

# 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 ( $\mu F$ )	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.

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		$\leq 0.3$	W

### Output Specifications

Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3V output	$\pm 3$		%
	Others	$\pm 2$		%
Line regulation	Full load	$\pm 0.5$		%
Load regulation	10-100% load	$\pm 1$		%
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 $\Omega$

### General Specifications

Parameters	Conditions	Typical	Maximum	Units
Switching frequency	100% load	100		KHz
Protection class		Class II		
Over current protection	Auto recovery	$\geq 110$		% 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)

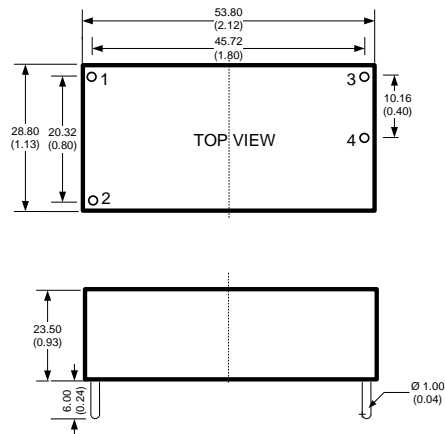
Parameters	Conditions	Typical	Maximum	Units
Storage temperature		-25 to +105		°C
Temperature coefficient		±0.02		% / °C
Cooling		Free air convection		
Humidity	Non condensing		95	% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight	PCB mountable model:	60		g
Dimensions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

### Safety Specifications

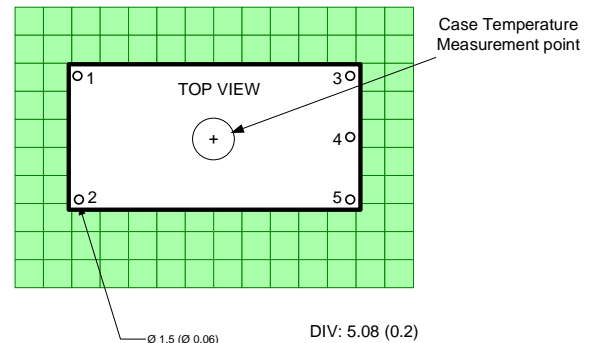
Parameters		
Agency approvals	cULus, CE	
Standards	Information technology Equipment	IEC/EN/UL 60950-1
	EMI - Conducted and radiated emission	EN55022, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Level 3
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 Level 3
	Electrical Fast Transient/Burst 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

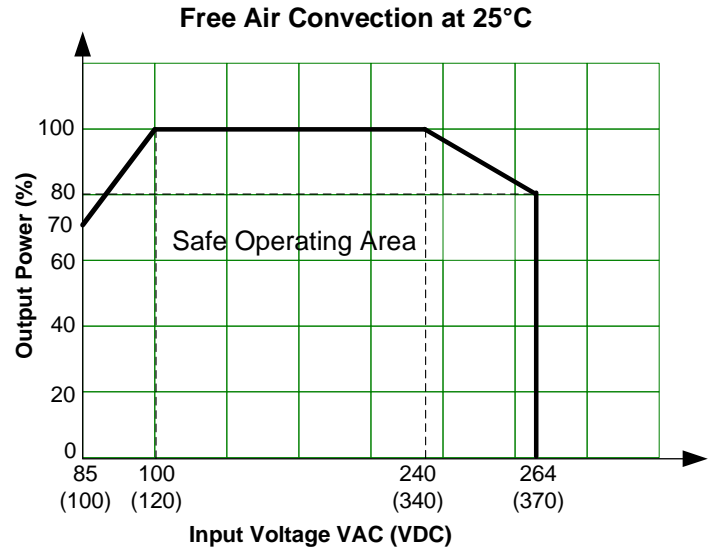
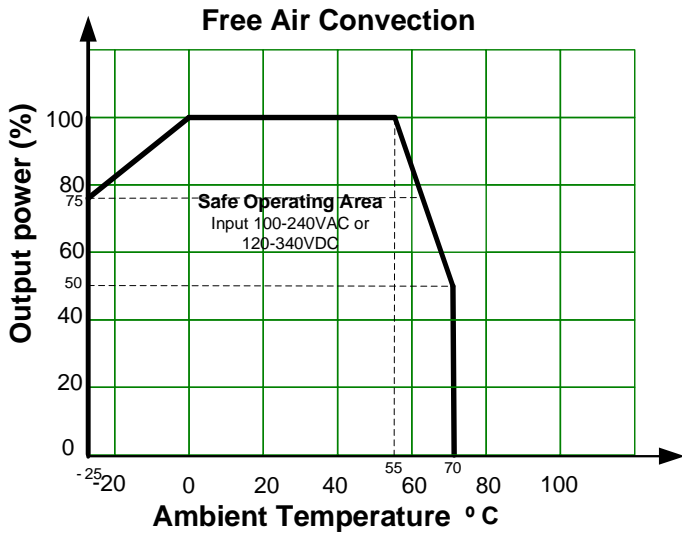


### Dimensions

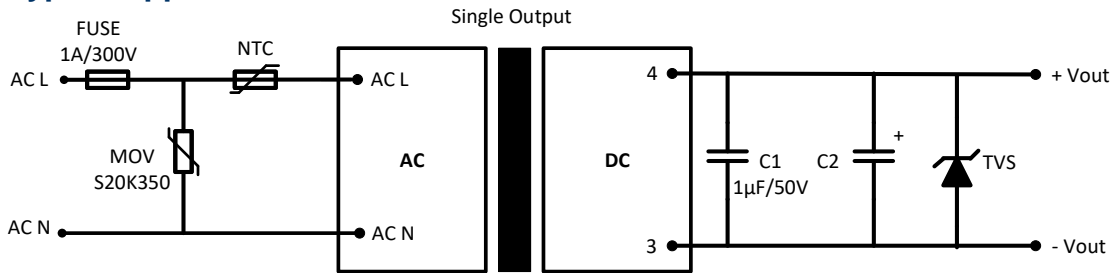


Dimensions mm (inch)  
Case Tolerance ±0.50 (±0.02)  
Pin Diameter 1.0 ± 0.10 (0.04 ± 0.004)  
Pin Pitch Tolerance ±0.35 (±0.014)

## 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

**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).