AM10GH-NZ

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SIP8

Aimtec adds the AM10GH-NZ 10W series to its SIP8 DC/DC converters family. This new series now increases the power density of our SIP8 line from 9W to 10W.

The AM10GH-NZ series provide a 4:1 ultrawide input voltage range and comes standard with single regulated output voltages of 3.3, 5, 9, 12, 15 and 24VDC with an I/O isolation of 1500VDC. Thanks to its wide -40°C to +85°C operating temperature range, the AM10GH-NZ is suitable for applications that include industrial control, grid power, instrumentation and telecommunication. In addition to meeting EN62368 certification, protections for input under-voltage, output short circuit, over-current are also included, increasing the overall safety of your new system design.

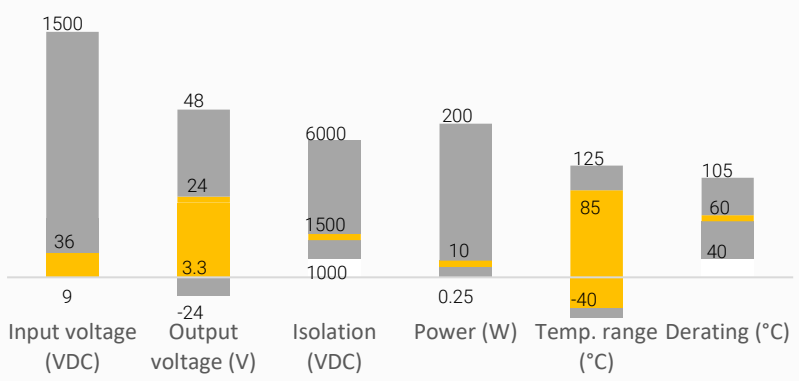
Features

- Ultra-wide input voltage range: 9-36VDC
- Operating temperature range: -40°C to +85°C
- Efficiency high up to 86%
- Input under-voltage protection, output short circuit, over-current protection
- High power density, SIP8 package
- International standard pin-out

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid | Industrial | Telecom | Instrumentation

Models & Specifications

Single Output							
Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current max (mA)	Output Current max (A)	Isolation (VDC)	Maximum capacitive Load (µF)	Efficiency Full Load (Min.) (%)
AM10GH-2403NZ	24 (9 - 36)	3.3	398	2.40	1500	2200	82
AM10GH-2405NZ	24 (9 - 36)	5	485	2.00	1500	2200	85
AM10GH-2409NZ	24 (9 - 36)	9	485	1.11	1500	680	86
AM10GH-2412NZ	24 (9 - 36)	12	485	0.83	1500	470	86
AM10GH-2415NZ	24 (9 - 36)	15	485	0.67	1500	330	86
AM10GH-2424NZ	24 (9 - 36)	24	485	0.42	1500	220	85

Input Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage range	Nominal 24V	9 – 36		VDC
Filter	Capacitance Filter			
Input under-voltage lockout		6.5		VDC
Absolute maximum rating	1 Sec.	≥ -0.7	50	VDC
Input reflected ripple current		50		mA pk-pk
On/Off Control	ON – 3.5 to 12Vdc or open OFF – 0 to 1.2Vdc or connected to "-V Input" , idle current 10mA max.			
Note: The voltage of Ctrl pin is relative to "-V Input" pin .				

Isolation Specification				
Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, < 1mA	1500		VDC
Resistance	500Vdc	>1000		MOhm
Capacitance	Input to output , 100KHz/0.1V	1000		pF

