

Series AM2GW-Z

2 Watt | DC-DC Converter



FEATURES:

- SIP9 Package
- Low Ripple and Noise
- Continuous Short Circuit Protection
- -40°C to +85°C Operating Temperature Range
- Ultra-Wide Input Range 4:1
- 1500VDC I/O Isolation
- Efficiency up to 85%
- Remote ON / OFF Control



Models Single output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Maximum Capacitive Load (μF)	Input Current Full Load No Load (mA)		Efficiency (%)
AM2GW-2403SZ	9-36	3.3	500	2200	92	10	75
AM2GW-2405SZ	9-36	5	400	1000	103	10	81
AM2GW-2412SZ	9-36	12	165	165	100	10	84
AM2GW-2415SZ	9-36	15	135	100	98	10	85
AM2GW-4803SZ	18-75	3.3	500	2200	46	5	75
AM2GW-4805SZ	18-75	5	400	1000	53	5	80
AM2GW-4812SZ	18-75	12	165	165	50	5	84
AM2GW-4815SZ	18-75	15	135	100	50	5	84

Models Dual output

Model	Input Voltage (V)	Output Voltage (V)	Output Current Max (mA)	Maximum Capacitive Load (μF)	Input Current Full Load No Load (mA)		Efficiency (%)
AM2GW-2405DZ	9-36	±5	±200	±470	103	10	81
AM2GW-2412DZ	9-36	±12	±85	±100	101	10	83
AM2GW-2415DZ	9-36	±15	±65	±47	102	15	82
AM2GW-4805DZ	18-75	±5	±200	±470	53	5	80
AM2GW-4812DZ	18-75	±12	±85	±100	52	5	81
AM2GW-4815DZ	18-75	±15	±65	±47	50	5	84

Input Specifications

Parameters	Nominal	Typical	Maximum	Units
Voltage range	24 48	9-36 18-75		VDC
Filter		Capacitor		
Start up time		10		ms
Absolute Maximum Rating	24Vin 48Vin		50 100	VDC
Peak Input Voltage time			100	ms
On/Off Control	ON: 0 to 0.6VDC (or open) ; OFF: 2.7 to 15.0VDC ,OFF: idle current: 5mA, max			
Input reflected ripple current		20		mA p-p

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		1500	VDC
Resistance		>1000		MOhm
Capacitance		500		pF

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±1		%
Cross Regulation (Dual Output Models)	25% load on output - 100% load 2 nd output	±5		%
Short Circuit protection	Hiccup		Continuous	
Short circuit restart	Auto-Recovery			
Transient Response Deviation		±3		%
Transient Recovery Time		300		µs
Line voltage regulation	LL~HL	±0.5		%
Load voltage regulation	From 10% to 100% load	±0.5		%
	From 0% to 100% load 12Vout and 15Vout	±0.5		
	From 0% to 100% load 3.3Vout and 5Vout	±1		
Ripple & Noise	20MHz Bandwidth	50		mV p-p

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	250		KHz
Operating temperature	-40 to +85			°C
Storage temperature	-40 to +125			°C
Temperature coefficient		±0.02		%/°C
Maximum case temperature			100	°C
Derating	Above 75°C	3.5		%/°C
Cooling	Free Air Convection			
Humidity			95	% RH
Case material	Non conductive black plastic			
Potting Material	Epoxy (UL94V-0 rated)			
Weight	6.5			g
Dimensions (L x W x H)	1.02 x 0.36 x 0.49 inches 26.00 x 9.30 x 12.50 mm			
MTBF	>1,212,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25°C)			
Max Soldering Temperature	1.5mm from case 10 second		260	°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.

