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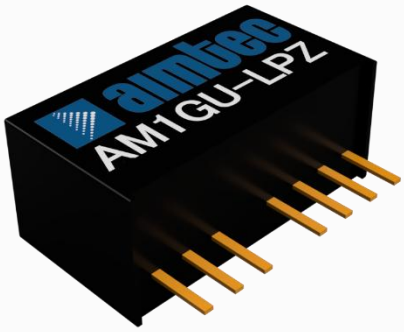
AM1GU-LPZ



SIP8 Package

The AM1GU-LPZ is a 1W SIP8 DC/DC converter that offers great cost savings thanks to an improved manufacturing process. It also features excellent reliability and performance while offering a wide input voltage range of 4.5-36VDC as well as an output voltage of -15 to 15V. This compact SIP8 design will surely benefit your new system design.

This new series offers a great operating temperature range from -40 to 85°C. Also, an isolation of 3000VDC for improved reliability and system safety as well as a great 1,000,000h MTBF come standard.

The AM1GU-LPZ is suitable for many applications such as industrial systems, portable equipment, and internet of things.

Features

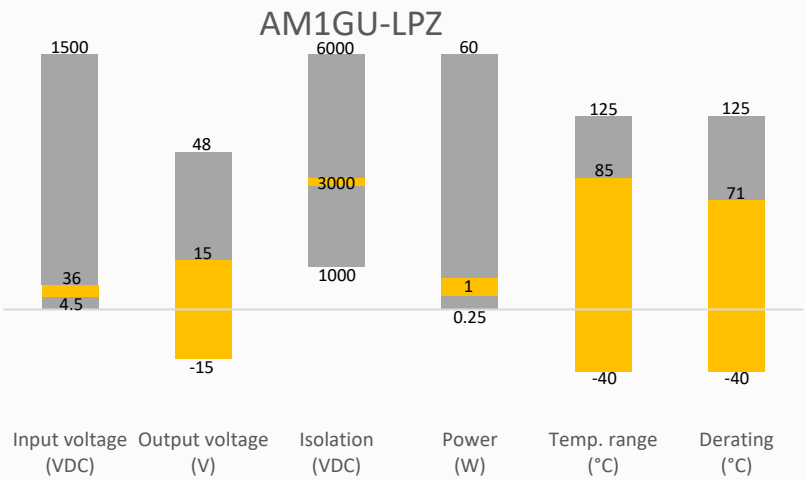
- High I/O Isolation of 3000VDC
- Input under voltage protection, output over current protection and short circuit protection
- Operating Temp: -40 °C to +85 °C
- Industry standard SIP8 pin-out
- Regulated output

RoHS

3yr Warranty

CE

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Industrial

Portable Equipment

IoT

Models & Specifications

Single Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current Max/Min (mA)	Isolation (VDC)	Maximum Capacitive Load (μF)	Efficiency Typ. (%)
AM1GU-1205SH30LPZ	12 (4.5-36)	5	200/0	3000	470	71
AM1GU-1209SH30LPZ	12 (4.5-36)	9	111/0	3000	220	72
AM1GU-1212SH30LPZ	12 (4.5-36)	12	83/0	3000	220	74
AM1GU-1215SH30LPZ	12 (4.5-36)	15	67/0	3000	220	74
AM1GU-1224SH30LPZ	12 (4.5-36)	24	42/0	3000	220	74

Dual Output

Model	Input Voltage (VDC)	Output Voltage (VDC)	Output Current Max/Min (mA)	Isolation (VDC)	Maximum Capacitive Load (μF)	Efficiency Typ. (%)
AM1GU-1205DH30LPZ	12 (4.5-36)	±5	±100/0	3000	±220	71
AM1GU-1212DH30LPZ	12 (4.5-36)	±12	±42/0	3000	±150	74
AM1GU-1215DH30LPZ	12 (4.5-36)	±15	±33/0	3000	±68	74

Input Specification

Parameters	Conditions	Typical	Maximum	Units
Input current	Full load	116		mA
Filter	Capacitor			
Voltage Types	Vo, Io Nom		8:1	
Maximum Rating			50	VDC
Peak Input Voltage Time			1	Sec
No load input current		10		mA
Input Reflected Ripple Current		50		mA
Start-up voltage			4.5	VDC
Under voltage protection		3.5		VDC

Isolation Specification

Parameters	Conditions	Typical	Maximum	Units
Tested I/O voltage	60 sec, leakage ≤ 1mA	3000		VDC
Resistance	500VDC	>1000		MΩ
Capacitance	100KHz, 0.1V	40		pF

