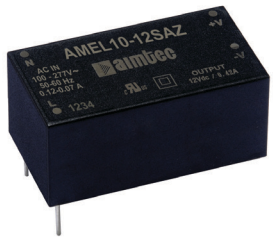
Series AMEL10-AZ

10 Watt | AC-DC / DC-DC Converter



FEATURES:

- I/O Isolation 3000VAC
- Operating Temp: -40°C to +80°C
- Over load, Over Voltage, Short Circuit Protection
- Up to 79% efficiency
- Energy Star compliant
- Ultra small package

Safety Certifications Pending

Models

Single output

Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Max Output wattage (W)	Output Voltage (V)	Output Current max (A)	Maximum capacitive load (µF)	Efficiency (%)
AMEL10-3.3SAZ	90-305/47-440	120-430	9.9	3.3	3.00	2200	74
AMEL10-5SAZ	90-305/47-440	120-430	10	5	2.00	1000	76
AMEL10-12SAZ	90-305/47-440	120-430	10	12	0.84	680	78
AMEL10-15SAZ	90-305/47-440	120-430	10	15	0.67	470	79
AMEL10-24SAZ	90-305/47-440	120-430	10	24	0.42	470	79

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current	115VAC	0.23		A
	230VAC	0.15		A
Inrush current <2ms (cold start)	115VAC		10	A
	230VAC		20	A
Leakage current			0.25	mA
External fuse	slow blow type	1		A
Input dissipation	No Load	<0.5		W

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy		±2		%
Line regulation		±1		%
Load regulation	0-100% load	±2		%
Transient recovery time		500		µs
Transient response deviation	25% load step	±2		% of Vout
Ripple & Noise*	20MHz bandwidth	100		mV p-p

*Ripple and Noise are measured at 20MHz bandwidth by using a 0.1µF (M/C) parallel capacitor.

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	3sec		3000	VAC
Isolation Resistance		>1000		MΩ

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency		66		KHz
Over load protection	Auto recovery, Fold back	150		%
Over voltage protection	Zener Diode Clamp			
Short circuit protection	Auto recovery			
Operating temperature	With derating above 60ºC	-40 to +80		°C
Maximum case temperature			100	°C
Storage temperature		-45 to +95		°C
Temperature coefficient		±0.02		% / °C
Humidity	Non condensing	20 ~ 95		% RH
Case material	Plastic resin + Fiberglass (flammability to UL 94V-0)			
Weight	70			g
Dimensions (L x W x H)	2.22 x 1.21 x 0.99 inches 56.48 x 30.86 x 25.10mm			
MTBF	> 400 000 hrs (MIL-HDBK -217F, t=+25°C)			

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.

Environment Approval

Test	Parameters	Conditions
Shock	Wave form	Half sine wave
	Acceleration amplitude	5gn
	Bump duration	30 ms
	Converter operation	before and after test, body mounted (on chassis)
	Number of bumps	18 (3 in each direction for every axis)
Vibration	Test mode	Sweep sine
	Displacement	1mm
	Acceleration	3g
	Converter operation	10-100Hz, speed 0.05Hz/s