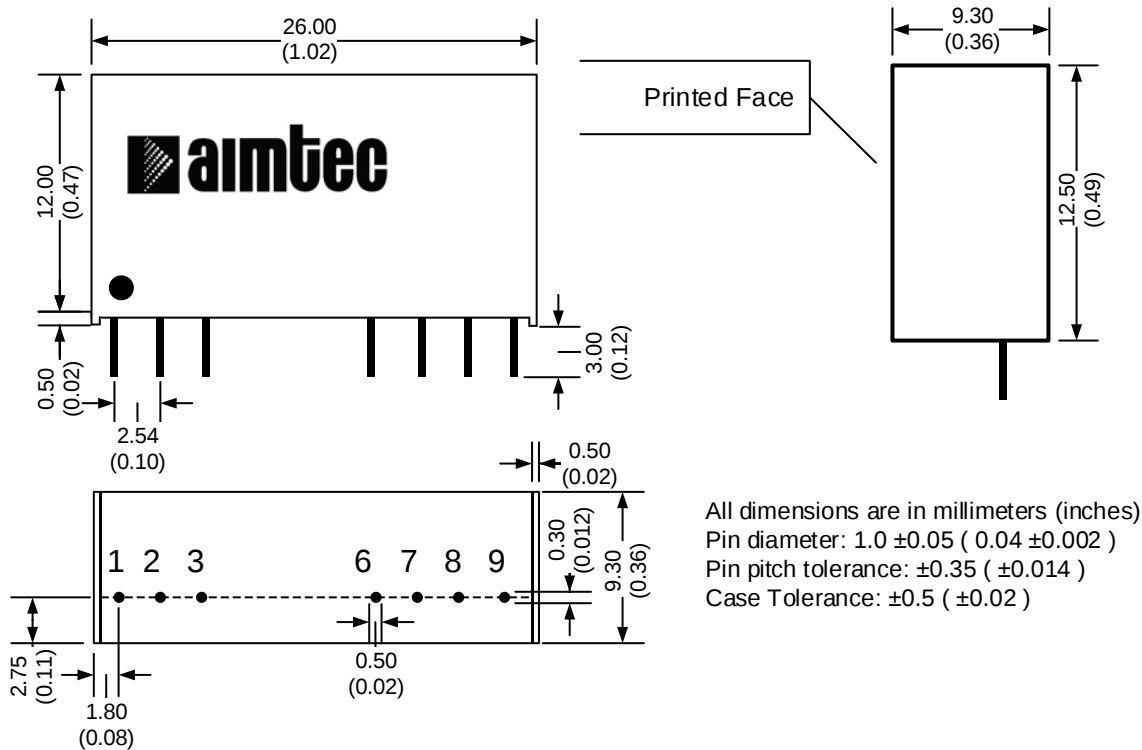
Safety Specifications

Parameters	
Agency Approval	CE, UL
Standards	UL60950-1:2001; UL62368-1
	EN55032 Class A,
	IEC61000-4-2, Perf. Criteria B
	IEC61000-4-3, Perf. Criteria A
	IEC61000-4-4, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-5, Perf. Criteria B (external 220uF/100V cap required)
	IEC61000-4-6, Perf. Criteria A
	IEC61000-4-8, Perf. Criteria A

