AMEL15-JZ

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Encapsulated

The new AMEL15-JZ is a brand-new AC/DC converter that offers much greater cost effectiveness due to material normalization and production automation also leading to improved reliability and performance. Offering a commercial input voltage range of 85-264VAC and an output voltage range from 3.3-24V, this series will offer many benefits to your new system design.
This new series offers great operating temperatures, from -40°C to 70°C with full power also features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a higher MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.
The AMEL15-JZ is perfect for street lighting controls, grid power, LED, instrumentation, industrial controls, communication and civil applications.

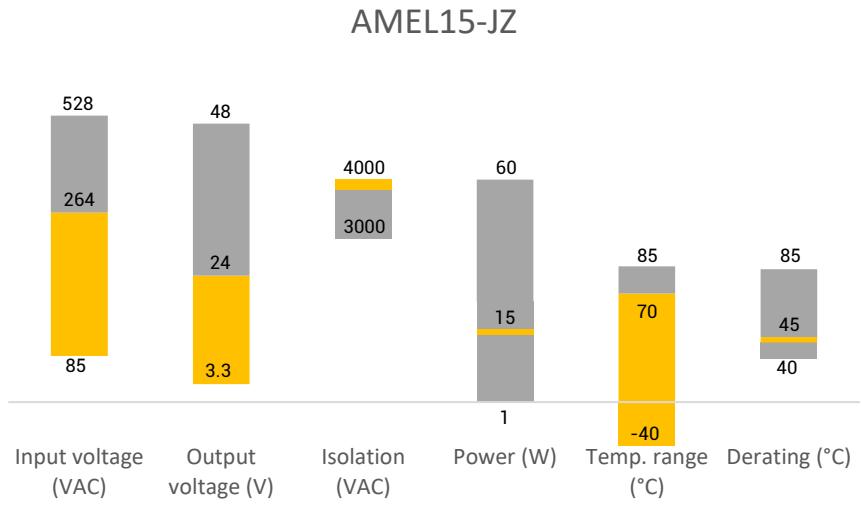
Features

- Universal Input: 85 - 264VAC/100 - 370VDC
- Operating Temp: -40 °C to +70 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 50mV(p-p), typ.
- Output short circuit, over-current, over-voltage protection
- Regulated Output

RoHS

3yr Warranty

Summary



Training

Product Training Video (click to open)

Press Release

Coming Soon!

Application Notes

Applications

Power Grid

Industrial

Telecom

Instrumentation

Models & Specifications

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 @ 230VAC (%)
AMEL15-3.3SJZ	85-264/47-63	100-370	8.9	3.3	2.70	10,000	72
AMEL15-5SJZ	85-264/47-63	100-370	13.5	5	2.70	6,600	76
AMEL15-9SJZ	85-264/47-63	100-370	15	9	1.66	4,400	77
AMEL15-12SJZ	85-264/47-63	100-370	15	12	1.25	3,000	80
AMEL15-15SJZ	85-264/47-63	100-370	15	15	1.00	2,000	81
AMEL15-24SJZ	85-264/47-63	100-370	15	24	0.625	800	81

Input Specifications					
Parameters	Conditions	Minimum	Typical	Maximum	Units
Current	115VAC		0.27	0.32	A
	230VAC		0.17	0.20	A
Inrush current <2ms (cold start)	115VAC		12		A
	230VAC		36		A
External fuse	slow blow type	3.15			A

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3V output	±3		%
	Others	±2		%
Line regulation	Full load	±0.5		%
Load regulation	0-100% load	±1		%
Ripple & Noise	20MHz bandwidth	50	120	mV p-p
Hold up time	230VAC	55		ms

*Ripple and Noise are measured at 20MHz bandwidth by using the referenced Application circuit.