Output Specification

Parameters	Conditions	Typical	Maximum	Units
Voltage Tolerance	Full load, main output	±1	±3	%
	Full load, other output	±3	±5	%
Line Regulation	Full load, main output		±0.5	%
	Full load, other output		±1.0	%
Load regulation	5~100% load, main output		±1.0	%
	5~100% load, other output		±1.5	%
Temperature coefficient			±0.03	%/°C
Transient Recovery Time	25% load step	300	500	μS

Transient Response Deviation	25% load step, 5Vout & ±5Vout models	±5	±8	%
	25% load step, other models	±3	±5	%
Ripple & Noise*		60	100	mV p-p
* Ripple and Noise are measured at 20MHz bandwidth. Please refer to the application note for specific details.				

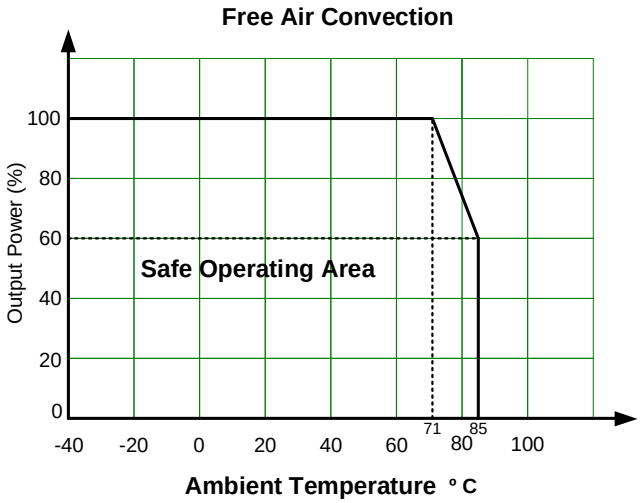
General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	300		KHz
Over current protection		>110	300	% Iout
Short circuit protection	Continuous, auto-recovery			
Operating temperature		-40 to +85		°C
Storage temperature		-55 to +125		°C
Lead Temperature	1.5mm from case for 10 seconds		300	°C
Cooling	Free air convection			
Humidity	Non-condensing	>5	95	% RH
Case material	Plastic (UL94V-0)			
Vibration	10-150Hz, 5G, 0.75mm along X, Y and Z			
Weight		4		g
Dimensions (L x W x H)	0.87 x 0.37 x 0.47 inches (22.00 x 9.50 x 12.00 mm)			
MTBF	1 000 000 hrs (MIL-HDBK -217F, t=+25°C) / Full Load			
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

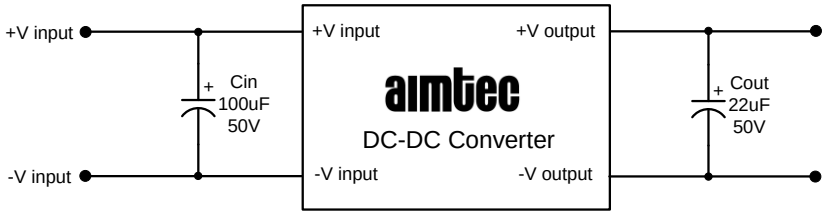
Parameters		
Standards	Designed to meet UL/EN/IEC 62368-1	
	EMI - Conducted and radiated emission	CISPR32/EN55032 Class A with EMI CLASS A recommended circuit CISPR32/EN55032 Class B with EMI CLASS B recommended circuit
	Electrostatic Discharge Immunity	IEC/EN 61000-4-2, Contact ±6KVperf. Criteria B
	RF, Electromagnetic Field Immunity	IEC/EN 61000-4-3, 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC/EN 61000-4-4, ±2KV with recommended EMS circuit, Criteria B
	Surge Immunity	IEC/EN 61000-4-5, ±2KV with recommended EMS circuit, Criteria B
	RF, Conducted Disturbance Immunity	IEC/EN 61000-4-6, 3 Vr.m.s, Criteria A

