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**AM10GH-LPZ**



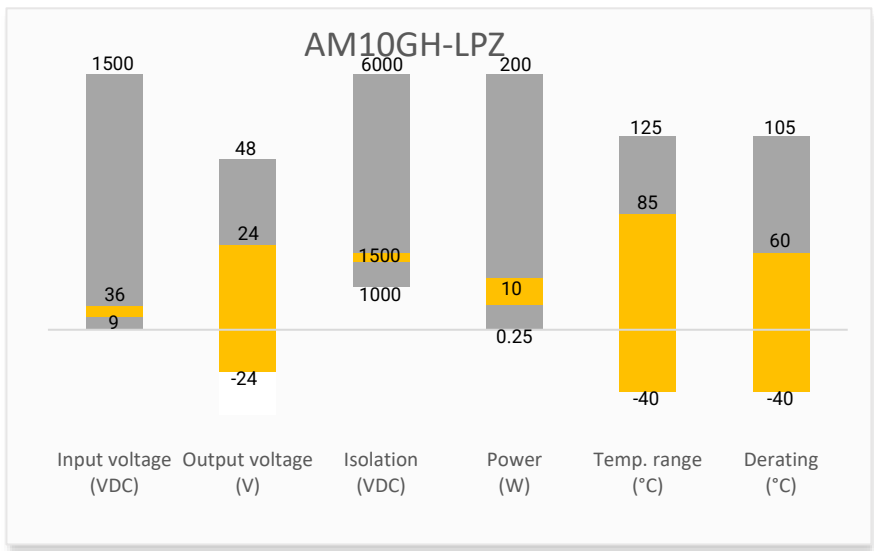
Aimtec adds the AM10GH-LPZ 10W series to its SIP8 DC/DC converters family. This new series now increases the power density of our SIP8 line from 9W to 10W.

The AM10GH-LPZ 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-LPZ 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 up to 86%
- Input under-voltage protection, output short circuit, over-current protection
- High power density, SIP8 package
- International standard pin-out


**Summary**



**Training**



Product Training Video  
(click to open)



Press Release

Coming Soon!

Application Notes

**Applications**



## Models & Specifications

### Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current max (mA)	Output Current max (A)	Isolation (VDC)	Maximum capacitive Load ( $\mu$ F)	Efficiency Full Load (Min.) (%)
AM10GH-2403SLPZ	24 (9 - 36)	3.3	474	2.4	1500	2200	82
AM10GH-2405SLPZ	24 (9 - 36)	5	474	2	1500	2200	82
AM10GH-2406SLPZ	24 (9 - 36)	6	474	1.67	1500	1500	84
AM10GH-2409SLPZ	24 (9 - 36)	9	474	1.11	1500	680	86
AM10GH-2410SLPZ	24 (9 - 36)	10	474	1	1500	680	86
AM10GH-2412SLPZ	24 (9 - 36)	12	474	0.83	1500	470	86
AM10GH-2415SLPZ	24 (9 - 36)	15	474	0.67	1500	330	86
AM10GH-2424SLPZ	24 (9 - 36)	24	474	0.42	1500	220	86

### Dual Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Input Current max (mA)	Output Current max (A)	Isolation (VDC)	Maximum capacitive Load ( $\mu$ F)	Efficiency Full Load (Min.) (%)
AM10GH-2415DLPZ	24 (9 - 36)	$\pm$ 15	474	$\pm$ 0.33	1500	100	86

### Input Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage range	Nominal 24V	9 – 36		VDC
Filter	Capacitor			
No load input current	5Vout model	25		mA
	Others	9		mA
Startup input voltage			9	VDC
Input under-voltage lockout		6.5		VDC
Absolute maximum rating	1 Sec.	$\geq$ -0.7	50	VDC
Input reflected 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		M $\Omega$
Capacitance	Input to output, 100KHz/0.1V	1000		pF

Output Specification				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	0-100% load	±1	±2	%
Line regulation	Full load, main input range	±0.5	±1	%
Load regulation	5-100% load	±0.5	±1	%
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		4.9		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.

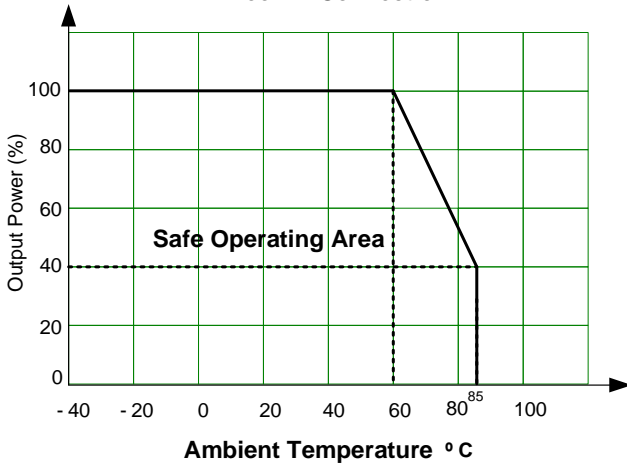
Environmental Specifications	
Parameters	
Vibration	10-150Hz, 5G, 0.75mm, along X, Y and Z