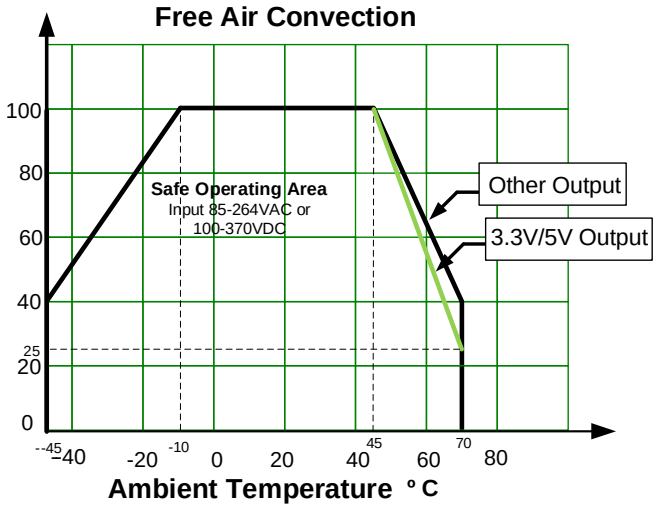
Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec		4000	VAC

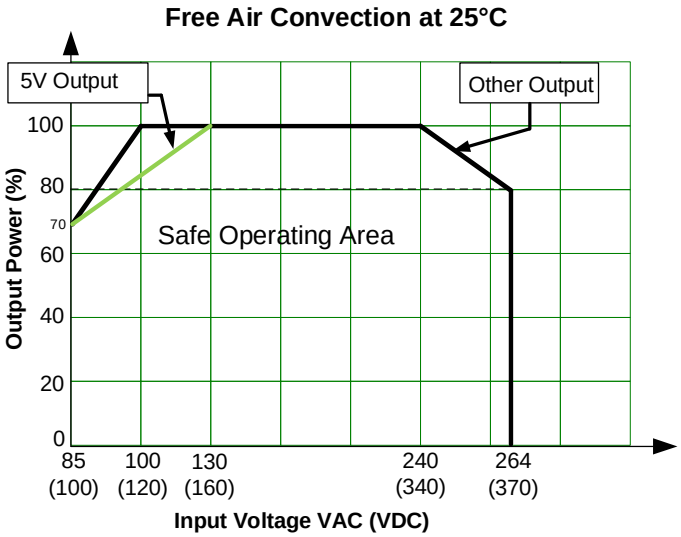
General Specifications				
Parameters	**Conditions**	**Typical**	**Maximum**	**Units**
Switching frequency	100% load	100		KHz
Protection class	Class II			
Over Current protection	Auto recovery	≥130		% of Iout
Over voltage protection	3.3V/5V Vout		≤7.5	VDC
	9V Vout		≤15	
	12V/15V Vout		≤20	
	24V Vout		≤30	
Short circuit protection	Continuous			
Short circuit restart	Auto recovery			
Operating temperature	See derating graph	-40 to +70		ºC
Maximum case temperature			100	ºC
Storage temperature		-40 to +85		ºC
Lead temperature	Wave soldering	260 ± 5℃; time：5 - 10s		
	Hand soldering	360 ± 10℃; time：3 - 5s		
Temperature coefficient		±0.02		% / ºC
Cooling	Free air convection			
Humidity	Non-condensing	95		% RH
Case material	Heat resistant black Plastic (flammability to UL 94V-0)			
Weight	PCB mountable models With optional -ST mounting plate: With optional -STD mounting plate:	60 80 100		g
Dimensions (L x W x H)	PCB mountable models With optional -ST mounting plate: With optional -STD mounting plate:	2.11 x 1.13 x 0.93 inches (53.8 x 28.8 x 23.5mm) 2.99 x 1.24 x 1.27 inches (76 x 31.5 x 32.3mm) 2.99 x 1.24 x 1.45 inches (76 x 31.5 x 36.9mm)		
MTBF	> 300 000 hrs (MIL-HDBK -217F, t=+25ºC)/Full Load			

