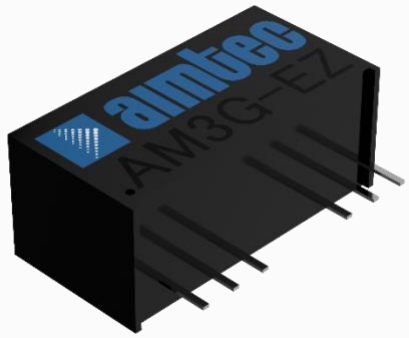
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AM3G-EZ



SIP8 Package

The AM3G-EZ is a 3W 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 9-72VDC as well as an output voltage of -15 to 15V. 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 3000VDC for improved reliability and system safety as well as a great 1,500,000h MTBF come standard.

The AM3G-EZ is suitable for many applications such as industrial systems, portable equipment, and internet of things.

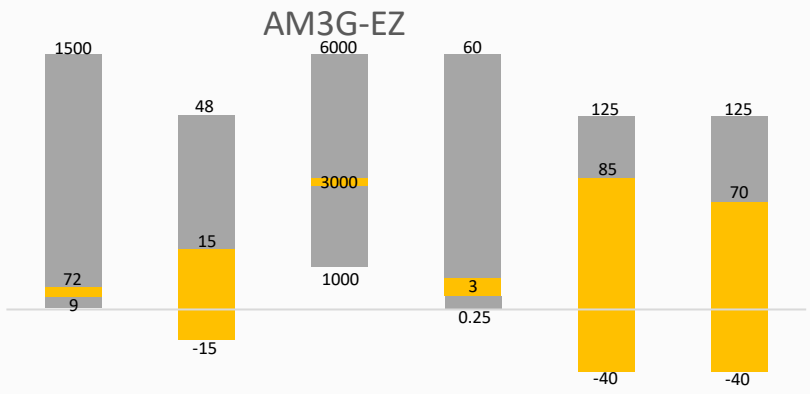
Features

- High I/O Isolation of 3000VDC
- Continuous Short circuit protection
- Operating Temp: -40 °C to +85 °C
- Industry standard SIP8 pin-out
- Regulated output
- Made in Taiwan

RoHS

3yr Warranty

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 (VAC/VDC)	Efficiency Typ. (%)
AM3G-1203SEZ	12 (9-18)	3.3	909	1500	70
AM3G-1205SEZ	12 (9-18)	5	600	1500	70
AM3G-1209SEZ	12 (9-18)	9	333	1500	75
AM3G-1212SEZ	12 (9-18)	12	250	1500	78
AM3G-1215SEZ	12 (9-18)	15	200	1500	80
AM3G-2403SEZ	24 (18-36)	3.3	700	1500	68
AM3G-2405SEZ	24 (18-36)	5	600	1500	70
AM3G-2409SEZ	24 (18-36)	9	333	1500	75
AM3G-2412SEZ	24 (18-36)	12	250	1500	78
AM3G-2415SEZ	24 (18-36)	15	200	1500	80
AM3G-4803SEZ	48 (36-72)	3.3	700	1500	68
AM3G-4805SEZ	48 (36-72)	5	600	1500	70
AM3G-4809SEZ	48 (36-72)	9	333	1500	75
AM3G-4812SEZ	48 (36-72)	12	250	1500	78
AM3G-4815SEZ	48 (36-72)	15	200	1500	80
AM3G-1203SH30EZ	12 (9-18)	3.3	909	3000	70
AM3G-1205SH30EZ	12 (9-18)	5	600	3000	70
AM3G-1209SH30EZ	12 (9-18)	9	333	3000	75
AM3G-1212SH30EZ	12 (9-18)	12	250	3000	78
AM3G-1215SH30EZ	12 (9-18)	15	200	3000	80
AM3G-2403SH30EZ	24 (18-36)	3.3	700	3000	68
AM3G-2405SH30EZ	24 (18-36)	5	600	3000	70
AM3G-2409SH30EZ	24 (18-36)	9	333	3000	75
AM3G-2412SH30EZ	24 (18-36)	12	250	3000	78
AM3G-2415SH30EZ	24 (18-36)	15	200	3000	80
AM3G-4803SH30EZ	48 (36-72)	3.3	700	3000	68
AM3G-4805SH30EZ	48 (36-72)	5	600	3000	70
AM3G-4809SH30EZ	48 (36-72)	9	333	3000	75
AM3G-4812SH30EZ	48 (36-72)	12	250	3000	78
AM3G-4815SH30EZ	48 (36-72)	15	200	3000	80