Safety Specifications		
Parameters		
Standards	Information technology Equipment	Design to meet IEC/UL/EN 62368-1
	EMC - Conducted and radiated emission	CISPR32/EN55032 Class B with recommended EMC circuit
	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 recommended EMC circuit
	Surge Immunity	IEC 61000-4-5 L-L ±2KV, Criteria B with recommended EMC circuit
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 3Vr.m.s, Criteria A

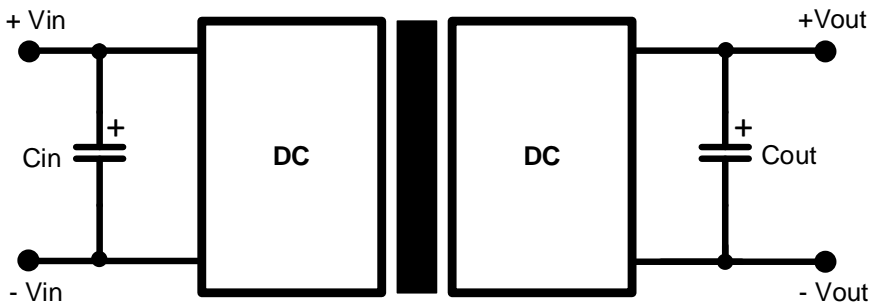
## Derating



Free Air Convection

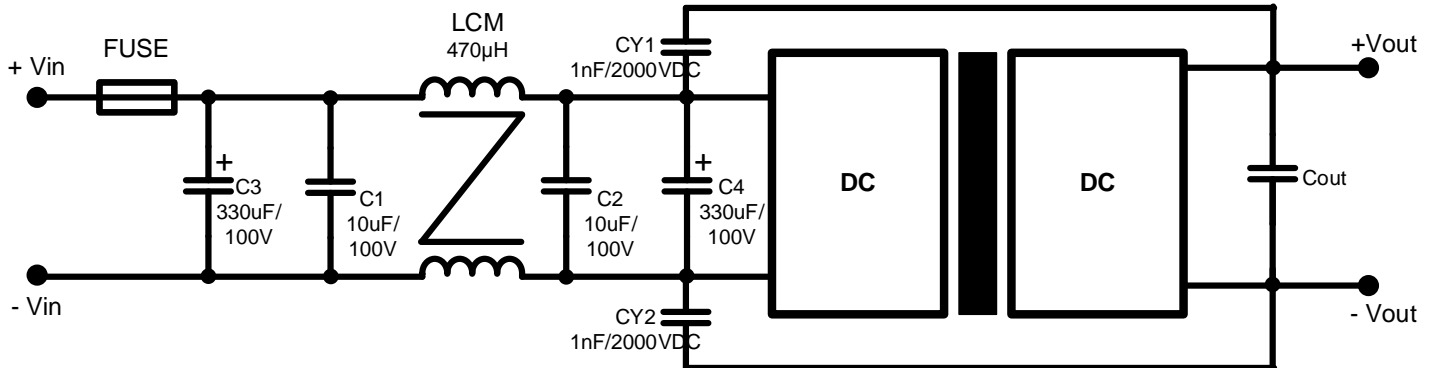


## Typical Application Circuit

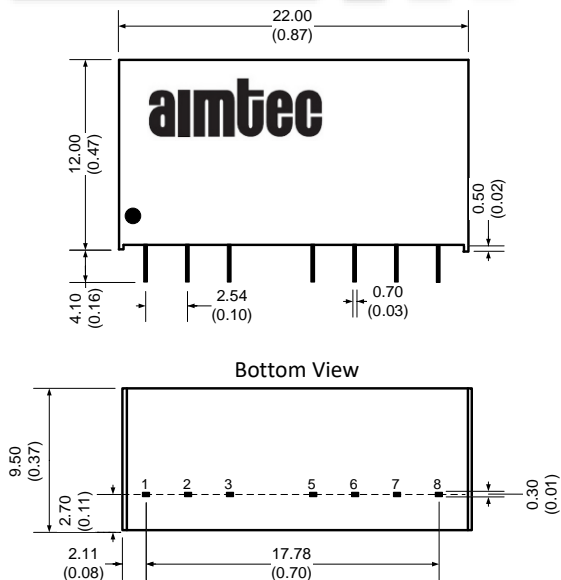


Vout(VDC)	Cin	Cout
3.3, 5, 9	47μF/100V	22μF/50V
12, 15		
24		

## Recommended EMC Circuit



## Dimensions



Dimensions mm (inch)  
Case Tolerance  $\pm 0.50$  ( $\pm 0.02$ )  
Pin Diameter  $\pm 0.10$  ( $\pm 0.004$ )

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

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