AMEOFL15-277HALPZ

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Open frame

The AMEOFL15-277HALPZ series is one of Aimtec's highly efficient, green 15W AC-DC converter series. It features an ultra-wide input range accepting either AC or DC voltage, high efficiency, compact size in an open-frame, low power consumption and CLASS II reinforced insulation.
This 15W converter offers great operating temperatures, from -40°C to 85°C and also boasts an isolation of 4000VAC for improved reliability and system safety. Furthermore, a high MTBF of 1,000,000h, output short circuit protection (OSCP), an output over-current protection (OCP) and an over voltage protection (OVP) come standard with the series.
All models are suitable for industrial control, electric power, instrumentation and smart home applications.

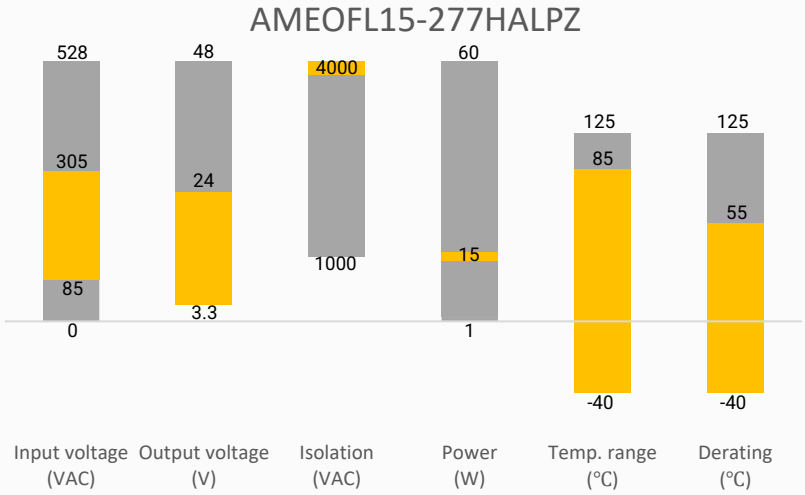
Features

- Universal Input: 85 - 305VAC/100 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 100mV(p-p), max.
- Output short circuit, over-current, over-voltage
- Open frame package

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 (%)
AMEOFL15-3S277HALPZ	85~305/47~63	100~430	9.9	3.3	3	5000	75
AMEOFL15-5S277HALPZ	85~305/47~63	100~430	14	5	2.8	5000	78
AMEOFL15-9S277HALPZ	85~305/47~63	100~430	15	9	1.67	4000	80
AMEOFL15-12S277HALPZ	85~305/47~63	100~430	15	12	1.25	2000	84
AMEOFL15-15S277HALPZ	85~305/47~63	100~430	15	15	1	1000	84
AMEOFL15-24S277HALPZ	85~305/47~63	100~430	15	24	0.625	680	85

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input current	115VAC		400	mA
	230VAC		250	mA
Inrush current	115VAC	18		A
	230VAC	35		A
External fuse	Slow blow type, required	1		A
Leakage current	277VAC, 50Hz		0.25	mA RMS

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	10% - 100% load	± 1	± 3	%
Line regulation	Full load, 3.3Vout	± 2.5		%
	Full load, others	± 1.5		%
Load regulation	10% - 100% load	± 3		%
Ripple & Noise	20MHz bandwidth, 10% - 100% load	80	100	mV p-p
Hold up time	115VAC	8		ms
	230VAC	40		ms

Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, 5mA max		4000	VAC
Insulation Resistance	500VDC	>100		MΩ

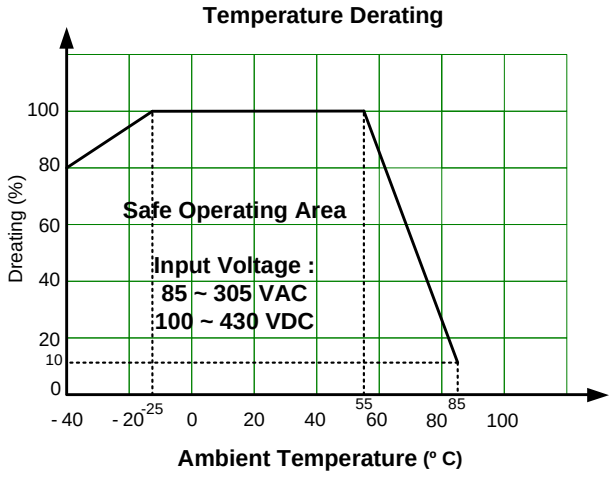
General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Switching frequency		65		Khz
Safety class	Class II			
Over Current protection	Auto recovery	≥ 110		% of Iout
Over voltage protection	3.3, 5Vout, voltage clamp, hiccup		9	VDC
	9Vout, voltage clamp, hiccup		12	VDC

