

Series AMEL12-CJZ

12 Watt | AC-DC / DC-DC Converter



FEATURES:

- I/O Isolation 4000VAC
- Operating Temp: -25°C to +70°C
- Over current, Over Voltage Protection
- Input: 85-264VAC, 47-440Hz, or 100-370VDC
- Low no load consumption $\leq 0.3W$
- Continuous Short Circuit Protection
- Up to 83% efficiency
- Low ripple and noise

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 (%)
AMEL12-3.3SCJZ	85-264/47-440	100-370	7.9	3.3	2.4	10,000	74
AMEL12-5SCJZ	85-264/47-440	100-370	12	5	2.4	10,000	78
AMEL12-12SCJZ	85-264/47-440	100-370	12	12	1	5,400	82
AMEL12-15SCJZ	85-264/47-440	100-370	12	15	0.8	2,700	82
AMEL12-24SCJZ	85-264/47-440	100-370	12	24	0.5	1,500	83

*Output power must not exceed the listed values.

Note: Add suffix "-ST" for optional screw terminal bottom plate or "-STD" for optional DIN Rail screw terminal bottom plate. (ex. AMEL12-3.3SCJZ-ST, AMEL12-3.3SCJZ-STD).

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.

Input Specifications

Parameters	Conditions	Typical	Maximum	Units
Current	115VAC	0.28		A
	230VAC	0.19		A
Inrush current < 2ms (cold start)	115VAC	10		A
	230VAC	20		A
Leakage current			0.25	mA
External fuse	slow blow type	3.15		A
Input dissipation	No Load		≤ 0.3	W

Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3V output	± 3		%
	Others	± 2		%
Line regulation	Full load	± 0.5		%
Load regulation	10-100% load	± 1		%
Ripple & Noise	20MHz bandwidth		100	mV p-p
Hold up time	115VAC	24		ms
	230VAC	120		ms

Isolation Specifications

Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4000	VAC
Isolation resistance		>1000		M Ω

General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	100		KHz
Protection class		Class II		
Over current protection	Auto recovery	≥ 110		% of Iout
Over voltage protection		Zener Diode Clamp		
Short circuit protection		Continuous		
Short circuit restart		Auto recovery		
Operating temperature	See derating table	-25 to +70		°C
Maximum case temperature			100	°C

General Specifications (continued)

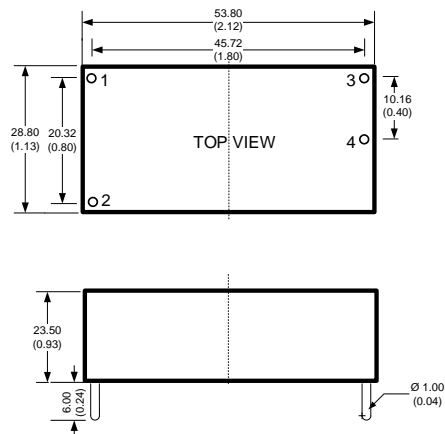
Parameters	Conditions	Typical	Maximum	Units
Storage temperature		-25 to +105		°C
Temperature coefficient		±0.02		% / °C
Cooling		Free air convection		
Humidity	Non condensing		95	% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight	PCB mountable model: With optional -ST mounting plate: With optional -STD mounting plate:	60 80 100		g
Dimensions (L x W x H)	PCB mountable model: With optional -ST mounting plate: With optional -STD mounting plate:	2.11 x 1.13 x 0.92 inches (53.80 x 28.80 x 23.50mm) 2.99 x 1.24 x 1.27 inches (76.00 x 31.50 x 32.30 mm) 2.99 x 1.24 x 1.45 inches (76.00 x 31.50 x 36.90 mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			

Safety Specifications

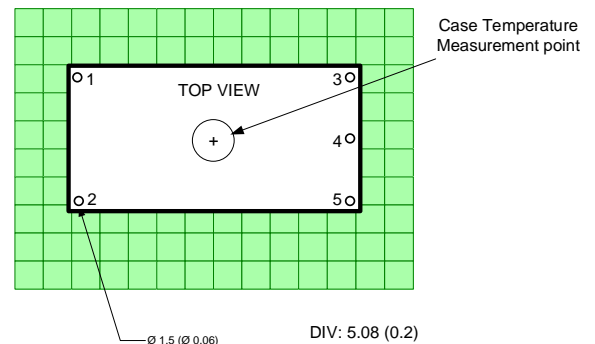
Parameters		
Agency approvals	cULus (except AMEL12-12SCJZ), CE	
Standards	Information technology Equipment	IEC/EN/UL 60950-1
	EMI - Conducted and radiated emission	EN55022, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Level 3
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Level 3
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 Level 4
	Surge Immunity	IEC 61000-4-5 Level 3
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 Level 3
	Power frequency Magnetic Field Immunity	IEC 61000-4-8 Level 3
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 Class 2