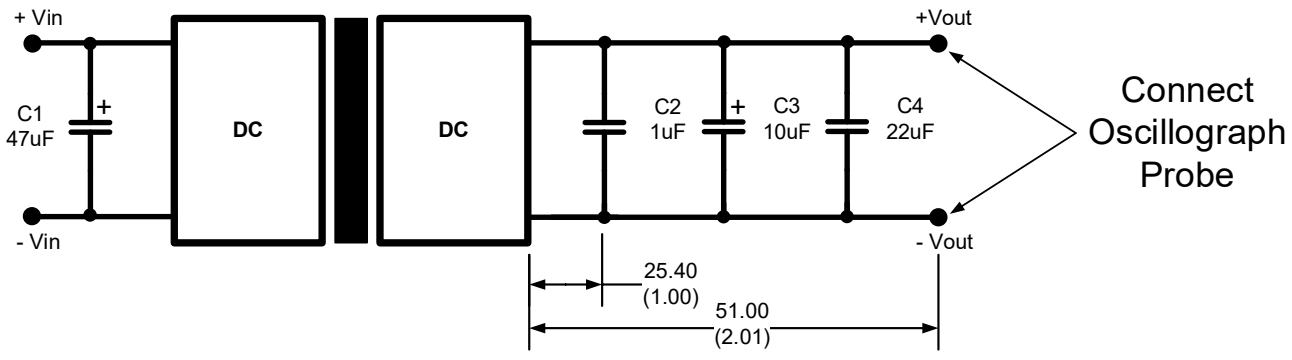
Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	5-100% load	±1.5	±2.0	%
Line regulation	Full load, main input range	±0.25	±0.5	%
Load regulation	5-100% load	±0.5	±1.0	%
Short circuit protection	Continuous, Auto recovery			
Over current protection		160	230	% of Iout
Temperature coefficient	Full load		±0.03	%/°C
Ripple & Noise*	20MHz bandwidth, 5-100% load	75	150	mV pk-pk
Transient recovery time	25% load step change	300	500	µS
Transient response deviation	25% load step change, 3.3/5V Output	±5	±8	%
	25% load step change, Others	±3	±5	%
* Ripple & noise under 0-5% load is 300mV max. Please refer to the ripple & noise reduction circuit for testing method.				

General Specifications				
Parameters	**Conditions**	**Typical**	**Maximum**	**Units**
Switching frequency*	100% load	500		KHz
Operating temperature	See derating graph	-40 to +85		°C
Storage temperature		-55 to +125		°C
Maximum case temperature			95	°C
Lead temperature	1.5mm from case 10 sec.		300	°C
Cooling	Free air convection			
Humidity	Non-condensing		95	% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight		5.5		g
Dimensions (L x W x H)	0.87 x 0.37 x 0.47 inches, 22.00 x 9.50 x 12.00mm			
MTBF	> 1 000 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			
*Switching frequency reduces when load under 50%. 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.				

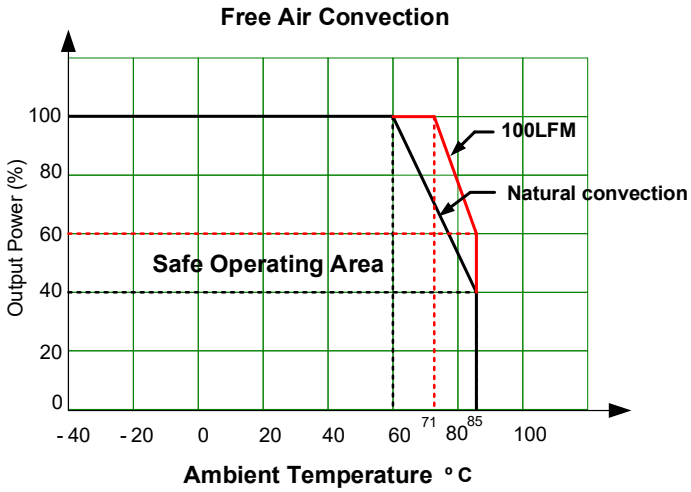
Environmental Specifications	
Parameters	
Vibration	10-150Hz, 5G, 0.75mm, 90minutes, along X, Y and Z

Safety Specifications		
Parameters		
Standards	Information technology Equipment	Design to meet IEC/UL/EN 62368
	EMC - Conducted and radiated emission	EN55032, CLASS B with EMC circuit part A
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV , Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV, Criteria B with EMC circuit part B
	Surge Immunity	IEC 61000-4-5 L-L ±2KV, Criteria B with EMC circuit part B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 3Vr.m.s, Criteria A

