Series AM3GW-Z

3 Watt | DC-DC Converter

FEATURES:

- SIP9 Package
- Low Ripple and Noise
- Continuous Short Circuit Protection
- -40ºC to +85ºC Operating Temperature Range
- Ultra-Wide Input Range 4:1
- 1500VDC I/O Isolation
- Efficiency up to 84%
- 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 (%)
AM3GW-2403SZ	9-36	3.3	700	2200	125	10	77
AM3GW-2405SZ	9-36	5	600	1000	153	10	82
AM3GW-2412SZ	9-36	12	250	165	149	10	83
AM3GW-2415SZ	9-36	15	200	100	148	10	83
AM3GW-4803SZ	18-75	3.3	700	2200	65	5	78
AM3GW-4805SZ	18-75	5	600	1000	78	5	84
AM3GW-4812SZ	18-75	12	250	165	75	5	84
AM3GW-4815SZ	18-75	15	200	100	75	5	82

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 (%)
AM3GW-2405DZ	9-36	±5	±300	±470	155	10	81
AM3GW-2412DZ	9-36	±12	±125	±100	149	10	84
AM3GW-2415DZ	9-36	±15	±100	±47	149	10	83
AM3GW-4805DZ	18-75	±5	±300	±470	78	5	82
AM3GW-4812DZ	18-75	±12	±125	±100	75	5	82
AM3GW-4815DZ	18-75	±15	±100	±47	76	5	83

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.

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	24 48		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 one output - 100% load on second load	±5		%
Short Circuit Protection	Hiccup	Continuous		
Short Circuit Restart	Auto-Recovery			
Line Voltage Regulation	LL~HL	±0.5		%
Load Voltage Regulation	From 10% to 100% load From 0% to 100% load 12Vout and 15Vout From 0% to 100% load 3.3Vout and 5Vout	±0.5 ±0.5 ±1		%
Ripple & Noise	20MHz Bandwidth	50		mV p-p
Transient Response Deviation		±3		%
Transient Recovery Time		300		µs

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching Frequency	100% load	250		KHz
Operating Temperature	-40 to 85			ºC
Storage Temperature	-40 to +125			ºC
Temperature Coefficient		±0.02		%/ºC
Maximum Case Temperature			100	ºC
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 25.91 x 9.14 x 12.44 mm			
MTBF	>1,212,000 hrs (MIL-HDBK -217F, Ground Benign, t=+25ºC)			
Max Soldering Temperature	1.5mm from case 10 second		260	ºC

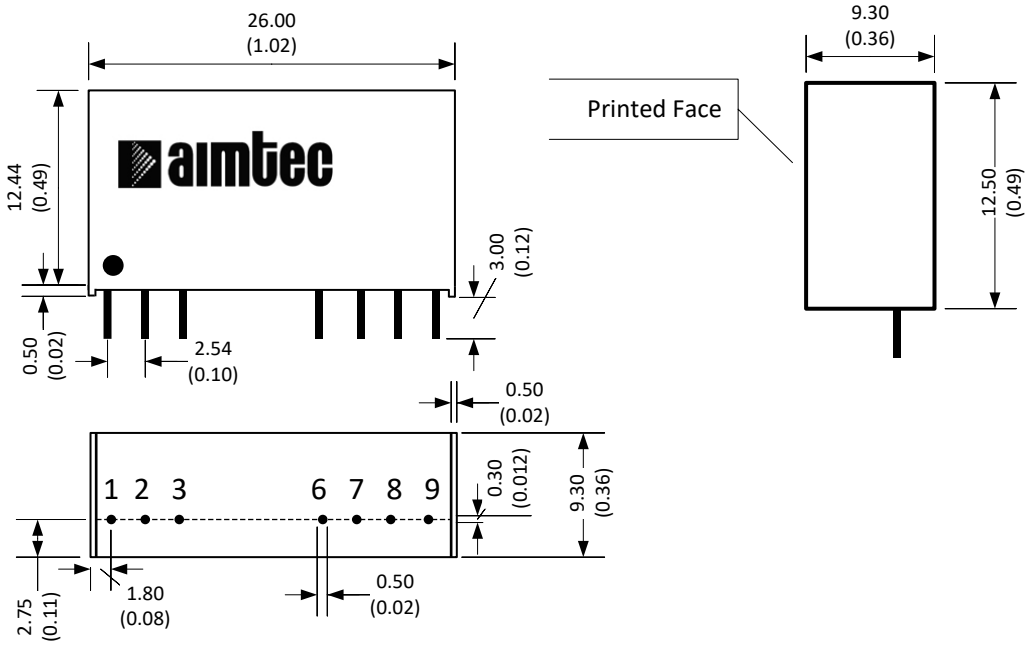
Safety Specifications

Parameters	
Agency Approval	CE, UL
Standards	UL 60950-1:2001, UL62368-1
	EN55022 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

