (36-72)	12	84	1500	80
AM1G-4815SEZ	48 (36-72)	15	67	1500	80
AM1G-4824SEZ	48 (36-72)	24	42	1500	80

Dual Output					
Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max (mA)	Isolation (VDC)	Efficiency Typ. (%)
AM1G-0505DEZ	5 (5-9)	±5	±100	1500	60
AM1G-0509DEZ	5 (5-9)	±9	±56	1500	70
AM1G-0512DEZ	5 (5-9)	±12	±42	1500	70
AM1G-0515DEZ	5 (5-9)	±15	±34	1500	70
AM1G-0524DEZ	5 (5-9)	±24	±21	1500	70
AM1G-1205DEZ	12 (9-18)	±5	±100	1500	70
AM1G-1209DEZ	12 (9-18)	±9	±56	1500	80
AM1G-1212DEZ	12 (9-18)	±12	±42	1500	80
AM1G-1215DEZ	12 (9-18)	±15	±34	1500	80
AM1G-1224DEZ	12 (9-18)	±24	±21	1500	80
AM1G-2405DEZ	24 (18-36)	±5	±100	1500	75
AM1G-2409DEZ	24 (18-36)	±9	±56	1500	80
AM1G-2412DEZ	24 (18-36)	±12	±42	1500	80
AM1G-2415DEZ	24 (18-36)	±15	±34	1500	80
AM1G-2424DEZ	24 (18-36)	±24	±21	1500	80
AM1G-4805DEZ	48 (36-72)	±5	±100	1500	70
AM1G-4809DEZ	48 (36-72)	±9	±56	1500	80
AM1G-4812DEZ	48 (36-72)	±12	±42	1500	80
AM1G-4815DEZ	48 (36-72)	±15	±34	1500	80
AM1G-4824DEZ	48 (36-72)	±24	±21	1500	80

Input Specification				
Parameters	Conditions	Typical	Maximum	Units
Filter	Capacitor			
Voltage Types	Vo, Io Nom		2:1	

Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage \leq 1mA	1500		VDC
Resistance	500VDC	>1000		M Ω

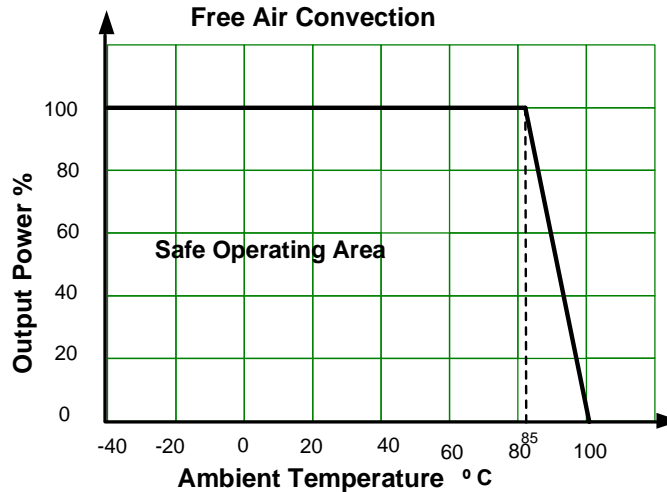
Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	100% Full Load		\pm 3	%
Line Regulation	Regulated		\pm 0.5	%
Load regulation	Regulated		\pm 0.8	%
Ripple & Noise*	5V, 9V output models		100	mV p-p
	12V output model		120	mV p-p
	15V output model		150	mV p-p
	24V output model		240	mV p-p

* 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	100% load, nominal input voltage	100		KHz
Short circuit protection	Continuous			
Operating temperature		-40 to +85		$^{\circ}$ C
Cooling	Free air convection			
Humidity	Non-condensing	>5	95	% RH
Case material	Black plastic (flammability to UL 94V-0)			
Weight		4.5		g
Dimensions (L x W x H)	0.86 x 0.36 x 0.44 inches (21.80 x 9.20 x 11.10 mm)			
MTBF	1 500 000 hrs (MIL-HDBK -217F, t=+25 $^{\circ}$ C) / Full Load			

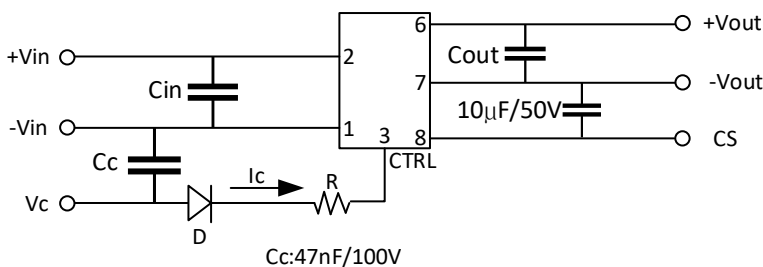
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25 $^{\circ}$ C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Derating



