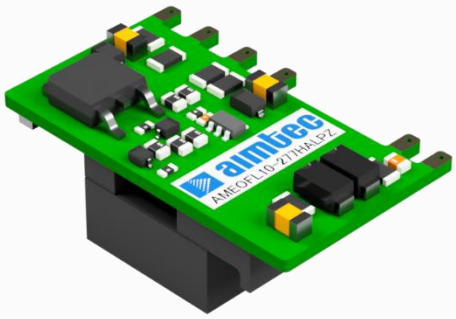
AMEOFL10-277HALPZ

Click to ORDER samples



Open frame

The AMEOFL10-277HALPZ series is one of Aimtec's highly efficient, green 10W 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 10W converter offers great operating temperatures, from -40℃ to 85℃ 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.

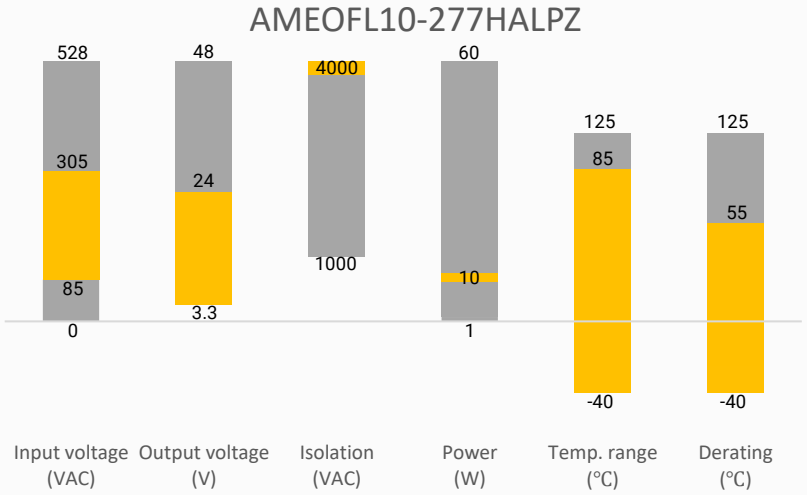
Features

- Universal Input: 85 - 305VAC/100 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 150mV(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

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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 (%)
AMEOFL10-3S277HALPZ	85~305/47~63	100~430	6.6	3.3	2	1500	74
AMEOFL10-5S277HALPZ	85~305/47~63	100~430	10	5	2	1500	78
AMEOFL10-9S277HALPZ	85~305/47~63	100~430	10	9	1.1	1000	79
AMEOFL10-12S277HALPZ	85~305/47~63	100~430	10	12	0.84	680	83
AMEOFL10-15S277HALPZ	85~305/47~63	100~430	10	15	0.67	470	83
AMEOFL10-24S277HALPZ	85~305/47~63	100~430	10	24	0.42	330	84

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
Input filter	External EMC filter (refer to recommended EMC circuit)			

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	150	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			
Overvoltage category	OVC II			
Over Current protection	Auto recovery	≥ 110		% of Iout
Over voltage protection	3.3, 5Vout, voltage clamp, hiccup		9	VDC