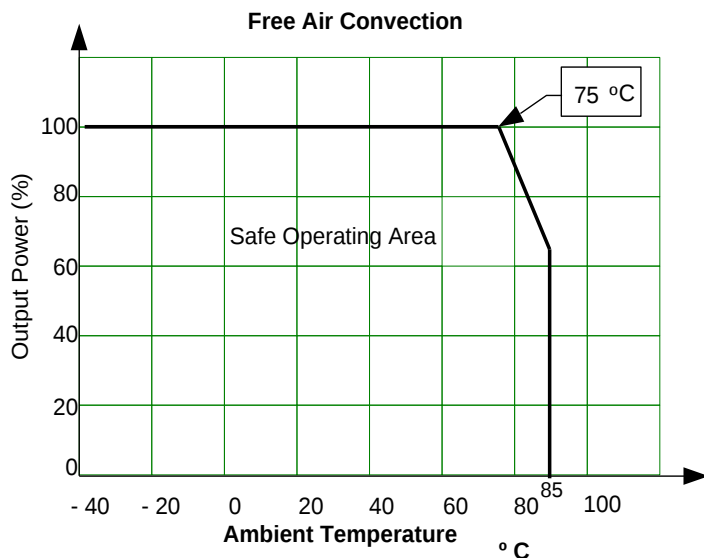
Pin Out Specifications

Pin	Single	Dual
1	- V Input	- V Input
2	+ V Input	+ V Input
3	On/Off Control	On/Off Control
6	+ V Output	+ V Output
7	NC	Common
8	NC	NC
9	- V Output	-V Output

Dimensions

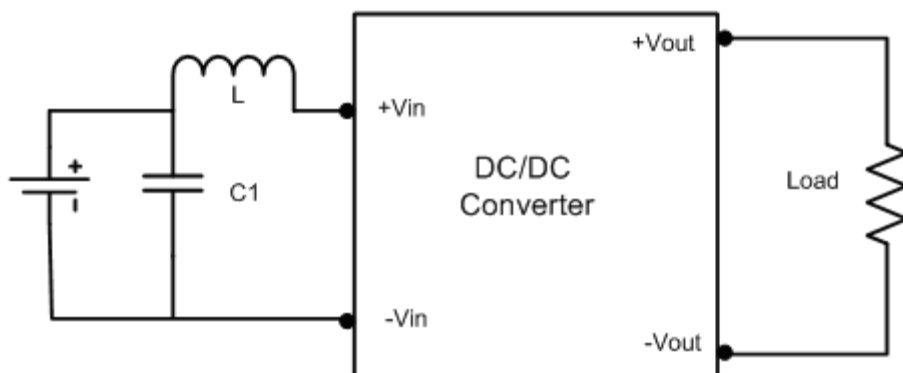


Derating



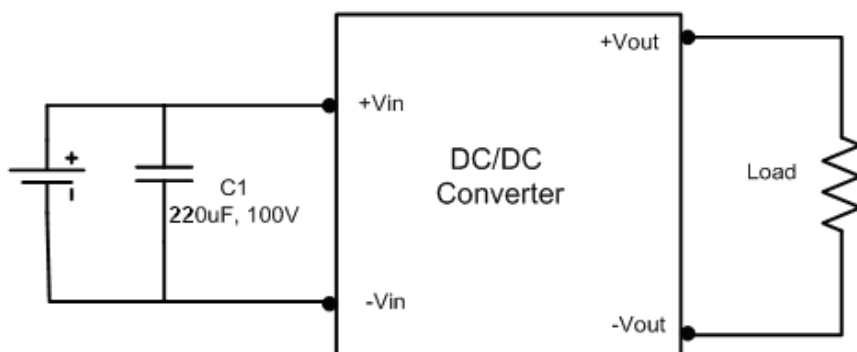
Test Circuits

Conducted Emissions:

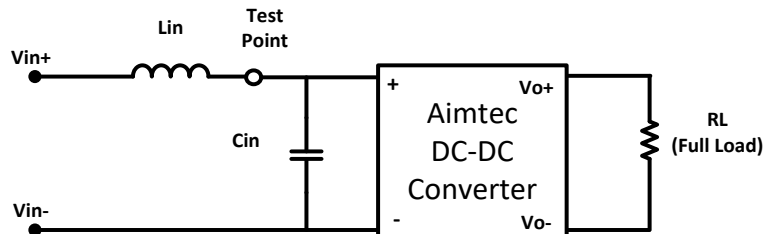


Models	C1	L1
AM2GW-24XX-Z	1210,225K/100V,X7R, 2pcs	6.8 μ H
AM2GW-48XX-Z	1210,105k/100V,X7R	56 μ H

Surge:



