



### 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	24V <sub>in</sub> 48V <sub>in</sub>		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

\* The input reflected ripple current should be measured with a 12μH inductor and a 47μF input capacitor (ESR<1Ω at 100 KHz)

### 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	25% load on output - 100% load 2 <sup>nd</sup> 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 12V <sub>out</sub> and 15V <sub>out</sub>		±0.5	%
	From 0% to 100% load 3.3V <sub>out</sub> and 5V <sub>out</sub>		±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	4		%/°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 <sub>a</sub> =+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.

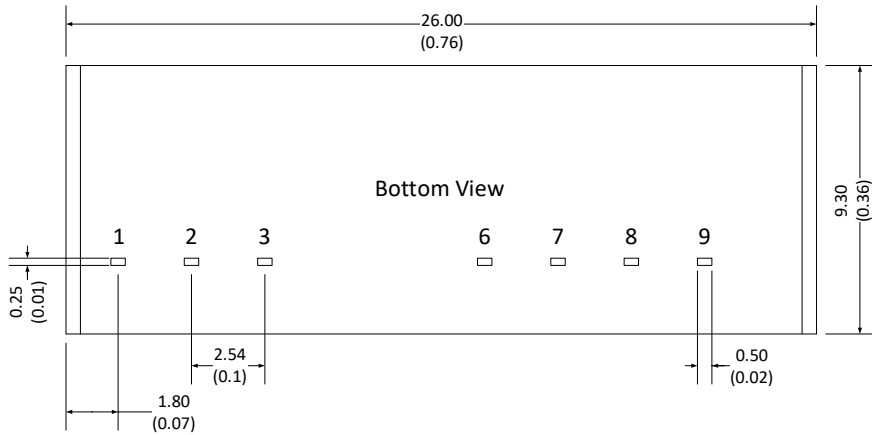
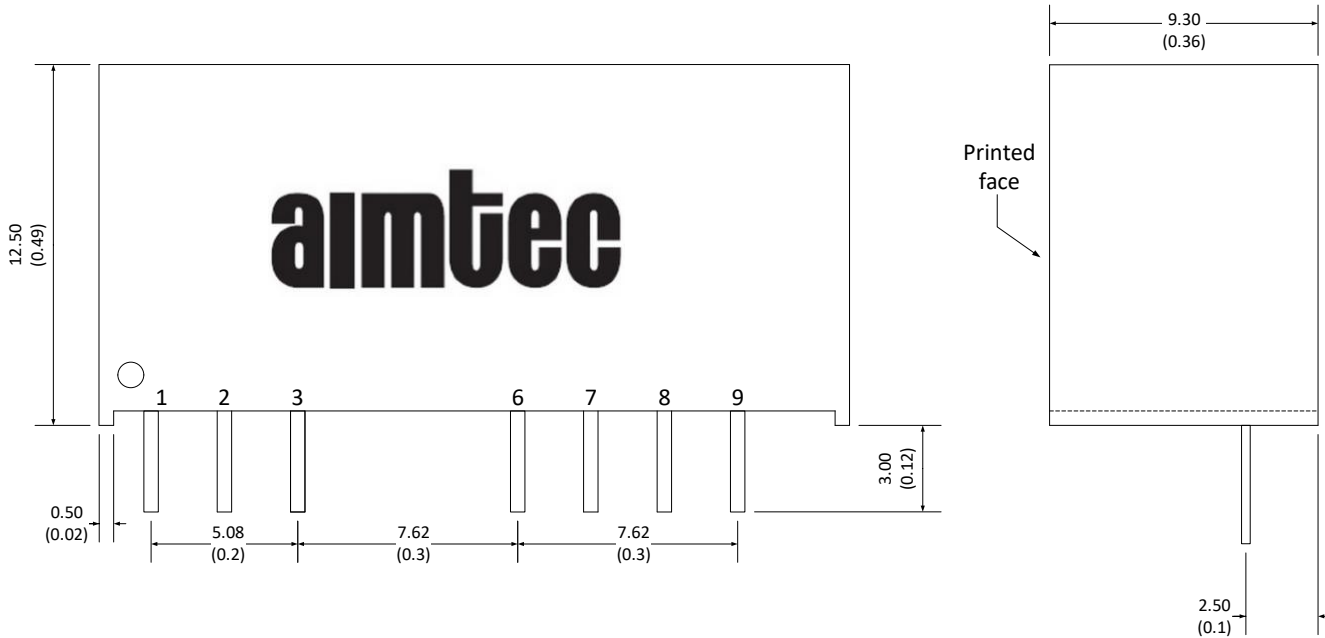
## Safety Specifications