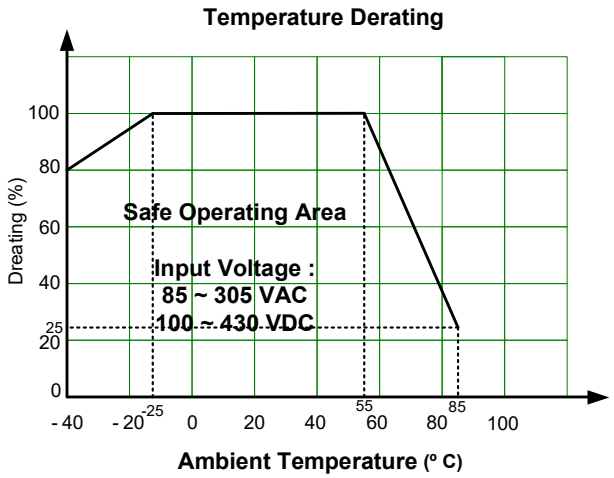
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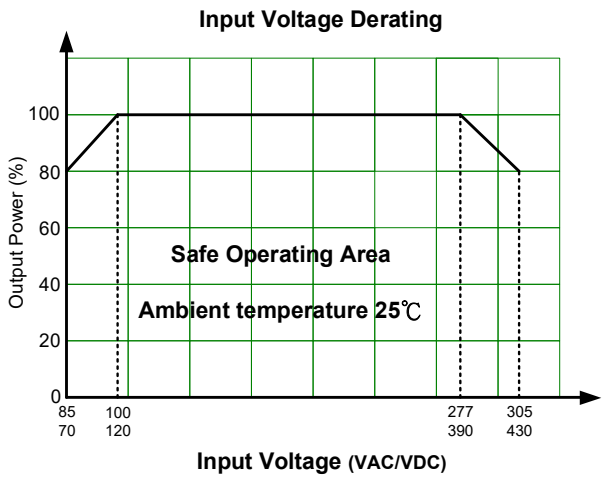
	9Vout, voltage clamp, hiccup		12	VDC
	12Vout, voltage clamp, hiccup		16	VDC
	15Vout, voltage clamp, hiccup		20	VDC
	24Vout, voltage clamp, hiccup		30	VDC
Short circuit protection	Hiccup, Continuous, Auto recovery			
No-load power consumption	230VAC	0.1	0.25	W
Power derating	-40 °C to -25 °C	1.33		% / °C
	+55 °C to +85 °C	2.5		% / °C
	85VAC ~ 100VAC	1.33		% /VAC
	277VAC ~ 305VAC	0.72		% /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 0.68 inches (32.00 x 14.50 x 17.20 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	
	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