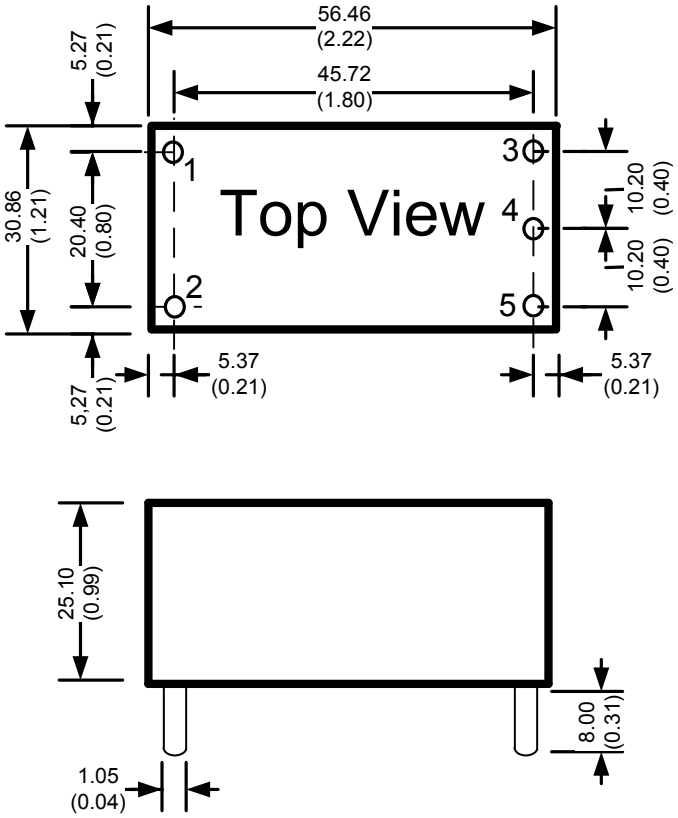
Safety Specifications

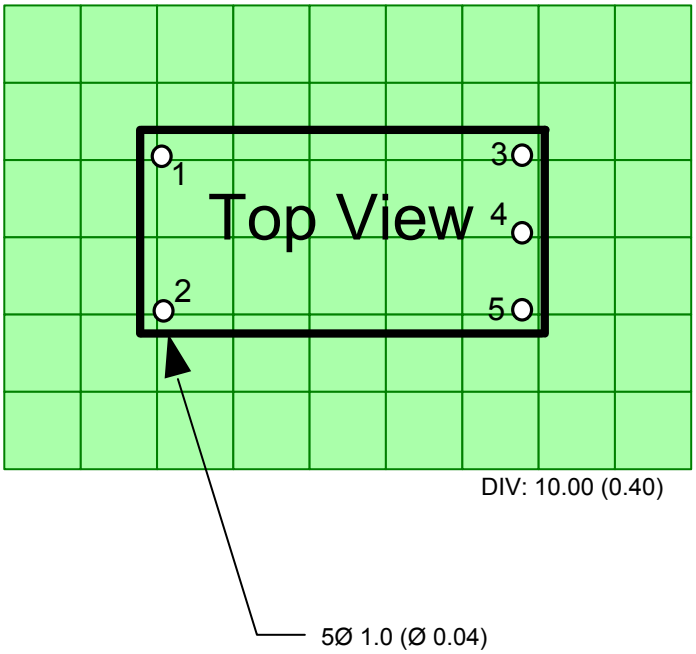
Parameters		
Standards	Information technology Equipment	EN 60950-1:2006+A11:2009
	EMI - Conducted and radiated emission	EN55011, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2
	RF, Electromagnetic Field Immunity	IEC 61000-4-3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4
	Surge Immunity	IEC 61000-4-5
	RF, Conducted Disturbance Immunity	IEC 61000-4-6
	Power frequency Magnetic Field Immunity	IEC 61000-4-8
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11
	Information Technology Equipment	UL 60950-1:2007
	Information Technology Equipment	CAN/CSA-C22.2 No.60950-1-07

Pin Out Specifications

Pin	Single
1	AC Input (N)
2	AC Input (L)
3	+V Output
4	-V Output
5	No pin

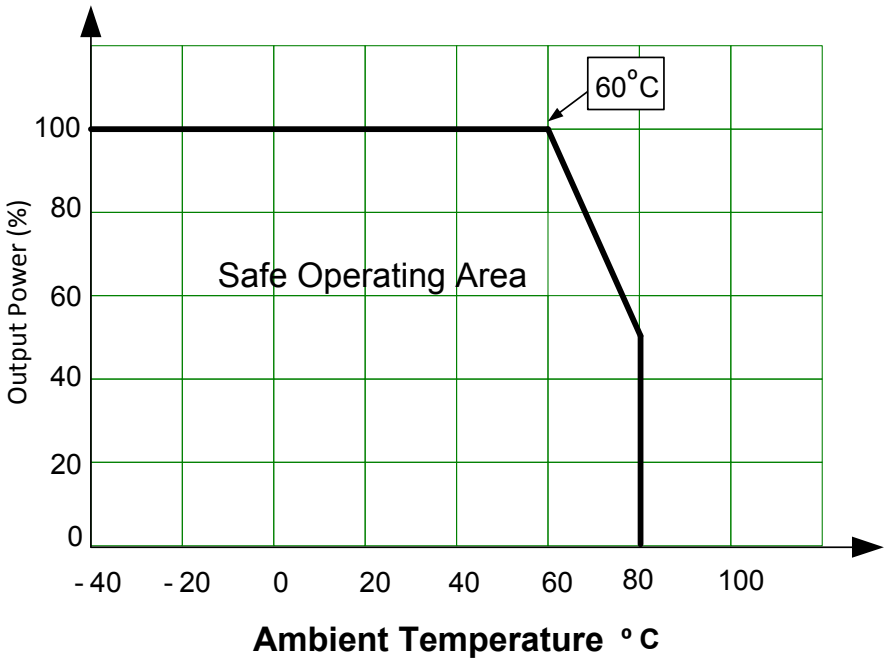
Dimensions





Dimensions mm (inch)
Case Tolerance ±0.50 (±0.02)
Pin Diameter 1.0 ± 0.05 (0.04 ± 0.002)
Pin Pitch Tolerance ±0.35 (±0.014)

Derating



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.