Dual Output					
Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max (mA)*	Isolation (VDC)	Efficiency Typ. (%)
AM3G-1205DEZ	12 (9-18)	±5	±300	1500	70
AM3G-1209DEZ	12 (9-18)	±9	±167	1500	75
AM3G-1212DEZ	12 (9-18)	±12	±125	1500	78
AM3G-1215DEZ	12 (9-18)	±15	±100	1500	80
AM3G-2405DEZ	24 (18-36)	±5	±300	1500	70
AM3G-2409DEZ	24 (18-36)	±9	±167	1500	75
AM3G-2412DEZ	24 (18-36)	±12	±125	1500	78
AM3G-2415DEZ	24 (18-36)	±15	±100	1500	80
AM3G-4805DEZ	48 (36-72)	±5	±300	1500	70

AM3G-4809DEZ	48 (36-72)	±9	±167	1500	75
AM3G-4812DEZ	48 (36-72)	±12	±125	1500	78
AM3G-4815DEZ	48 (36-72)	±15	±100	1500	80
AM3G-1205DH30EZ	12 (9-18)	±5	±300	3000	70
AM3G-1209DH30EZ	12 (9-18)	±9	±167	3000	75
AM3G-1212DH30EZ	12 (9-18)	±12	±125	3000	78
AM3G-1215DH30EZ	12 (9-18)	±15	±100	3000	80
AM3G-2405DH30EZ	24 (18-36)	±5	±300	3000	70
AM3G-2409DH30EZ	24 (18-36)	±9	±167	3000	75
AM3G-2412DH30EZ	24 (18-36)	±12	±125	3000	78
AM3G-2415DH30EZ	24 (18-36)	±15	±100	3000	80
AM3G-4805DH30EZ	48 (36-72)	±5	±300	3000	70
AM3G-4809DH30EZ	48 (36-72)	±9	±167	3000	75
AM3G-4812DH30EZ	48 (36-72)	±12	±125	3000	78
AM3G-4815DH30EZ	48 (36-72)	±15	±100	3000	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 ≤ 1mA, other models	1500		VDC
	60 sec, leakage ≤ 1mA, H30 models	3000		VDC
Resistance	500VDC	>1000		MΩ

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	100% Full Load		±3	%
Line Regulation	Regulated		±0.5	%
Load regulation	Regulated		±0.8	%
Ripple & Noise*	3.3V, 5V, 9V output models		100	mV p-p
	12V output model		120	mV p-p
	15V output model		150	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	Derating when operating temperature ≥70°C	-40 to +85		°C
Cooling	Free air convection			
Humidity	Non-condensing	>5	95	% RH
Case material	DAP			
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)			

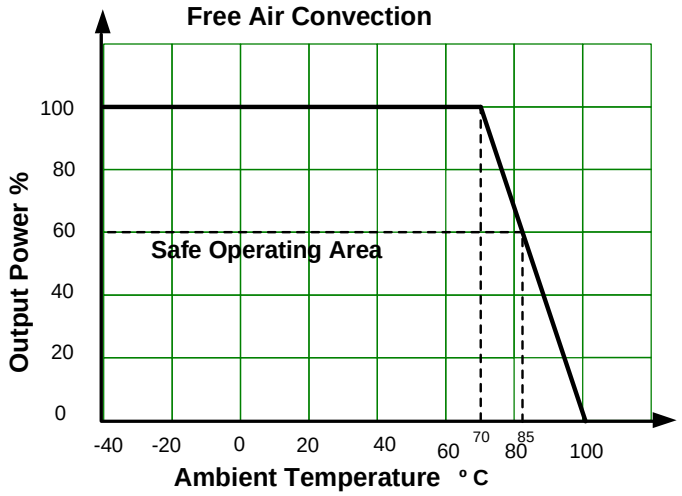
MTBF	1 500 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load

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.

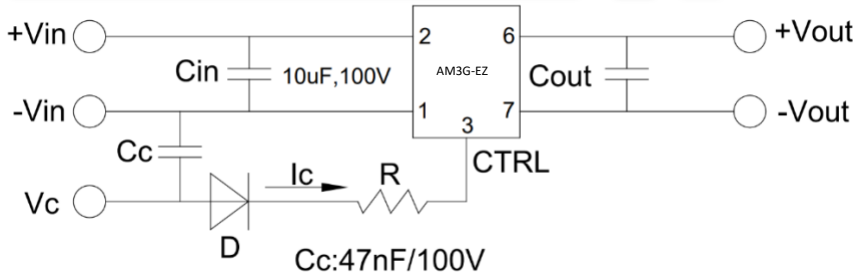
Safety Specifications

Parameters		
Standards	EN62368-1	
	EMI - Conducted and radiated emission	CISPR32/EN55032 Class B
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2, Contact ±4KVperf. Criteria B
	RF, Electromagnetic Field Immunity	IEC/EN 61000-4-3, 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC/EN 61000-4-4, ±2KV with recommended EMC circuit A, Criteria B
	Surge Immunity	IEC/EN 61000-4-5, ±2KV, Criteria B
	RF, Conducted Disturbance Immunity	IEC/EN 61000-4-6, 3 Vr.m.s, Criteria A