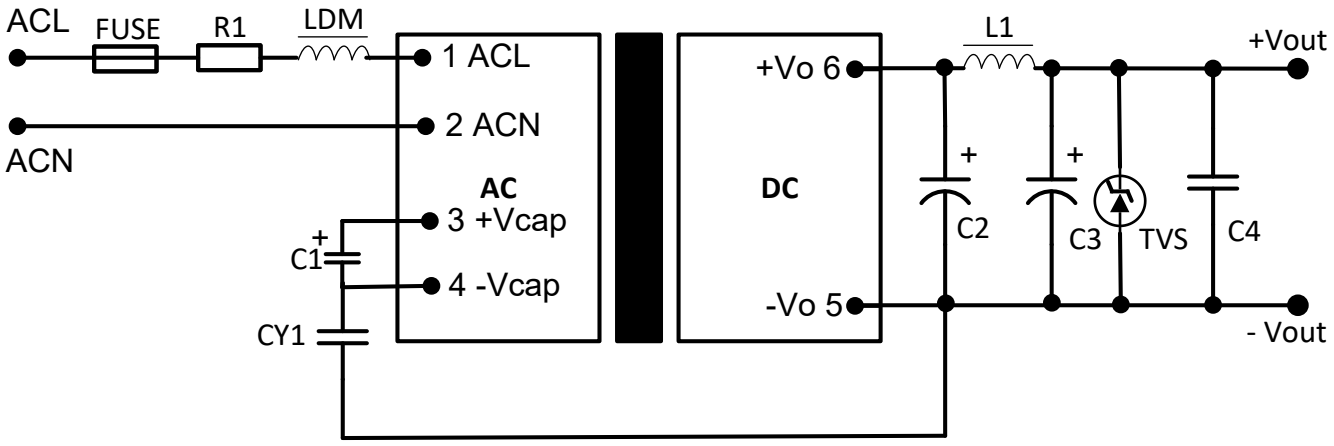
Derating





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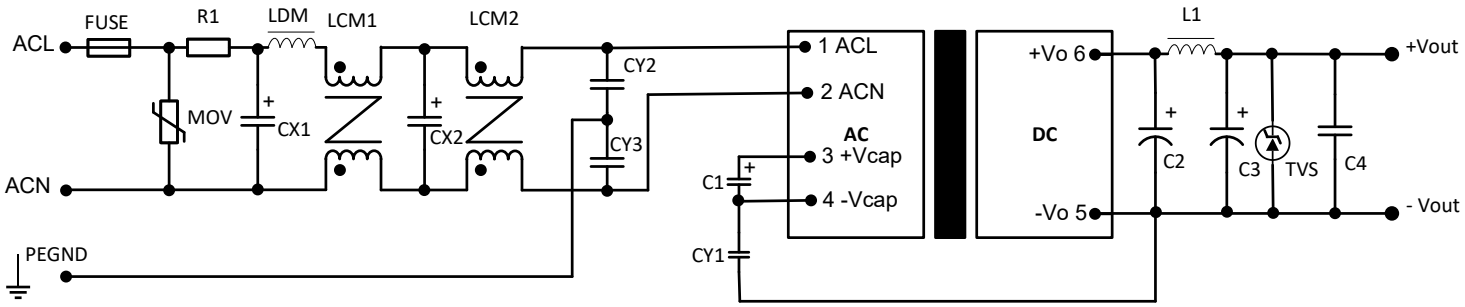
Typical Application Circuit



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*	L1*	TVS
3.3V, 5V	22uF, 450V	820uF, 16V	150uF, 25V	0.1uF,50V	1nF, 400VAC	2.2uH, 6.5A	SMBJ7.0A
9V, 12V	22uF, 450V	470uF, 25V	150uF, 25V	0.1uF,50V	1nF, 400VAC	2.2uH, 6.5A	SMBJ12A
15V, 24V	22uF, 450V	470uF, 35V	100uF, 35V	0.1uF,50V	1nF, 400VAC	3.3uH, 5A	SMBJ20A

EMC Recommended Circuit



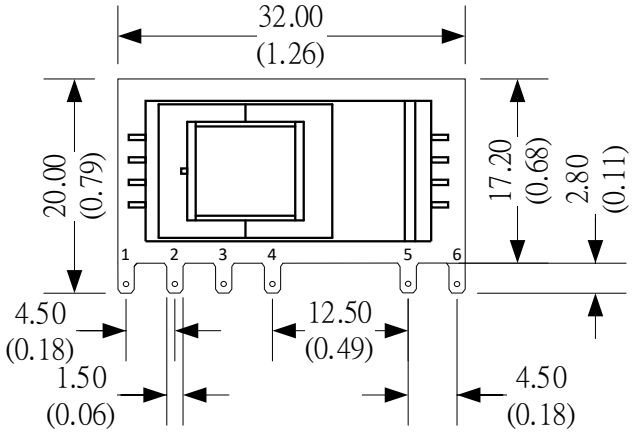
Components above with "" are required for the converter's operation. "R1" is wire-wound resistor. For other components, please refer to the typical application circuit

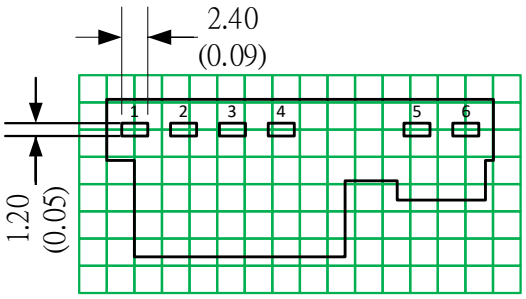
Component	FUSE*	R1*	MOV	LDM	LCM1	LCM2	CX1, CX2	CY1, CY2, CY3
Spec	2A, 300V	6.8Ω, 3W	S14K350	2.2mH, 0.4A	200uH, 0.8A	12.6mH, 0.5A	0.1uF, 310VAC	1nF, 400VAC

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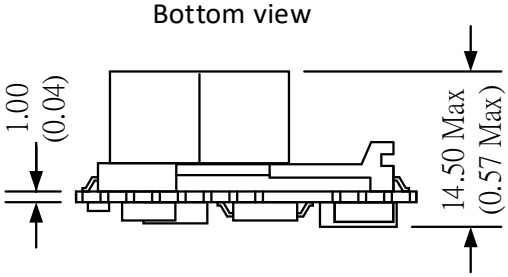
Dimensions

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	AC (L)
2	AC (N)
3	+V_Cap
4	-V_Cap
5	-V Output
6	+V Output

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.

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