Pin Out Specifications

Pin	Single
1	AC Input (N)
2	AC Input (L)
3	+V Output
4	-V Output

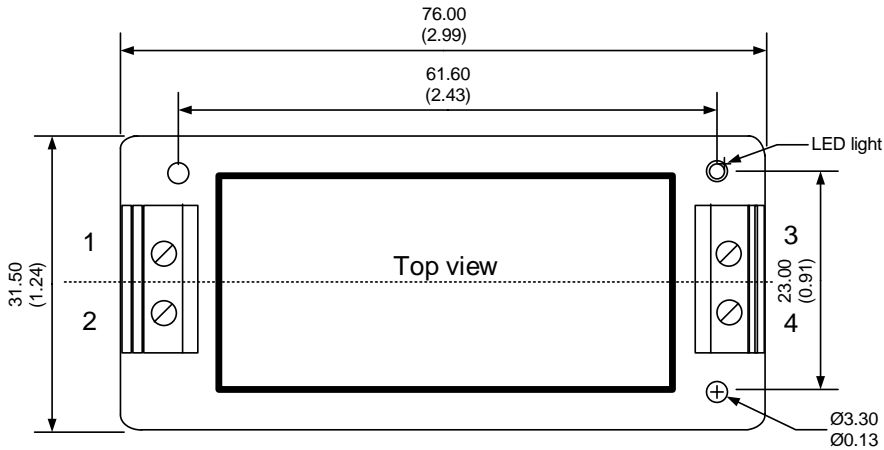


Dimensions



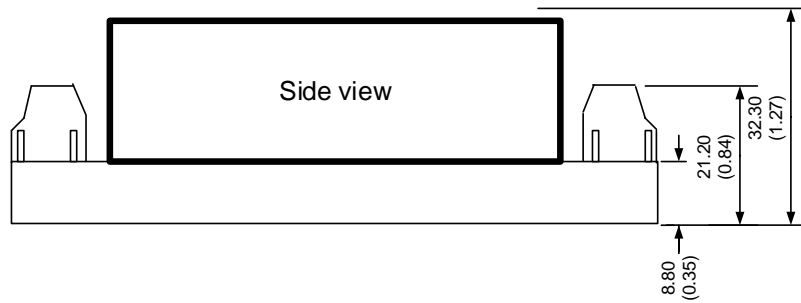
Dimensions mm (inch)
Case Tolerance ±0.50 (±0.02)
Pin Diameter 1.0 ± 0.10 (0.04 ± 0.004)
Pin Pitch Tolerance ±0.35 (±0.014)

With optional -ST bottom plate



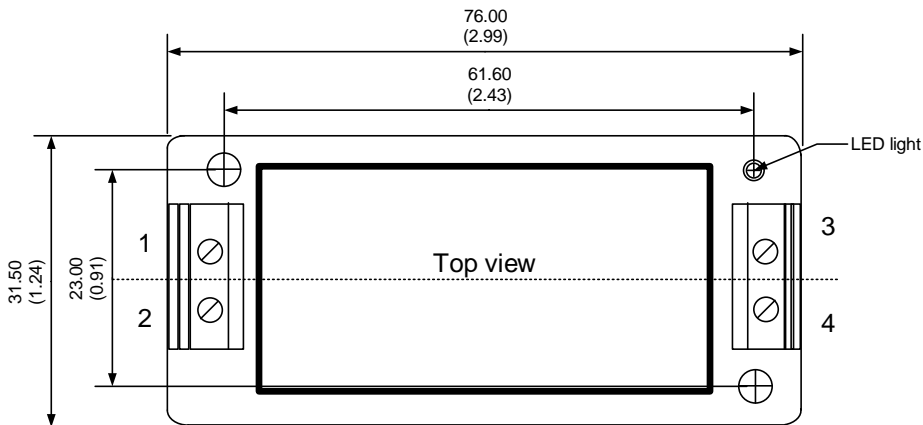
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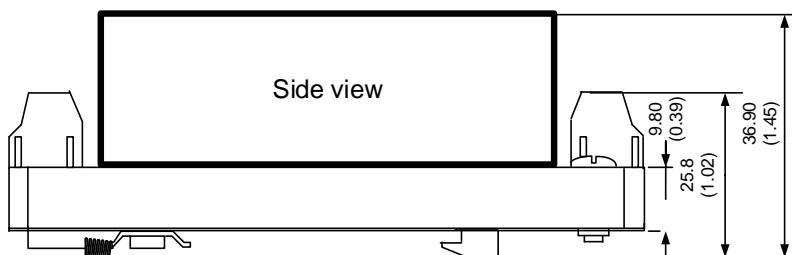
Dimensions: mm (inch)
Case Tolerance: ± 0.50 (0.02)
Wire gauge: 24-12AWG

