

**SERIES:** VOF-S12B | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- universal input range (90 ~ 264 Vac)
- Class B emissions (EN55032/CISPR/FCC)
- certified to IEC/EN/UL 62368-1
- designed to meet IEC/EN 60335
- short circuit protection
- over voltage protection
- < 75 mW no-load power consumption
- Class II



MODEL	output voltage (Vdc)	output current		output power max (W)	ripple and noise <sup>1</sup> max (mVp-p)	efficiency <sup>2</sup> typ (%)
		min (A)	max (A)			
VOF-S12B-5	5	0	2.0	10	100	80
VOF-S12B-9	9	0	1.34	12	100	85
VOF-S12B-12	12	0	1.0	12	120	85
VOF-S12B-15	15	0	0.8	12	150	85
VOF-S12B-24	24	0	0.5	12	240	87

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, with 1 µF ceramic and 10 µF electrolytic capacitors on the output.  
 2. At 230 Vac, full load, 25°C.  
 3. All specifications are measured at Ta=25°C, nominal input voltage, and 75% rated output load unless otherwise specified.

**PART NUMBER KEY**



## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
		120		370	Vdc
frequency		47		63	Hz
current				400	mA
inrush current	at 240 Vac, cold start, 25°C			50	A
leakage current	at 264 Vac			0.25	mA

## OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output models			2,000	μF
	9 Vdc output models			1,340	μF
	12 Vdc output models			1,000	μF
	15 Vdc output models			800	μF
	24 Vdc output models			500	μF
initial set point accuracy	at 100% load			±2	%
line regulation	measured at high line to low line at full load			±1	%
load regulation	measured at 10%~100% load			±1	%
start-up time				3	s
hold-up time	at 115 Vac		10		ms
switching frequency			65		kHz
temperature coefficient			±0.05		%/°C

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	hiccup, auto recovery				
	5 Vdc output models			6.3	Vdc
	9 Vdc output models			12.6	Vdc
	12 Vdc output models			15.8	Vdc
	15 Vdc output models			18.9	Vdc
	24 Vdc output models			31.5	Vdc
short circuit protection	hiccup, auto recovery				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute	3,000			Vac
isolation resistance		100			MΩ
safety approvals	certified to IEC/EN/UL 62368-1 designed to meet IEC/EN 60335				
safety class					
conducted emissions	EN55032 2015, EN61000-6-3 2007+A1: 2011+AC: 2012, Class B, 47 CFR FCC Part 15 Subpart B (Class B)				
radiated emissions	EN55032 2015, EN61000-6-3 2007+A1: 2011+AC: 2012, Class B, 47 CFR FCC Part 15 Subpart B (Class B)				
harmonic current emissions	EN61000-3-2:2014				
voltage fluctuations & flicker	EN61000-3-3:2013				
ESD	IEC61000-4-2:2008				
radiated immunity	IEC61000-4-3:2010				
EFT/burst	IEC61000-4-4:2012				
surge	IEC61000-4-5:2014				

## SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
conducted immunity	IEC61000-4-6:2013				
power frequency magnetic field	IEC61000-4-8:2009				
voltage dips & interruptions	IEC61000-4-11:2004				
MTBF	as per MIL-HDBK-217F, at 115 Vac, 25°C, GB				
	5 Vdc output model		580,000		hours
	9 Vdc output model		870,000		hours
	12 Vdc output model		660,000		hours
	15 Vdc output model		740,000		hours
	24 Vdc output model		620,000		hours
RoHS	yes				