Derating

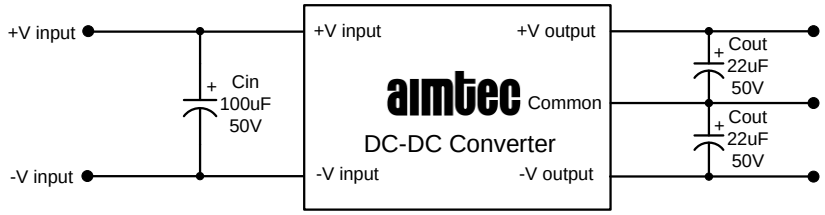


Typical application circuit

Single output

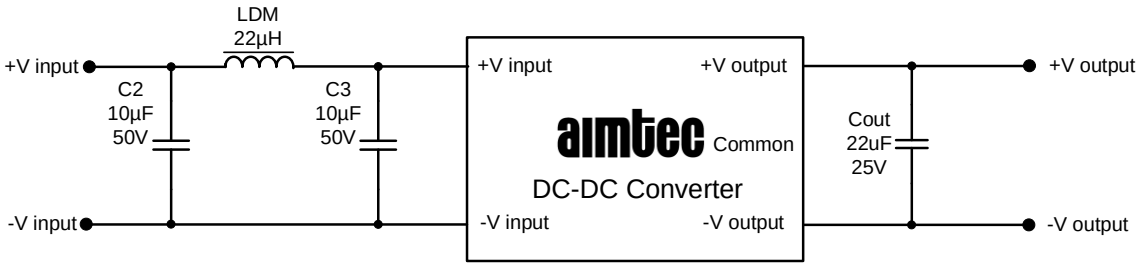


Dual output

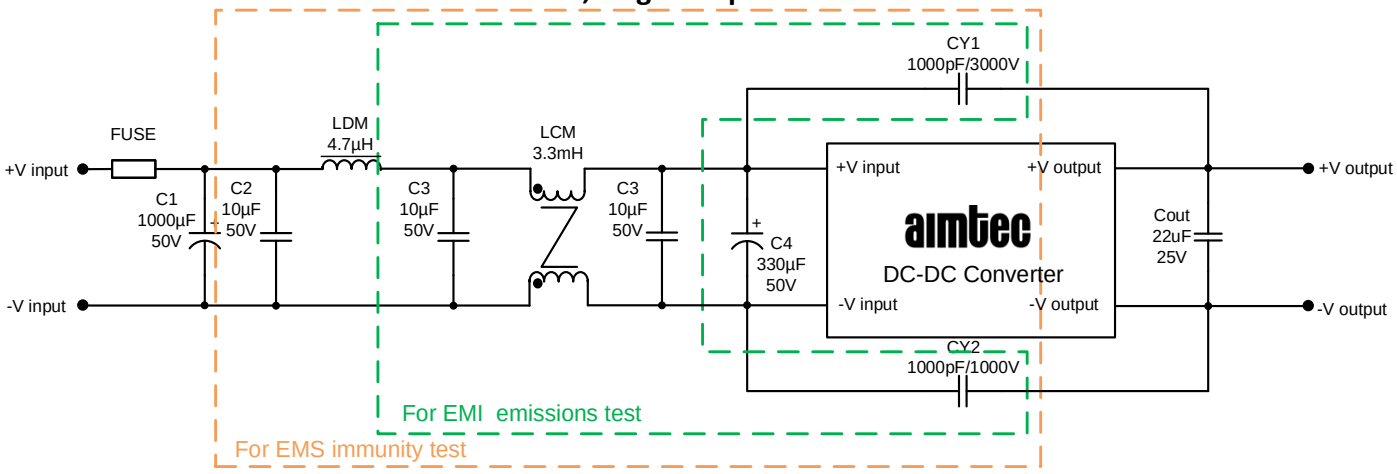


EMC recommended circuit

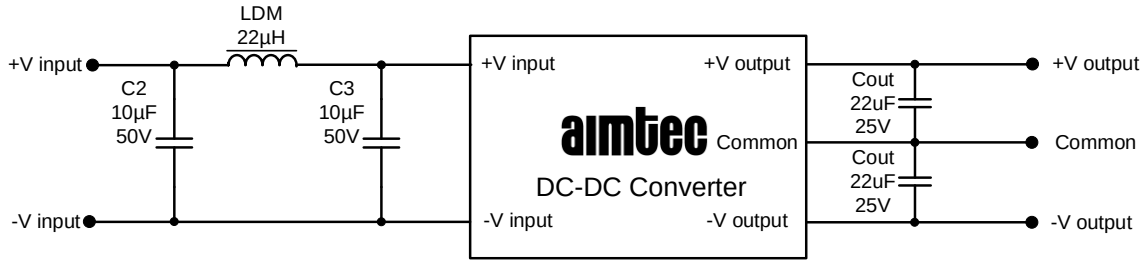
For EMI CLASS A recommended circuit, single output models