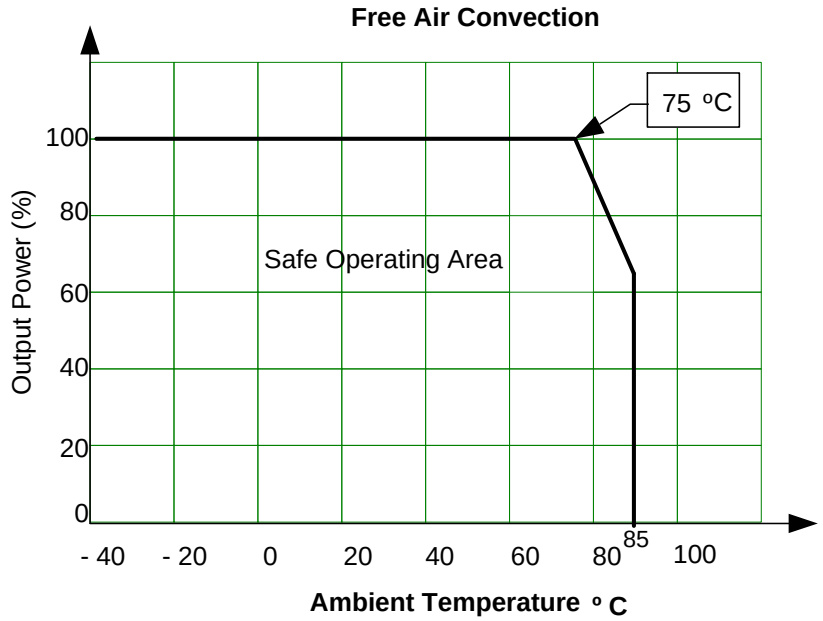
Pin	Single	Dual
1	- V Input	- V Input
2	+ V Input	+ V Input
3	On/Off Control	On/Off Control
6	+ V Output	+ V Output
7	NC	Common
8	NC	NC
9	- V Output	-V Output

Dimensions

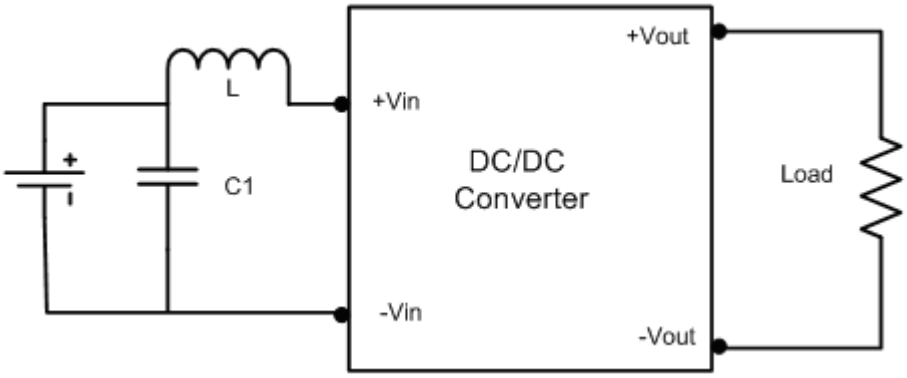


All dimensions are in millimeters (inches)
Pin diameter: 1.0 ±0.05 (0.04 ±0.002)
Pin pitch tolerance: ±0.35 (±0.014)
Case Tolerance: ±0.5 (±0.02)