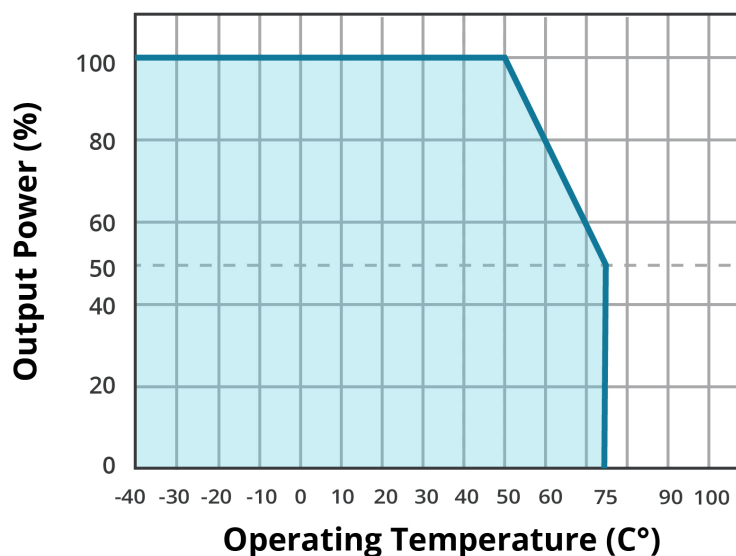
Notes: 4. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-40		75	°C
storage temperature		-40		85	°C
operating humidity	non-condensing			93	%
altitude				5,000	m
vibration	as per MIL-STD-810F Table 514.5C-VIII; 15~2000 Hz for 1 hour on each axis for 3 hours		4		G
shock	as per MIL-STD-810F Table 516.5, Table 516.5-1; for 10 ms on each axis 3 times		75		G

## DERATING CURVES

### TEMPERATURE DERATING CURVE



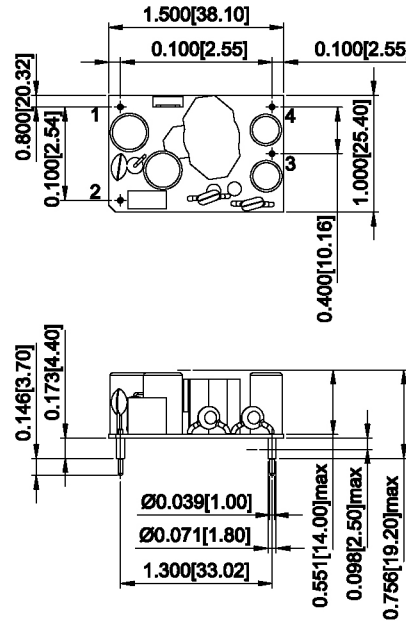
## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	1.50 x 1.00 x 0.756 (38.10 x 25.40 x 19.20 mm)				inches
weight			16		g

## MECHANICAL DRAWING

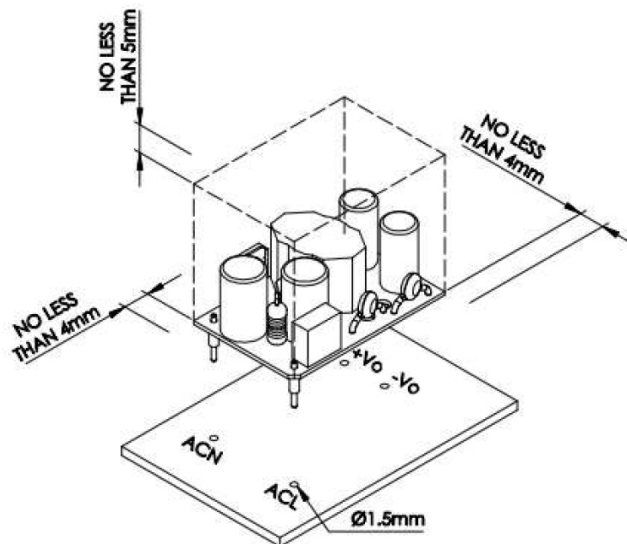
units: inch [mm]  
tolerance:  $\pm 0.020$  [ $\pm 0.50$ ]

PIN CONNECTIONS	
PIN	Function
1	AC (N)
2	AC (L)
3	-Vo
4	+Vo



## INSTALLATION INSTRUCTIONS

The mounting holes should all be 1.5 mm in diameter. A minimum of 4 mm clearance is required for all four sides of the unit and a minimum of 5 mm clearance is required above the top surface of the unit.



## REVISION HISTORY

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rev.	description	date
1.0	initial release	02/13/2020
1.01	updates to mechanical section	04/08/2020
1.02	derating curve updated	04/27/2021

The revision history provided is for informational purposes only and is believed to be accurate.



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