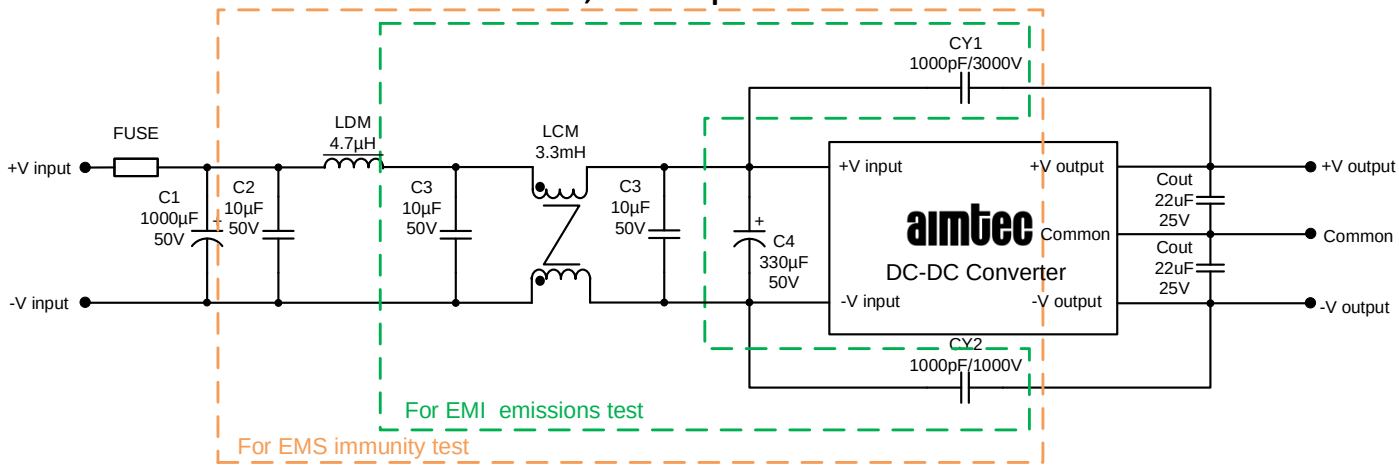
For EMI CLASS B and EMS recommended circuit, single output models



For EMI CLASS A recommended circuit, dual output models

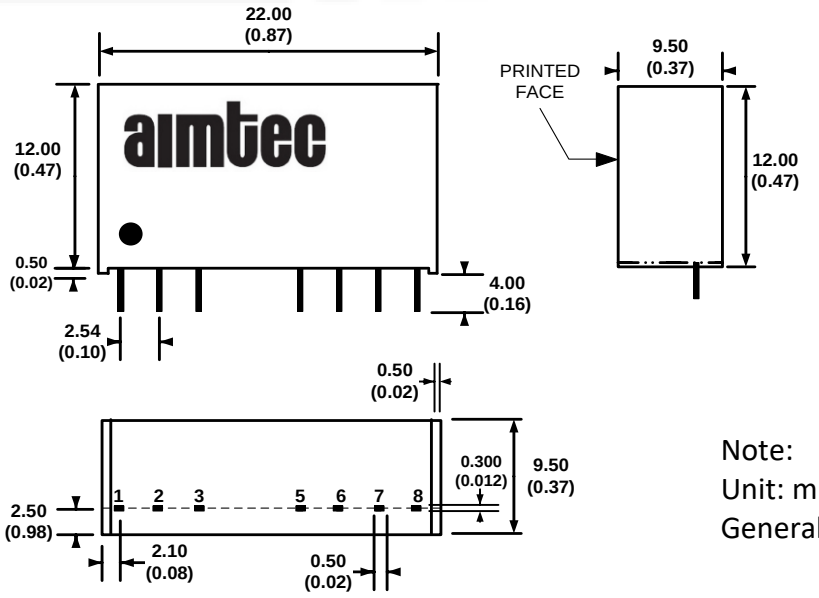


For EMI CLASS B and EMS recommended circuit, dual output models



Fuse : Choose according to actual input current.

Dimensions



Pin Out Specifications		
Pin	Single output	Dual output
1	-V Input	-V Input
2	+V Input	+V Input
3	N.C.	N.C.
5	N.C.	N.C.
6	+V Output	+V Output
7	-V Output	Common
8	N.C.	-V Output

Note:
Unit: mm(inch)
General tolerances: ±0.50(±0.020)

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