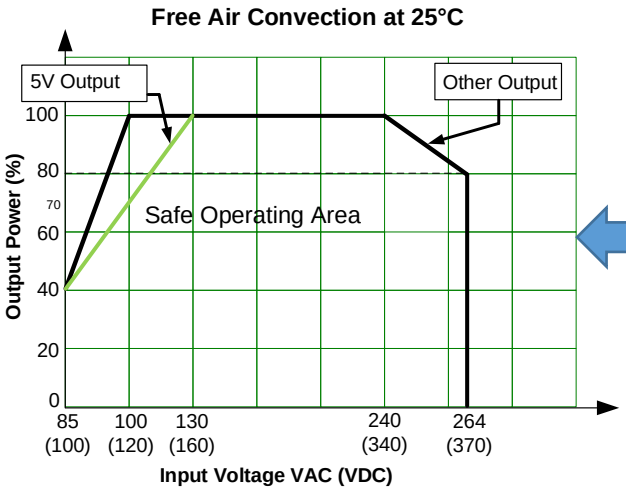
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications		
Parameters		
Standards	Information technology Equipment	IEC/EN/UL 62368
	EMC - Conducted and radiated emission	CISPR32 / EN55032, class B
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±6KV / Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±4KV, Criteria B
	Surge Immunity	IEC 61000-4-5 L-L ±2KV, with typical application circuit, Criteria B
		IEC 61000-4-5 L-L ±4KV/L-G ±6KV, with EMC recommended circuit, Criteria B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 0%, 70%, Criteria B

