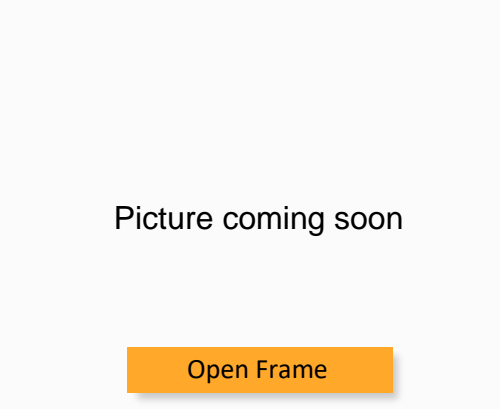




**AMEOF5-277NZ**



The AMEOF5-277NZ series is one of Aimtec highly efficient green 5W AC-DC converters. They feature an ultra-wide wide input range accepting either AC or DC voltage, high efficiency, low power consumption and CLASS II reinforced insulation.

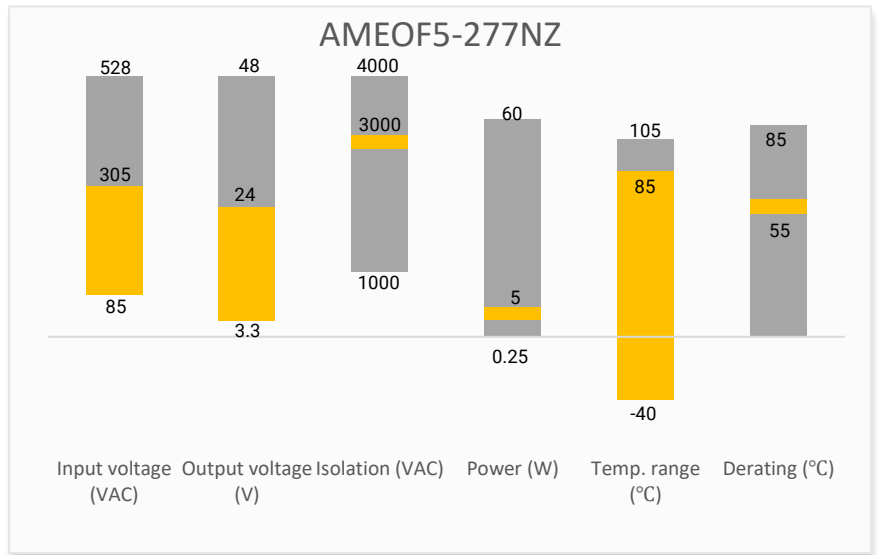
This new series offers great operating temperatures, from -40°C to 85°C and an isolation of 3000VAC for improved reliability and system safety. Furthermore, a high MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP) come standard with the series.

The converter can be configured to meet class A or class B of the CISPR32/EN55032 standard. This series is suitable for industrial control, electric power, instrumentation and smart home applications with dimensional constraints.

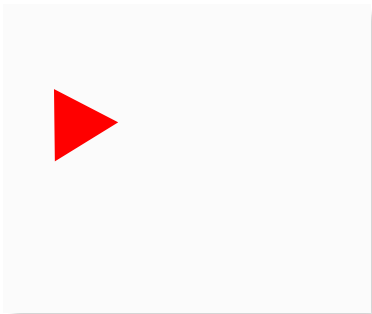
**Features**

- Universal Input: 85 - 305VAC/70 - 430VDC
- Operating Temp: -40 °C to +85 °C
- High isolation voltage: 3000VAC
- Low ripple & noise, 150mV(p-p), max.
- Output short circuit, over-current protection


**Summary**



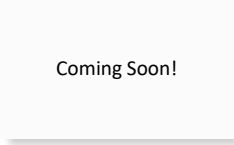
**Training**



Product Training Video  
(click to open)



Press Release



Coming Soon!

