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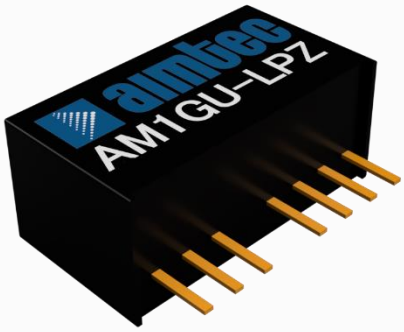
AM1GU-LPZ



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

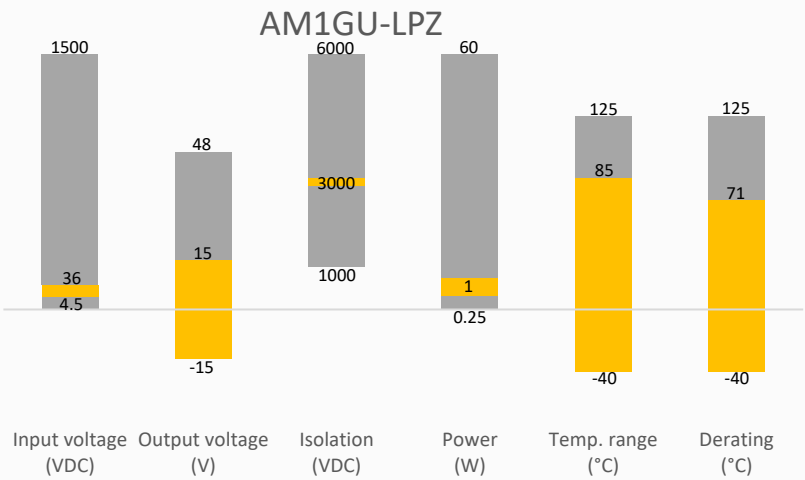
- High I/O Isolation of 3000VDC
- Input under voltage protection, output over current protection and short circuit protection
- Operating Temp: -40 °C to +85 °C
- Industry standard SIP8 pin-out
- Regulated output

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.				

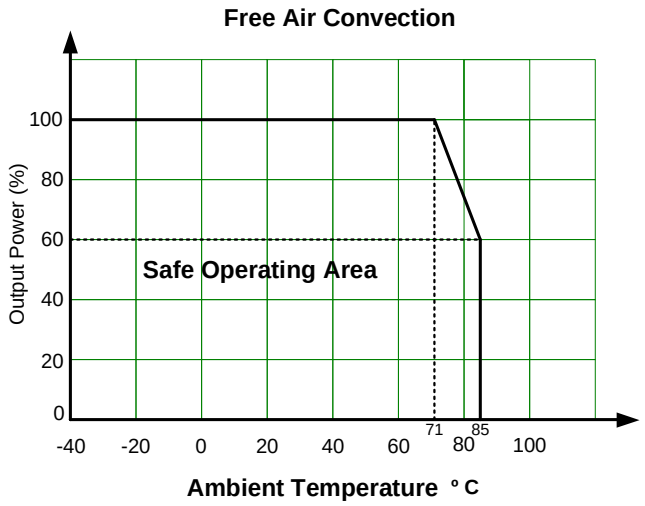
General Specifications

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.				

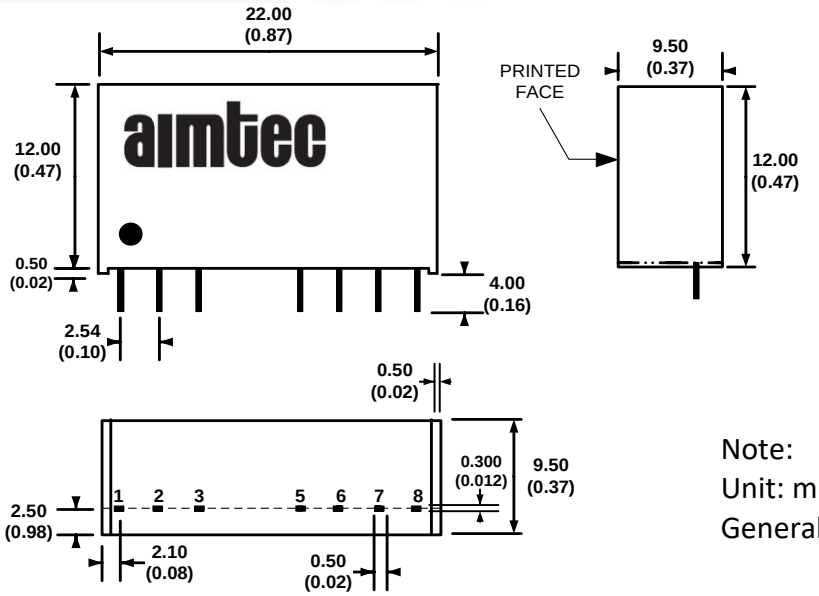
Safety Specifications

Parameters	
Standards	Designed to meet UL/EN/IEC 62368-1

Derating



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)

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 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 the ones listed in this datasheet. **7.** Warranty is in accordance with Aimtec's standard Terms of Sale available at www.aimtec.com.