Derating

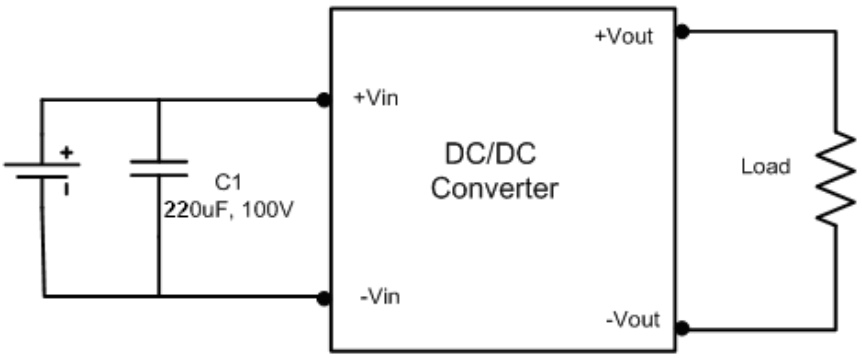


Conducted Emissions

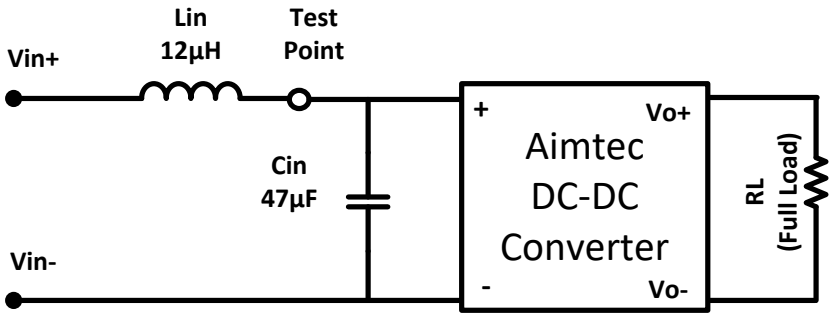


Models	C1	L1
AM2GW-24XX-Z	1210,225K/100V,X7R, 2pcs	6.8µH
AM2GW-48XX-Z	1210,105k/100V,X7R	56µH

Surge:

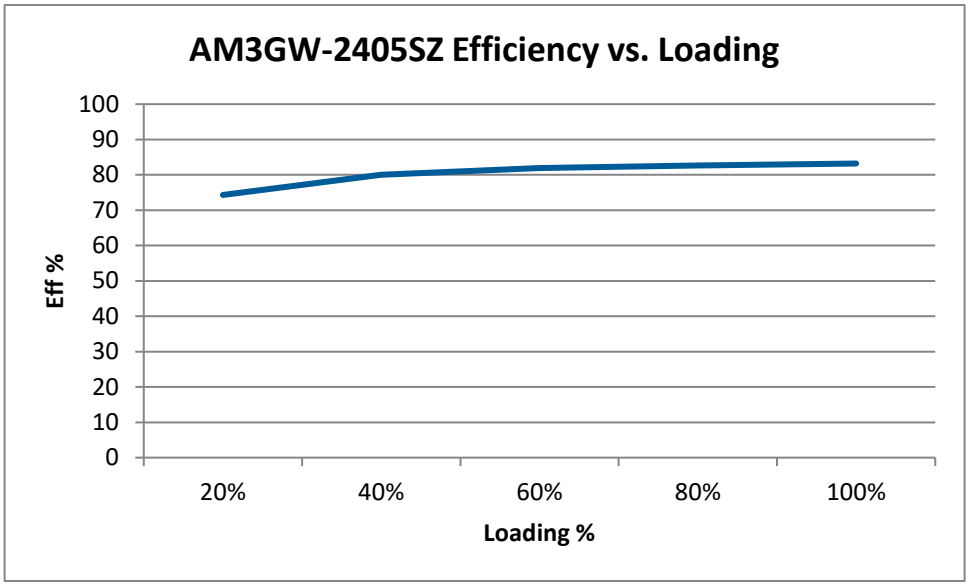


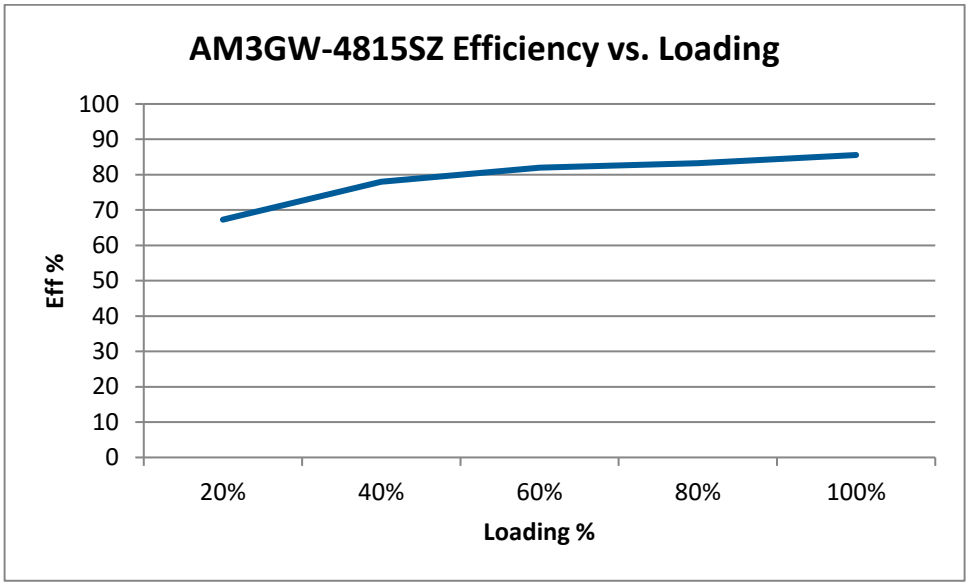
Input Reflected Ripple Current



* Tested at full load, and nominal input

Typical Efficiency Example Charts





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