

**SERIES:** VOF-85 | **DESCRIPTION:** AC-DC POWER SUPPLY

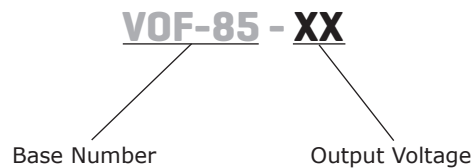
**FEATURES**

- up to 85 W continuous power
- compact size
- universal input (90~277 Vac)
- single output from 5~48 Vdc
- user trimmable output voltage option
- no load power consumption <0.25W
- 3000 Vac isolation
- over current, over voltage, and short circuit protections
- UL/cUL and TUV 60950-1 safety approvals
- efficiency up to 89%



MODEL	output voltage	output current max	output power <sup>1</sup> max	ripple and noise <sup>2</sup> max	efficiency
	(Vdc)	(A)	(W)	(mVp-p)	typ (%)
VOF-85-5	5	10.6	53	120	78
VOF-85-12	12	7.1	85	120	86
VOF-85-15	15	5.7	85	150	88
VOF-85-24	24	3.6	85	240	87
VOF-85-48	48	1.8	85	480	89

Notes: 1. 5 Vdc output model requires forced air with 6.7 CFM external fan to achieve 53W. All other models can achieve 85W with convection cooling.  
2. Ripple & noise are measured at 20 MHz BW with 0.1  $\mu$ F ceramic cap and a 10  $\mu$ F electrolytic capacitors on the output and the two earth ground pads are connected to input earth ground.

**PART NUMBER KEY**


## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		277	Vac
frequency		47		63	Hz
input current	at 115 Vac, full load at 230 Vac, full load		1.8 0.8		A A
inrush current	at 230 Vac, cold start		50		A
leakage current	at 277 Vac			3.5	mA
no load power consumption	at 110 Vac at 230 Vac			0.25 0.35	W W
input fuse	5 A/250V time delay fuse (included)				

## OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	low line to high line		±0.5		%
load regulation	full load to 10% load		±1		%
initial set point accuracy			±3		%
transient response	1 kHz, 10~100% load VOF-85-5 VOF-85-12 VOF-85-15 VOF-85-24 VOF-85-48		500 1200 1500 2400 4800		mVp-p mVp-p mVp-p mVp-p mVp-p
hold-up time	at 115 Vac, full load	8			ms
start-up time	at 115 Vac, full load		50		ms
start-up delay	at 115 Vac, full load		1000		ms
adjustability	built in trim pot		±5		%
switching frequency		61	65	69	kHz
temperature coefficient			±0.03		%/°C
fan drive <sup>1</sup>	12 Vdc/100 mA for external fan				

Notes: 1. Fan drive for VOF-85-5 model only.

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
short circuit protection	hiccup, auto recovery	110			%
over current protection	hiccup, auto recovery	110			%
over voltage protection	clamped by TVS				

## SAFETY & COMPLIANCE

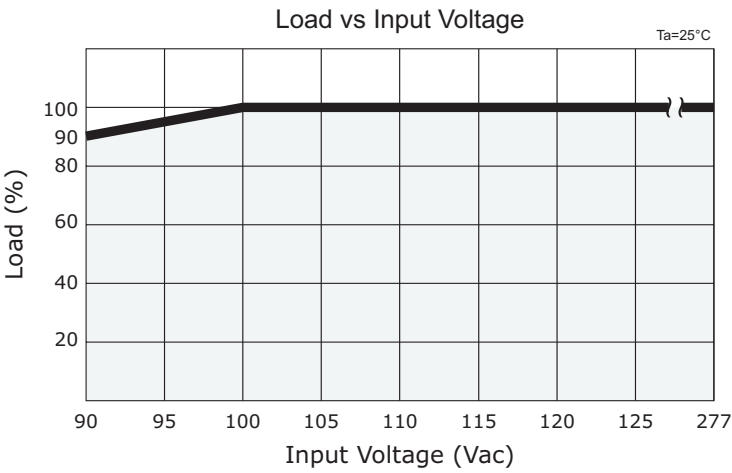
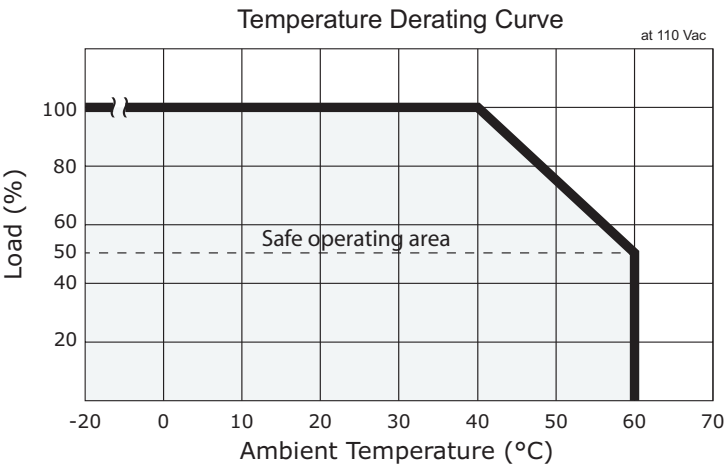
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output input to ground output to ground	3,000 1,500 1,500			Vac Vac Vac
safety approvals	UL60950-1, EN60950-1				
EMI/EMC <sup>2</sup>	EN 55022: 2010 Class B, EN 61204-3:2000, EN 61000-6-3: 2007 +A1: 2011, EN 61000-3-2: 2006 +A2: 2009, EN 61000-3-3: 2008, EN 55024: 2010, EN 61000-6-1: 2007, ENV 50204: 1995, CE, FCC				
class	class II				
MTBF	as per MIL-HDBK-217F at 25 °C, full load	250,000			hours
RoHS	2011/65/EU				