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

## Pin Out Specifications

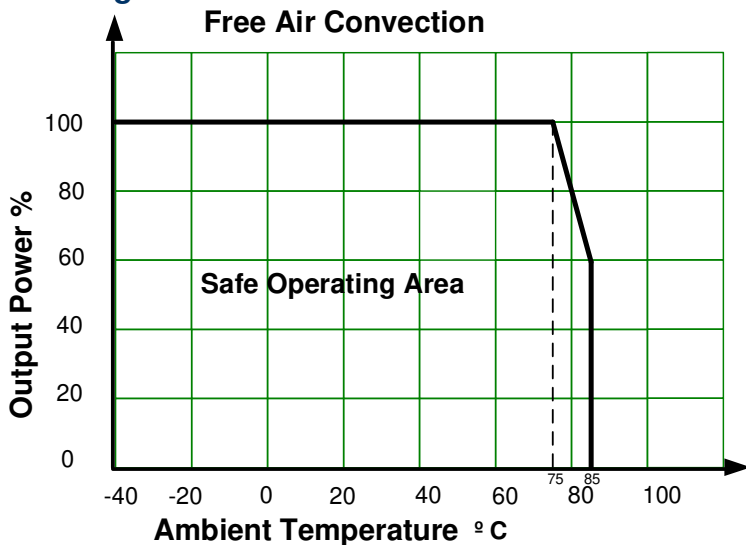
Pin	Single	Dual
1	- V Input	- V Input
2	+ V Input	+ V Input
3	On/Off Control	On/Off Control
6	+ V Output	+ V Output
7	NC	Common
8	NC	NC
9	- V Output	-V Output

**Dimensions**

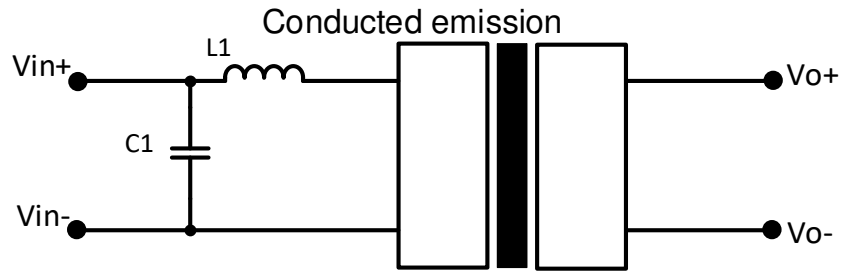


Note:  
Unit: mm(inch)  
Pin pitch and length tolerance:  $\pm 0.35\text{mm}$  ( $\pm 0.014$ )  
Case tolerance:  $\pm 0.50\text{mm}$  ( $\pm 0.02$ )