Derating



Typical application circuit

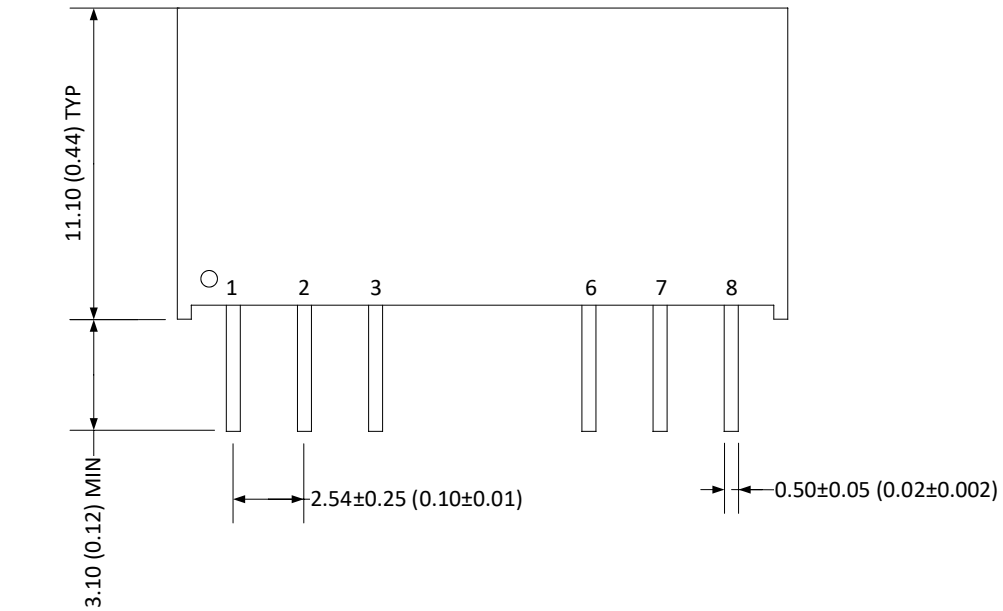


1. When open or high impedance, the converter works well; when this pin is 'high', the converter shut down. The input current should be between 5-10mA, exceeding the maximum 20mA will cause permanent damage to the converter.
2. To make sure the product works at perfect operation status with full loading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

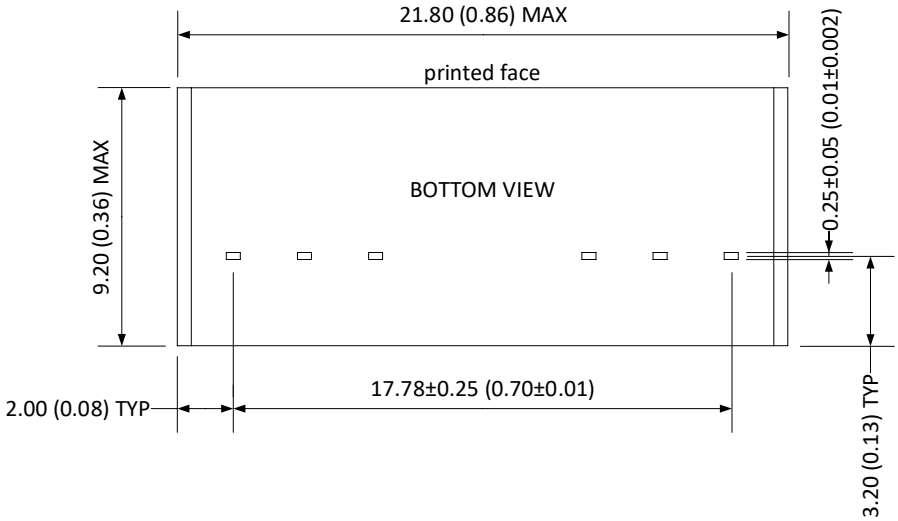
Single Vout	Cout
3.3VDC	100μF/25V
5VDC	100μF/25V
9VDC	100μF/25V
12VDC	100μF/25V
15VDC	100μF/50V

Dual Vout	Cout
±5VDC	100μF/25V
±9VDC	100μF/25V
±12VDC	100μF/25V
±15VDC	100μF/50V

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)
6	+V Output	+V Output
7	-V Output	Common
8	NC	-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.