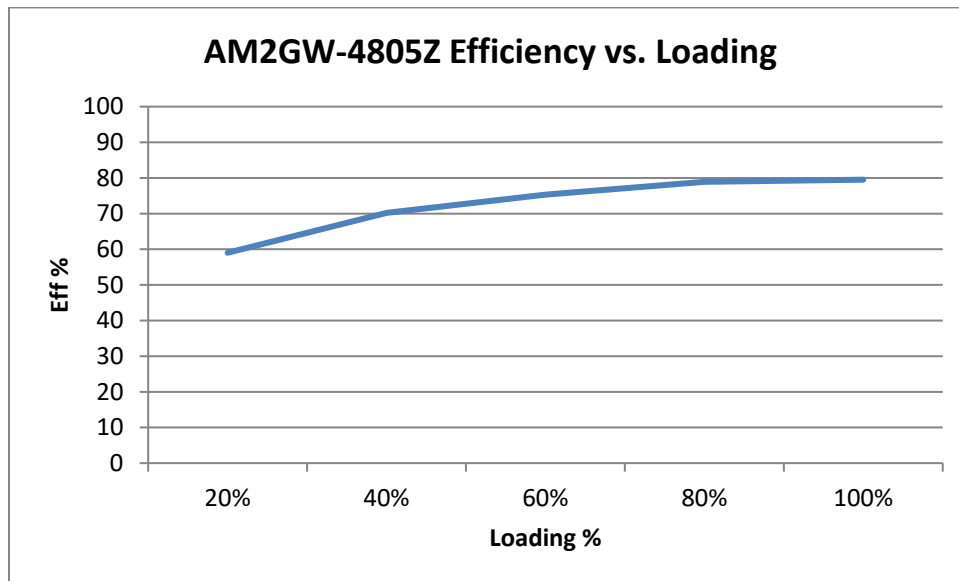
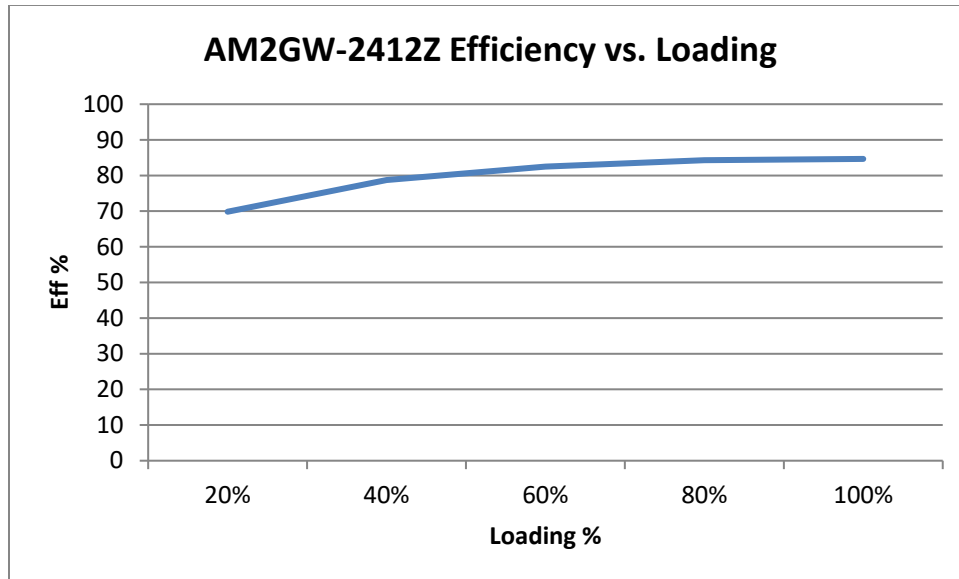
Input Reflected Ripple current:



Lin	12 μ H
Cin	47 μ F, ESR<1 Ω at 100KHz

Measurement taken at nominal input and full load.

Typical Efficiency Example Charts



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.