**Applications**



## 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 ( $\mu$ F)	Efficiency @ 230VAC (%)
AMEOF5-03S277NZ	85~305/47~63	70~430	3.3	3.3	1	2200	67
AMEOF5-05S277NZ	85~305/47~63	70~430	5	5	1	1500	74
AMEOF5-09S277NZ	85~305/47~63	70~430	5	9	0.56	680	75
AMEOF5-12S277NZ	85~305/47~63	70~430	5	12	0.42	470	77
AMEOF5-15S277NZ	85~305/47~63	70~430	5	15	0.34	330	77
AMEOF5-24S277NZ	85~305/47~63	70~430	5	24	0.21	100	79

Input Specifications				
Parameters	Conditions	Typical	Maximum	Units
Input Current	115VAC		200	mA
	277VAC		100	
Inrush current	115VAC	20		A
	277VAC	40		
Input fuse	1A Slow-blow type required			

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	10-100% load	$\pm 5$		%
Line regulation	Full load	$\pm 1.5$		%
Load regulation	10-100% load	$\pm 3$		%
Ripple & Noise	20MHz bandwidth	80	150	mV p-p

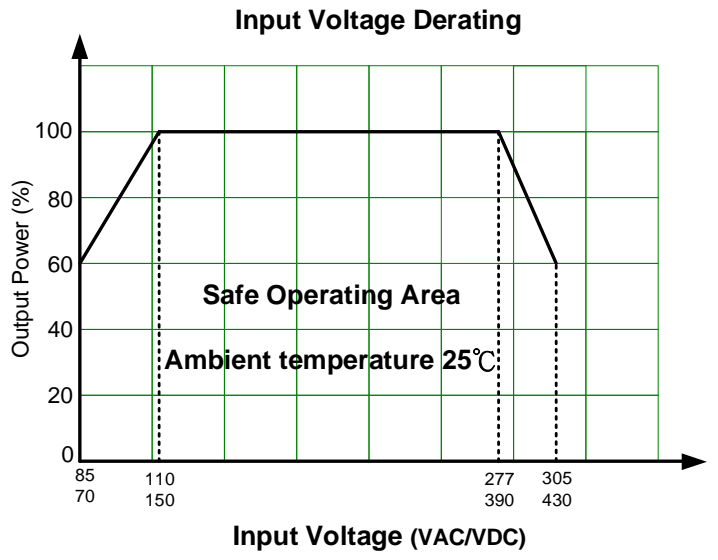
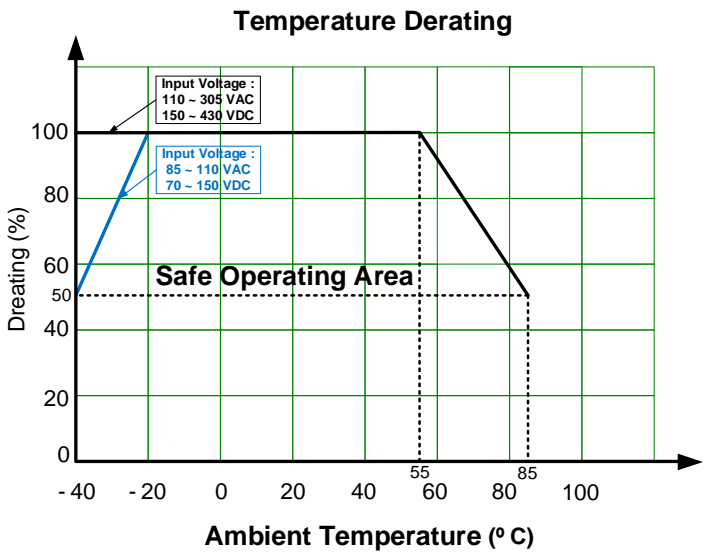
Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec, 5mA max		3000	VAC

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Over Current protection	Auto recovery	$\geq 110$		% of Iout
Short circuit protection	Hiccup, Continuous, Auto recovery			
Operating temperature	-40 to +85			$^{\circ}$ C
Storage temperature	-40 to +105			$^{\circ}$ C
Power consumption	230VAC	0.25	0.5	W
Temperature coefficient		$\pm 0.15$		% / $^{\circ}$ C
Safety class	Class II			
Cooling	Free air convection			
Storage Humidity			95	% RH
Weight		6		g

Dimensions (L x W x H)	1.38 x 0.71 x 0.43 inches ( 35.00 x 18.00 x 11.00mm )
MTBF	> 300 000 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.	