With optional -STD bottom plate



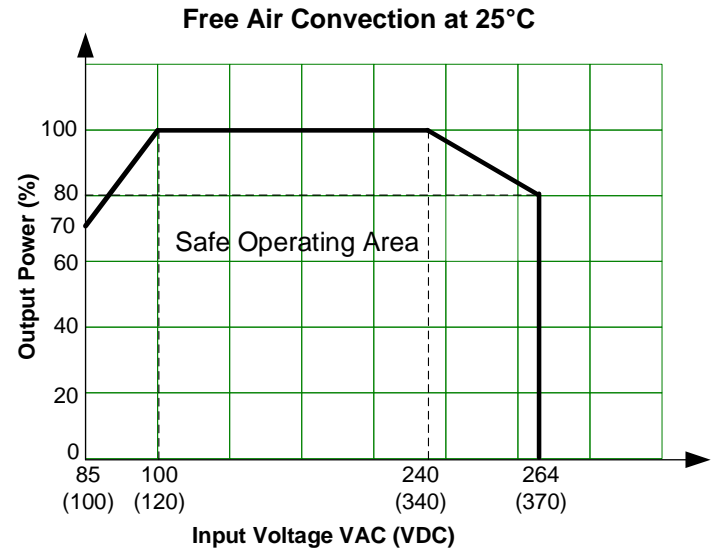
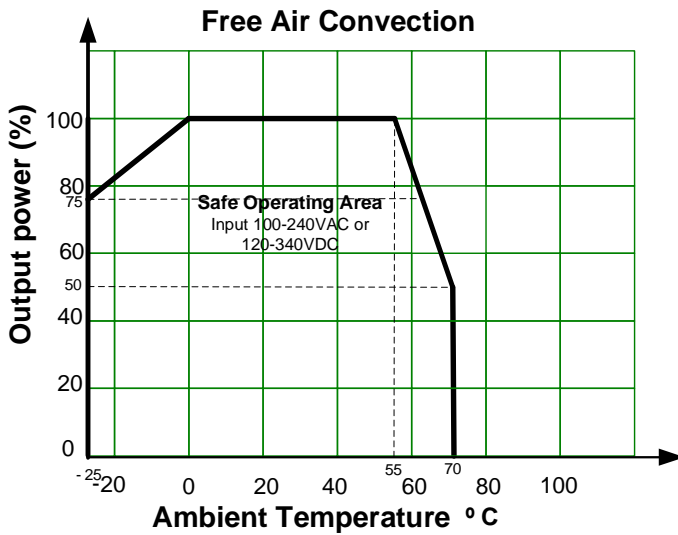
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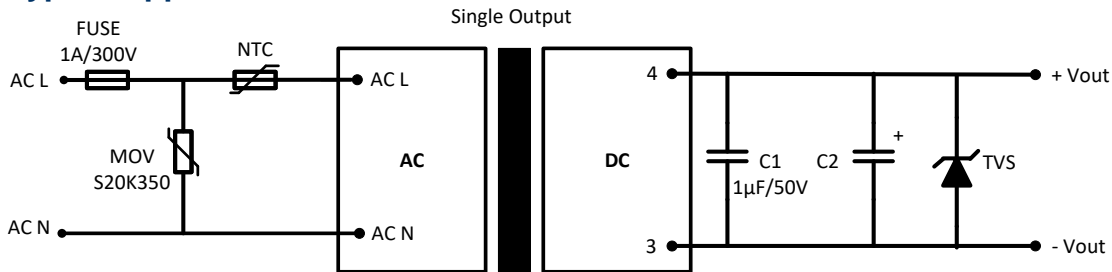


Dimensions: mm (inch)
Case Tolerance: ± 0.50 (0.02)
Wire gauge: 24-12AWG

Derating



Typical application circuit



Model	C2	TVS
3.3 & 5 Vout	220 µF / 10V	7V
12 & 15 Vout	120 µF / 25V	20V
24 Vout	68 µF / 35V	30V

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