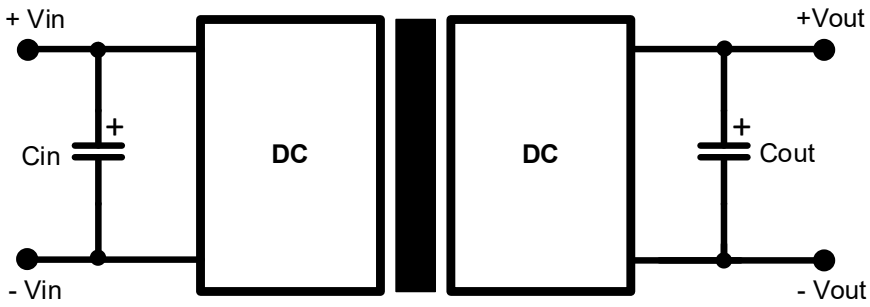
Ripple & Noise Reduction Circuit



Derating

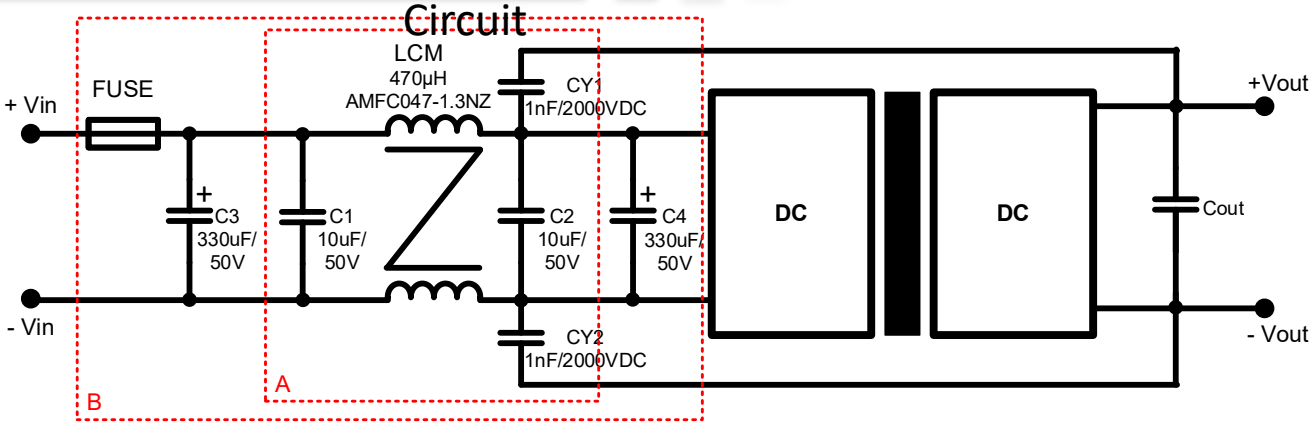


Typical Application Circuit



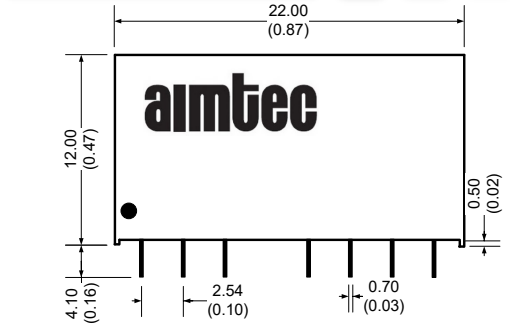
Vout(VDC)	Cin	Cout
3.3, 5, 9	47µF/100V	22µF/16V
12, 15	47µF/100V	22µF/25V
24	47µF/100V	22µF/50V

Recommended EMC Circuit



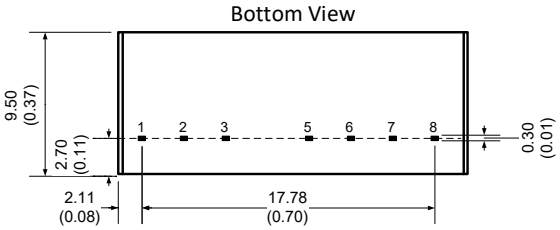
Notes:Part A for EMI filtering and Part B is used for EMS test.

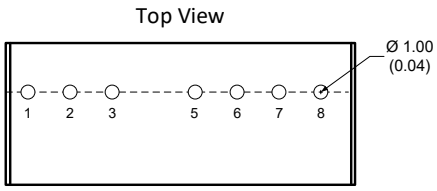
Dimensions



Dimensions mm (inch)
Case Tolerance ±0.50 (±0.02)
Pin Diameter ± 0.10 (± 0.004)

Pin	Single
1	-V Input
2	+V Input
3	Ctrl
5	NC
6	+V Output
7	-V Output
8	NC





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