Derating



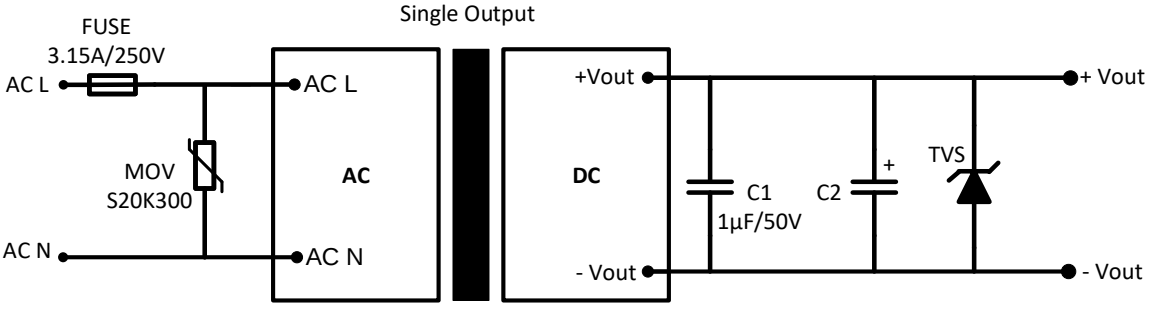




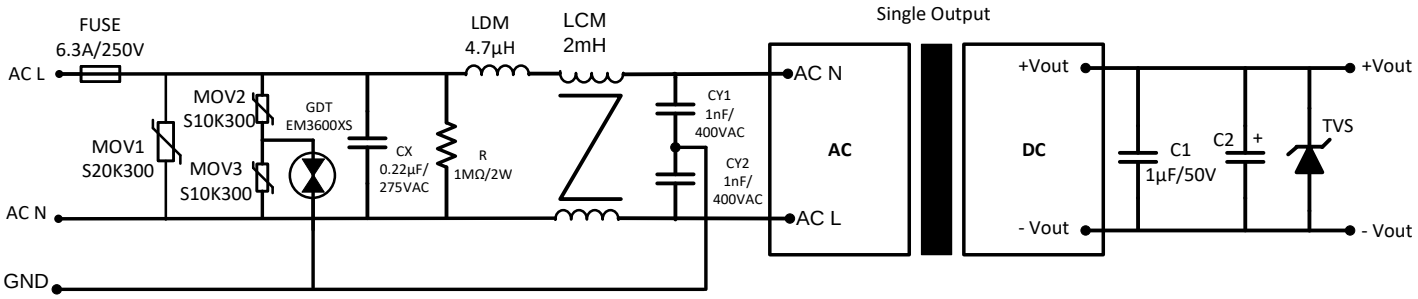
Operating temperature: -25...+70C

Operating temperature: -40...+70C

Typical Application Circuit

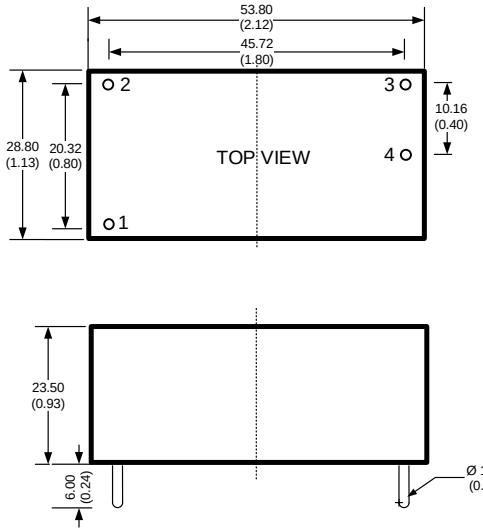


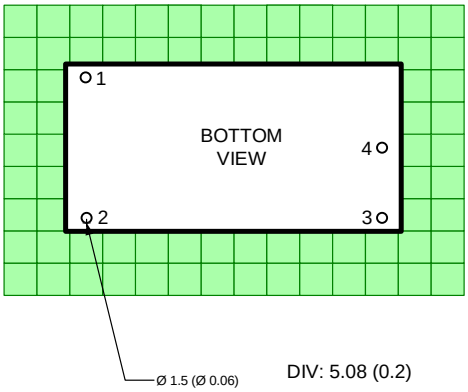
Surge Immunity Recommended Circuit



Model	C2		TVS
	Normal load	For high frequency switching load	
3.3 & 5 Vout	220 µF / 10V	470µF/16V (Solid capacitor)	7V
9Vout	120 µF / 25V	470µF/16V (Solid capacitor)	12V
12 & 15 Vout	120 µF / 25V	390µF/25V	20V
24 Vout	68 µF / 35V	220µF/35V	30V

Dimensions

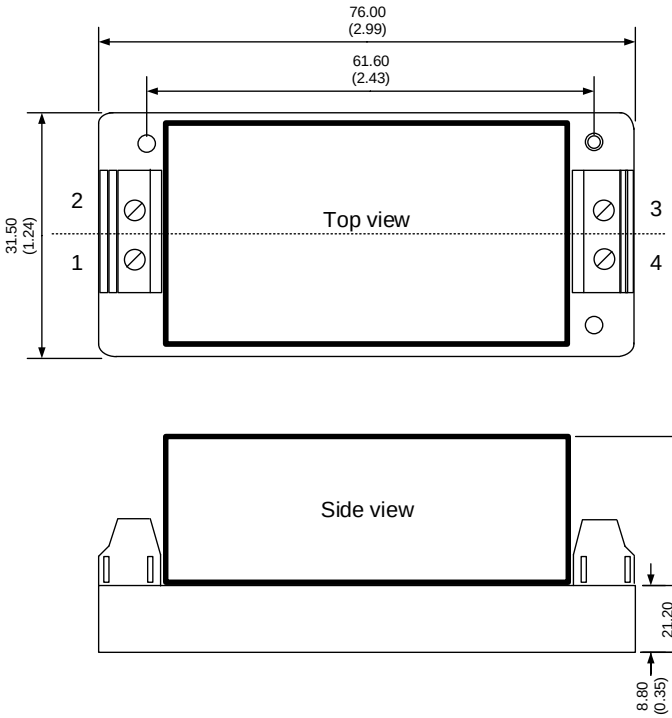




Pin Output Specifications	
Pin	Single
1	AC Input (L)
2	AC Input (N)
3	+V Output
4	-V Output

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)

Dimensions with ST Optional



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