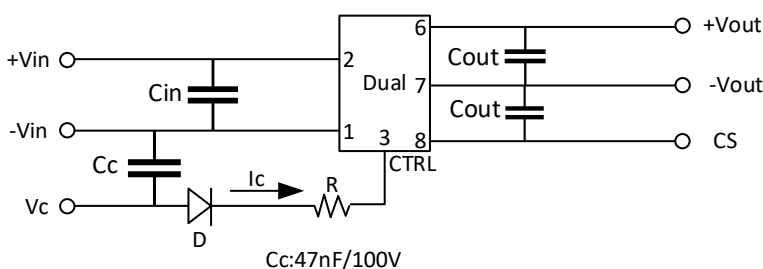
Typical application circuit

Single output



Single Vin	Cin	Single Vout	Cout
5VDC	10 μ F/25V	5VDC	100 μ F/25V
12VDC	10 μ F/50V	9VDC	100 μ F/25V
24VDC	10 μ F/100V	12VDC	100 μ F/25V
48VDC	10 μ F/100V	15VDC	100 μ F/50V
		24VDC	100 μ F/50V

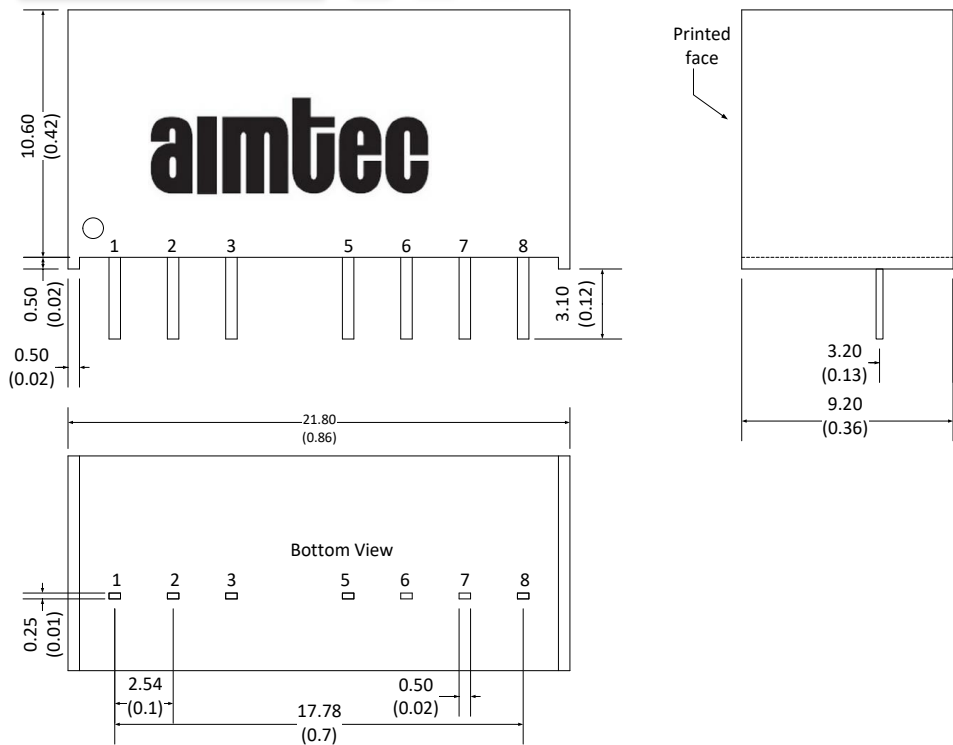
Dual output



Dual Vin	Cin	Dual Vout	Cout
5VDC	10 μ F/25V	\pm 5VDC	100 μ F/25V
12VDC	10 μ F/50V	\pm 9VDC	100 μ F/25V
24VDC	10 μ F/100V	\pm 12VDC	100 μ F/25V
48VDC	10 μ F/100V	\pm 15VDC	100 μ F/50V
		\pm 24VDC	100 μ F/50V

1. When open or high impedance, the converter works well; when this pin is 'high', the converter shut down. The input current should be between 5-10mA, exceeding the maximum 20mA will cause permanent damage to the converter.
2. To make sure the product works at perfect operation status with full loading external capacitor is necessary and it is recommended to use high frequency low resistance electrolytic capacitor.

Dimensions



Pin Out Specifications		
Pin	Single output	Dual output
1	-V Input	-V Input
2	+V Input	+V Input
3	Ctrl-Control input (can be left open)	Ctrl-Control input (can be left open)
5	N.C.	N.C.
6	+V Output	+V Output
7	-V Output	Common
8	CS	-V Output

Note:

Unit: mm

General tolerances: ± 0.5

NOTE: 1. Datasheets are updated as needed and as such, specifications are subject to change without notice. Once printed or downloaded, datasheets are no longer controlled by Aimtec; refer to www.aimtec.com for the most current product specifications. 2. Product labels shown, including safety agency certifications on labels, may vary based on the date manufactured. 3. Mechanical drawings and specifications are for reference only. 4. All specifications are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified. 5. Aimtec may not have conducted destructive testing or chemical analysis on all internal components and chemicals at the time of publishing this document. CAS numbers and other limited information are considered proprietary and may not be available for release. 6. This product is not designed for use in critical life support systems, equipment used in hazardous environments, nuclear control systems or other such applications which necessitate specific safety and regulatory standards other the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.