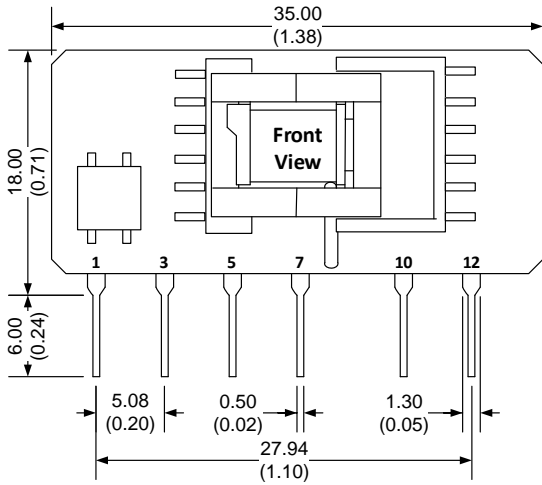
Safety Specifications		
Parameters		
Standards	Design to meet ICE/EN/UL62368	
	EMC - Conducted and radiated emission	CISPR32 / EN55032 Class A, with typical application circuit CISPR32 / EN55032 Class B, with EMC recommended circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2 Contact ±4KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3 10V/m, with EMC recommended circuit, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4 ±2KV with typical application circuit, Criteria B IEC 61000-4-4 ±4KV with EMC recommended circuit, Criteria B
	Surge Immunity	IEC 61000-4-5 L-L ±1KV with typical application circuit, Criteria B IEC 61000-4-5 L-L & L-G ±2KV with EMC recommended circuit, Criteria B
	RF, Conducted Disturbance Immunity	IEC 61000-4-6 10Vr.m.s with EMC recommended circuit, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11 0%, 70%, with EMC recommended circuit, Criteria B

## Derating



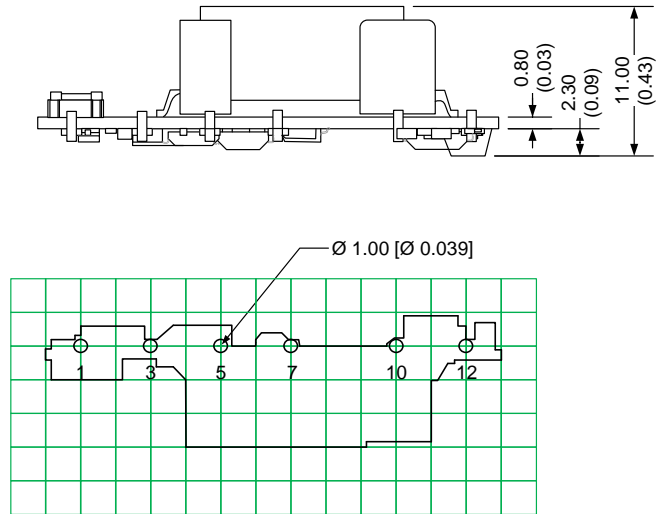
With an AC input between 85-110VAC / 277-305VAC and a DC input between 70-150VDC / 390-430VDC, the output power must be derated as per temperature derating curves.

## Dimensions



Note:  
Unit: mm [inch]  
Pin section tolerances:  $\pm 0.10$  [ $\pm 0.004$ ]  
General tolerances:  $\pm 0.50$  [ $\pm 0.020$ ]

