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AM10G-LPZ



Aimtec adds the AM10G-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 AM10G-LPZ series provide a 2:1 input voltage range 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 AM10G-LPZ is suitable for applications that include industrial control, grid power, instrumentation and telecommunication.

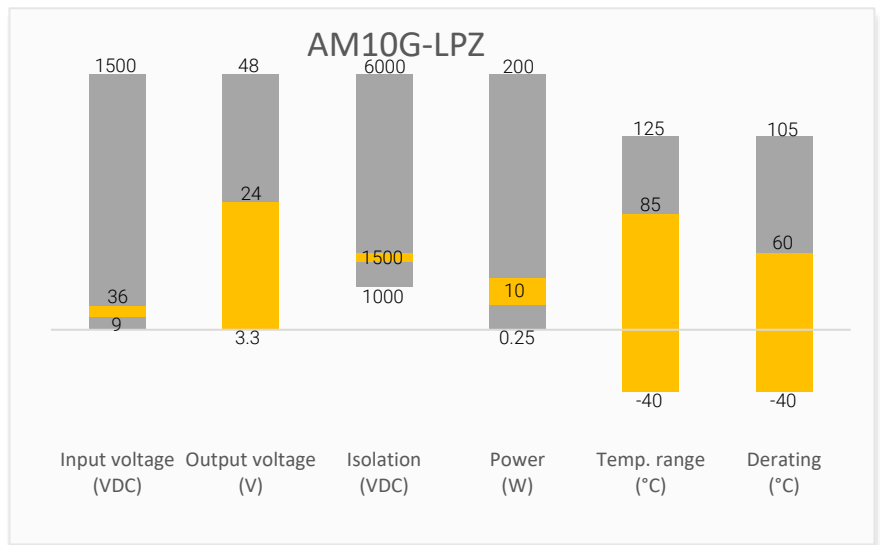
In addition to meeting EN62368 certification, protections for input under-voltage, output short circuit, over-current are also included, increasing the overall safety of your new system design.

Features



- Input voltage range: 9-36VDC
- Operating temperature range: -40°C to +85°C
- Efficiency up to 88%
- Input under-voltage protection, output short circuit, over-current protection
- High power density, SIP8 package
- International standard pin-out

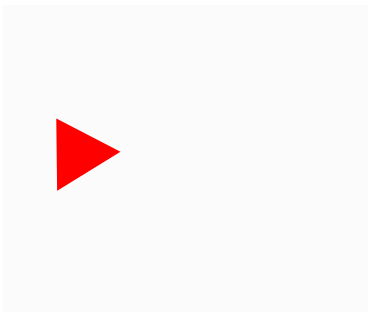
Summary



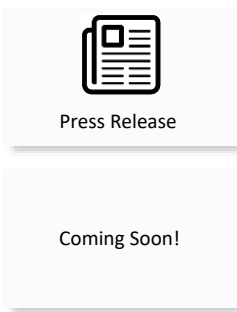
Training



Applications



Product Training Video  
(click to open)



Application Notes



Power Grid



Industrial



Telecom



Instrumentation

## Models & Specifications

### Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current max (A)	Isolation (VDC)	Maximum capacitive Load ( $\mu$ F)	Efficiency Full Load (Min.) (%)
AM10G-1203SLPZ	12 (9 - 18)	3.3	2.4	1500	2200	82
AM10G-1205SLPZ	12 (9 - 18)	5	2	1500	2200	85
AM10G-1209SLPZ	12 (9 - 18)	9	1.111	1500	680	86
AM10G-1212SLPZ	12 (9 - 18)	12	0.833	1500	470	86
AM10G-1215SLPZ	12 (9 - 18)	15	0.667	1500	330	86
AM10G-1224SLPZ	12 (9 - 18)	24	0.417	1500	220	86
AM10G-2403SLPZ	24 (18 - 36)	3.3	2.4	1500	2200	84
AM10G-2405SLPZ	24 (18 - 36)	5	2	1500	2200	87
AM10G-2409SLPZ	24 (18 - 36)	9	1.111	1500	680	88
AM10G-2412SLPZ	24 (18 - 36)	12	0.833	1500	470	88
AM10G-2415SLPZ	24 (18 - 36)	15	0.667	1500	330	88
AM10G-2424SLPZ	24 (18 - 36)	24	0.417	1500	220	88

### Input Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage range	Nominal 12Vin	9 – 18		VDC
	Nominal 24Vin	18 – 36		VDC
Filter	Pi filter			
Startup input voltage	Nominal 12Vin		9	VDC
	Nominal 24Vin		18	VDC
Input under-voltage lockout	Nominal 12Vin	6.5		VDC
	Nominal 24Vin	15.5		VDC
Absolute maximum rating	Nominal 12Vin, 1 Sec.	$\geq -0.7$	25	VDC
	Nominal 24Vin, 1 Sec.	$\geq -0.7$	50	VDC
Input reflected current		50		mA
On/Off Control	ON – 3.5 to 12Vdc or open OFF – 0 to 1.2Vdc or connected to “-V Input”, idle current 10mA max.			