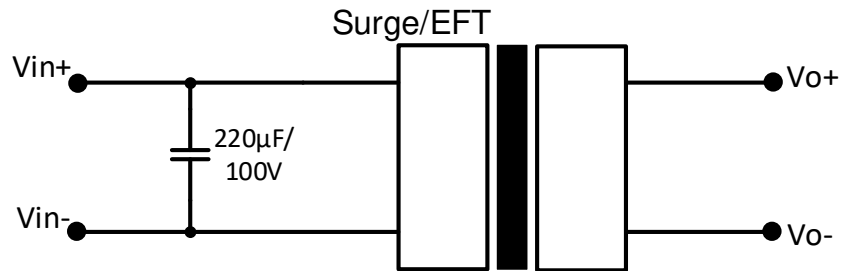
**Derating**



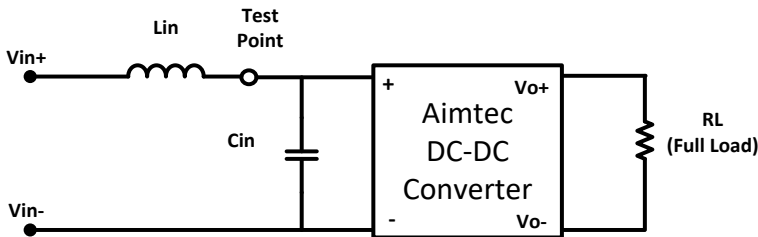
### Recommended Circuits



Vin	C1	L1
24	2.2 $\mu$ F/100V, 2pcs	6.8 $\mu$ H
48	1 $\mu$ F/100V	56 $\mu$ H



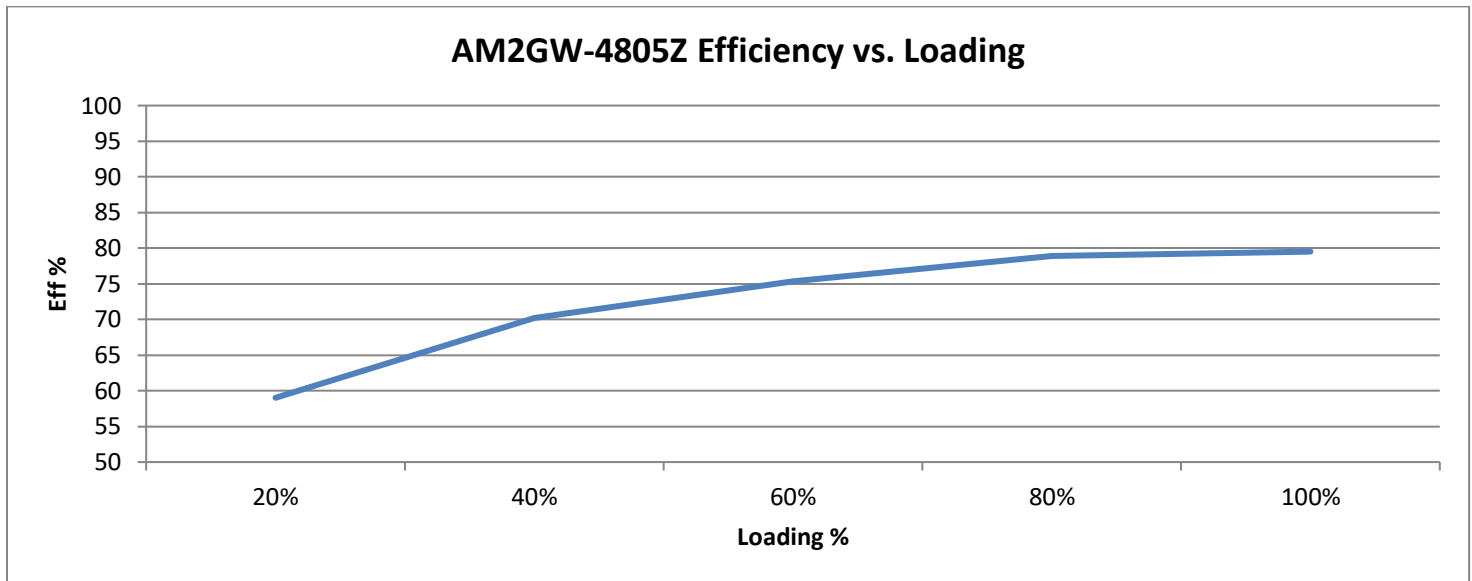
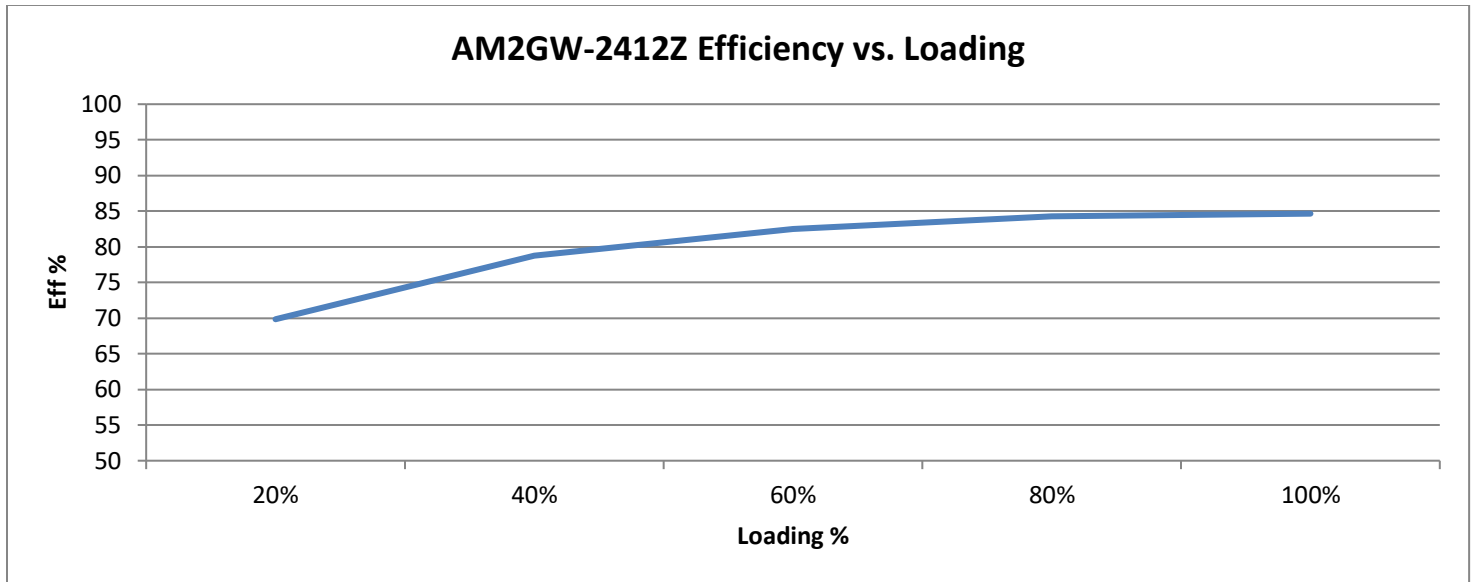
### Input Reflected Ripple current:



<b>Lin</b>	12 $\mu$ H
<b>Cin</b>	47 $\mu$ F, ESR<1 $\Omega$ 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](http://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 than the ones listed in this datasheet. 7. Warranty is in accordance with Aimtec's standard Terms of Sale available at [www.aimtec.com](http://www.aimtec.com).