Bottom View

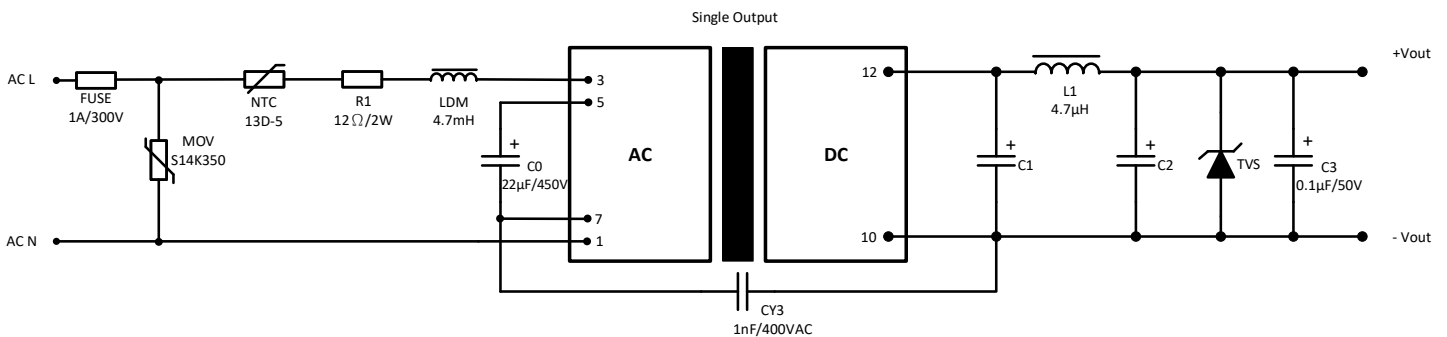


Pin Output Specifications	
Pin	Function
1	-V Input (N)
3	+V Input (L)
5	+V_Cap
7	-V_Cap
10	-V Output
12	+V Output

**Note:**

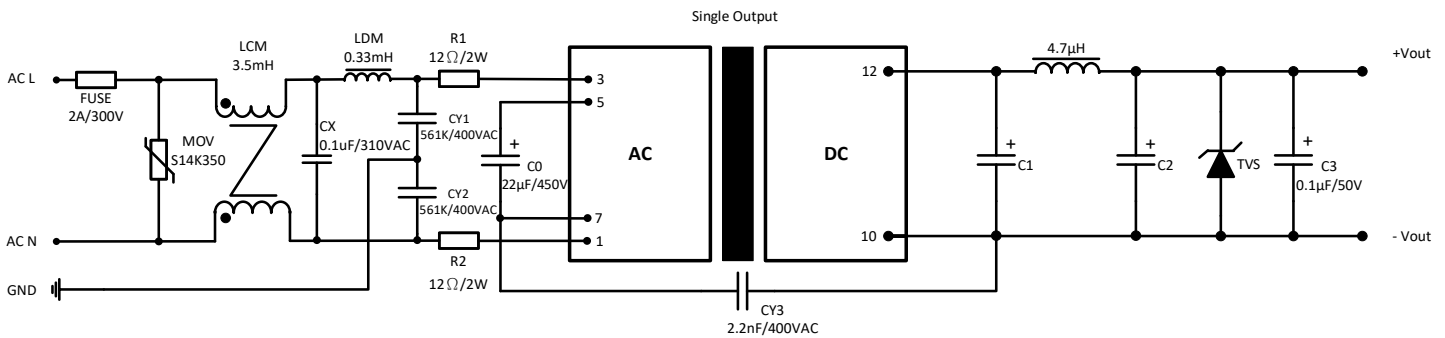
1. It is necessary to add C1 between pin5 to pin7.
2. It is necessary to add circuit to the output, such as the application circuit.
3. It is needed to have distance  $\geq 6.4\text{mm}$  for safety between external components in primary circuit and secondary circuit.
4. The layout of the device is for reference only, please refer to the actual product.

## Typical application circuit



Model name	C1	C2	TVS
AMEOF8-03S277NZ	470 $\mu$ F/16V (Solid capacitor)	150 $\mu$ F/35V	SMBJ7.0A
AMEOF8-05S277NZ			SMBJ12A
AMEOF8-09S277NZ	270 $\mu$ F/16V (Solid capacitor)	100 $\mu$ F/35V	SMBJ20A
AMEOF8-12S277NZ			SMBJ30A
AMEOF8-15S277NZ	470 $\mu$ F/35V	47 $\mu$ F/35V	SMBJ30A
AMEOF8-24S277NZ	220 $\mu$ F/35V		SMBJ30A

## Recommended EMC external circuit



**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 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).