### 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	5-100% load	$\pm 1$	$\pm 2$	%
Line regulation	Full load, main input range	$\pm 0.25$	$\pm 0.5$	%

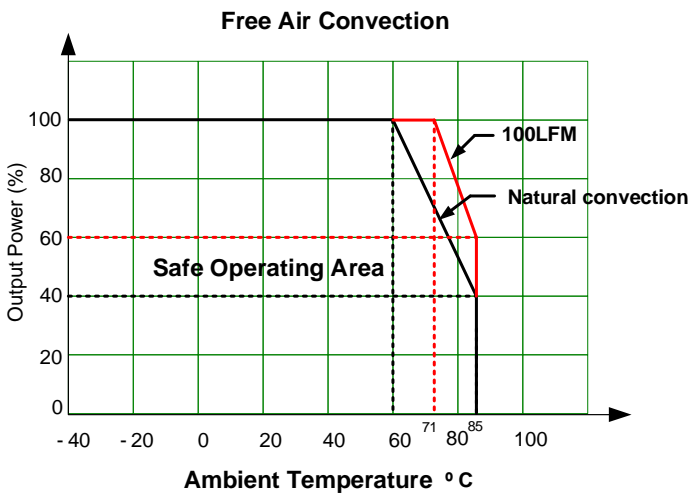
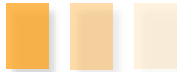
Load regulation	5-100% load	±0.5	±1	%
Short circuit protection	Continuous, Auto recovery			
Over current protection		160	230	% of I <sub>out</sub>
Temperature coefficient	Full load	±0.02	±0.03	%/°C
Ripple & Noise	20MHz bandwidth	75	150	mV pk-pk
Transient recovery time	25% load step change	300	500	µS
Transient response deviation	25% load step change	±5	±8	%

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		g
Dimensions (L x W x H)	0.87 x 0.39 x 0.55 inches, 22.00 x 10.0 x 14.00mm			
MTBF	> 1 000 000 hrs (MIL-HDBK -217F, t <sub>a</sub> +25°C) / Full Load			
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.				

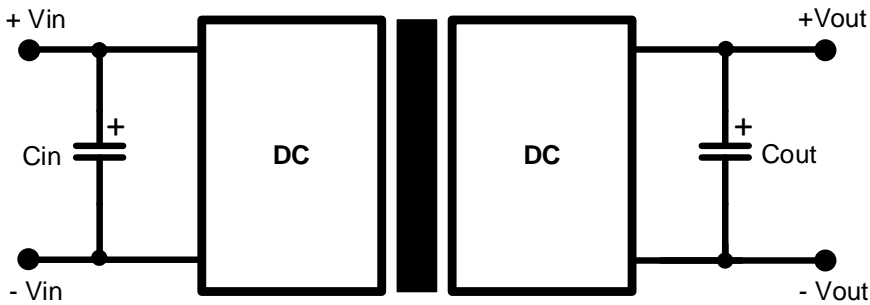
Environmental Specifications	
Parameters	
Vibration	10-150Hz, 5G, 0.75mm, along X, Y and Z

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
	RF, Electromagnetic Field Immunity	IEC 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4
	Surge Immunity	IEC 61000-4-5
	RF, Conducted Disturbance Immunity	IEC 61000-4-6
	Voltage dips, Short Interruptions & Voltage variations Immunity	IEC/EN 61000-4-29

Derating

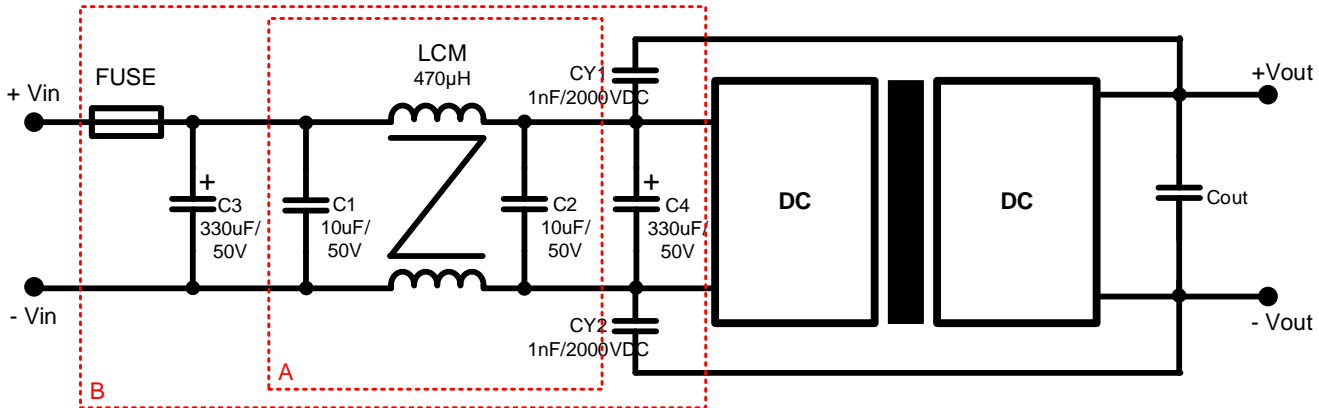


Typical Application Circuit



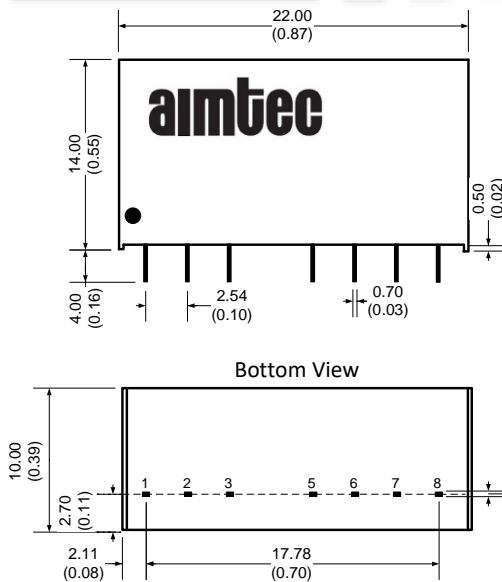
Vout(VDC)	Cin	Cout
3.3, 5, 9	47μF/100V	22μF/50V
12, 15		
24		

## Recommended EMC Circuit



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

## 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

**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).