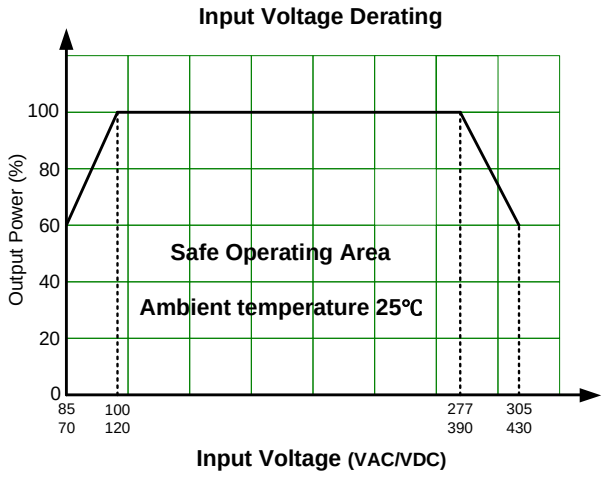
	12Vout, voltage clamp, hiccup		16	VDC
	15Vout, voltage clamp, hiccup		20	VDC
	24Vout, voltage clamp, hiccup		30	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery			
No-load power consumption	230VAC	0.1	0.25	W
Power derating	-40 °C to -25 °C	1.33		% / °C
	+55 °C to +85 °C	3		% / °C
	85VAC ~ 100VAC	2.66		% /VAC
	277VAC ~ 305VAC	1.43		% /VAC
Operating temperature		-40 to +85		°C
Storage temperature		-40 to +105		°C
Temperature coefficient		±0.15		% / °C
Reflow soldering temperature	Duration 5 - 10s	260		°C
Manual soldering temperature	Duration 3 - 5s	360		°C
Cooling	Free air convection			
Storage Humidity			95	% RH
Weight		10		g
Dimensions (L x W x H)	1.26 x 0.57 x 0.79 inches (32.00 x 14.50 x 20.00 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

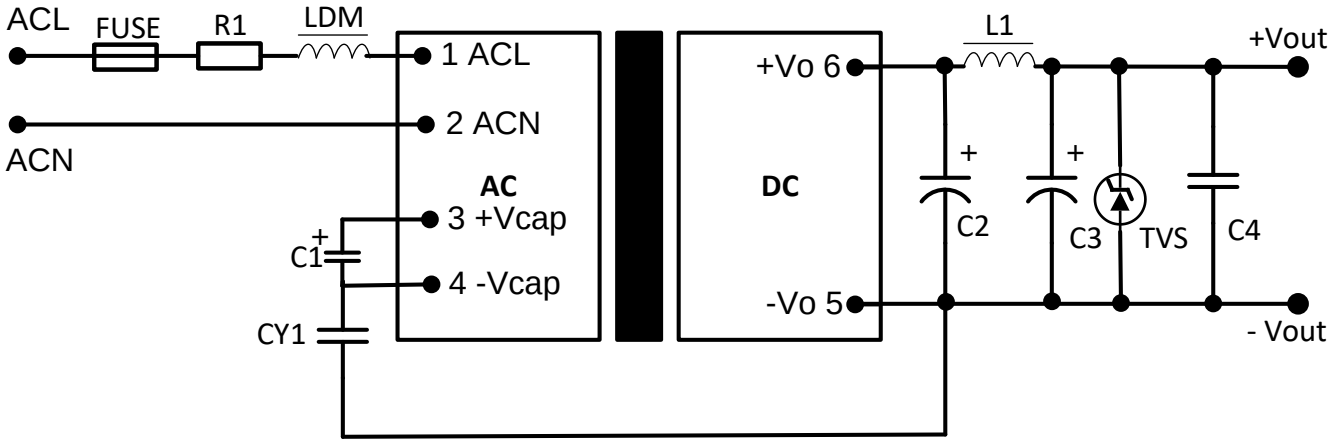
Parameters		
Standards	Designed to meet UL/IEC/EN62368-1, IEC/EN60335-1, IEC/EN61558-1, IEC/EN61558-2-16	
	EMC - Conducted and radiated emission	CISPR32 / EN55032, Class B (With EMC recommended circuit)
	Electrostatic Discharge Immunity	IEC/EN61000-4-2 Contact ±6KV, Air ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC/EN61000-4-3 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC/EN61000-4-4 ±2KV, Criteria B (With typical application circuit) IEC/EN61000-4-4 ±4KV, Criteria B (With EMC recommended circuit)
	Surge Immunity	IEC/EN61000-4-5 L-L ±1KV, Criteria B (With typical application circuit) IEC/EN61000-4-5 L-L ±2KV, Criteria B (With EMC recommended circuit)
	RF, Conducted Disturbance Immunity	IEC/EN61000-4-6 10Vr.m.s, Criteria A

Derating





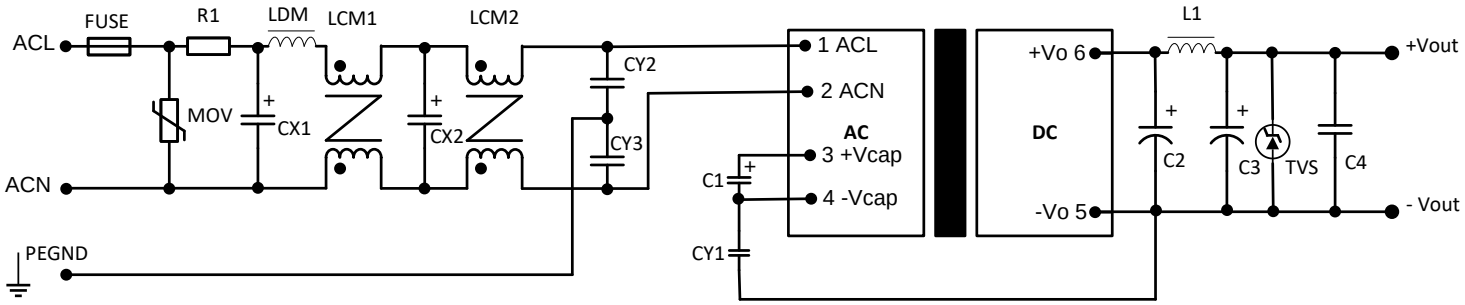
Typical Application Circuit



This circuit is the basic design reference, components with "" are required for the converter's operation.
FUSE to be 1A, slow blow and is also required for safety. R1* is 6.8Ω, 3W, wire-wound resistor.

Vout	C1*	C2*	C3*	C4	CY1*	LDM*	TVS
3.3V, 5V	33uF, 450V	1000uF, 16V	470uF, 25V	0.1uF,50V	2.2nF, 400VAC	2.2uH, 6.5A	SMBJ7.0A
9V, 12V	33uF, 450V	470uF, 25V	220uF, 25V	0.1uF,50V	1nF, 400VAC	2.2uH, 6.5A	SMBJ12A
15V, 24V	33uF, 450V	470uF, 35V	150uF, 35V	0.1uF,50V	1nF, 400VAC	3.3uH, 5A	SMBJ20A

EMC Recommended Circuit

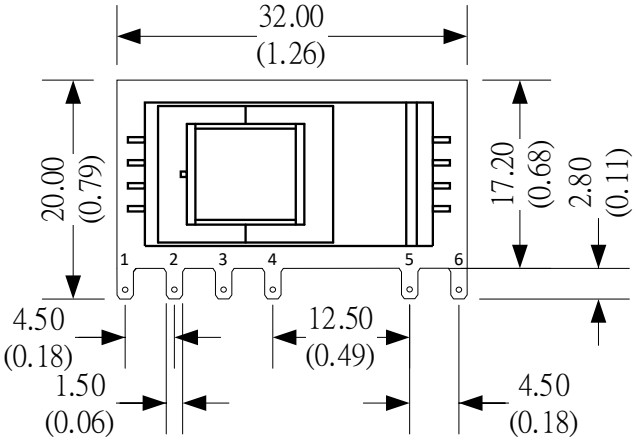


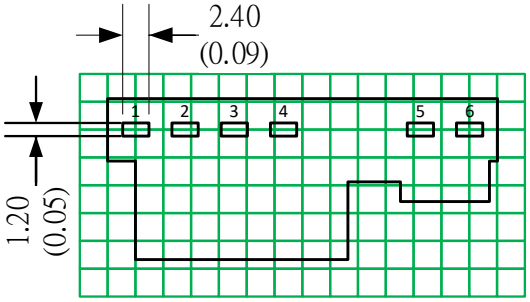
Components above with "" are required for the converter's operation. "R1" is wire-wound resistor. For other components, please refer to the typical application circuit

Component	FUSE*	R1*	MOV	LDM	LCM1	LCM2	CX1, CX2	CY1, CY2, CY3
Spec	2A, 300V	6.8Ω, 3W	S14K350	2.2mH, 0.4A	200uH, 0.8A	12.6mH, 0.5A	0.1uF, 310VAC	1nF, 400VAC

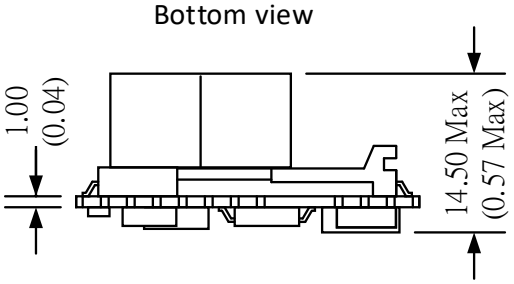
Dimensions

Front view





Bottom view



Unless otherwise specified unit: mm(inch)
General tolerance: ±1.00(±0.04)
Pin thickness: ±0.10(±0.004)
Footprint grid 2.54x2.54 mm

Pin Output Specifications	
Pin	Function
1	+V Input (L)
2	-V Input (N)
3	+V_Cap
4	-V_Cap
5	-V Output
6	+V Output

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