Notes: 2. 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	-20		60	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	20		90	%
operating altitude			2000		m
vibration & shock	10~3000Hz, 10 minutes per cycle, for 1 hour along each of the X, Y, and Z axes		2		G

DERATING CURVES



MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	101.6 x 50.8 x 33.6 (4.00 x 2.00 x 1.32 inch)				mm
weight			170		g
cooling method	VOF-85-5: 6.7 CFM external fan at 25mm (not included) all other models: open frame (convection)				

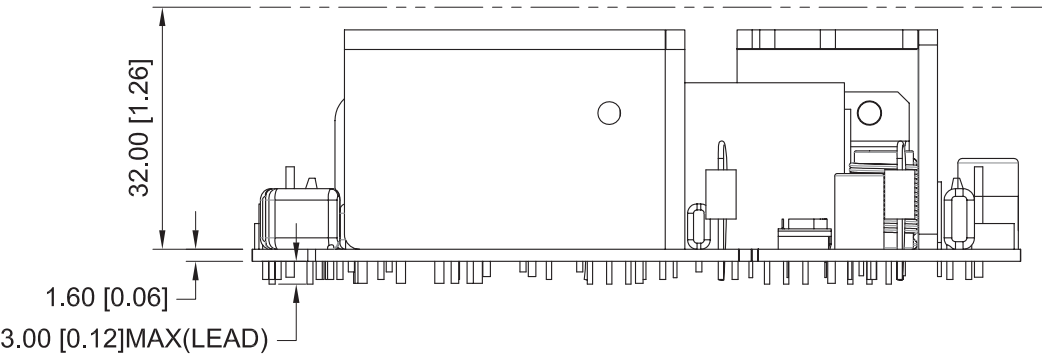
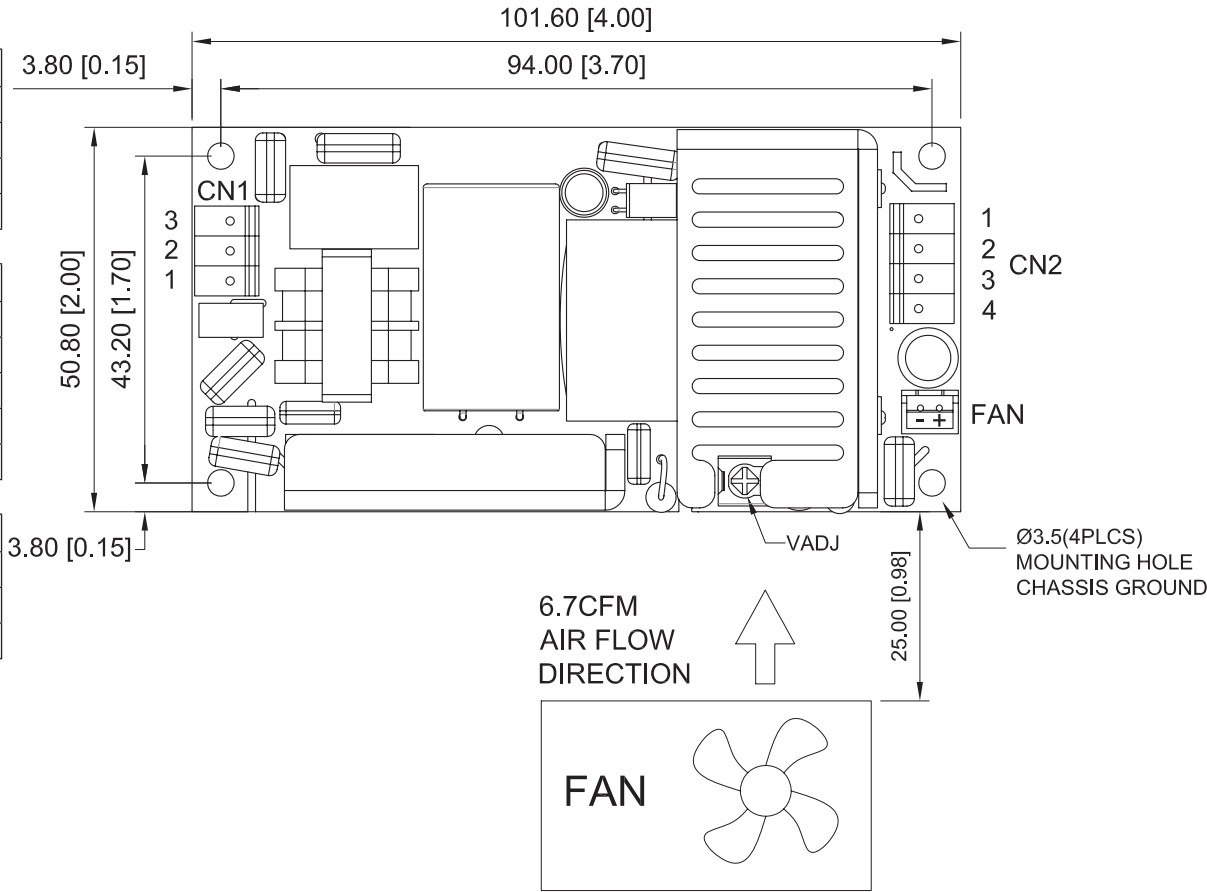
MECHANICAL DRAWING

units: mm[inch]  
tolerance: ±0.30

CN1	
PIN	Function
1	L
2	NP
3	N

CN2	
PIN	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo

Fan <sup>1</sup>	
PIN	Function
1	+FAN
2	-FAN



Notes:

- 1. Fan connector only populated on model VOF-85-5.
- 2. CN1 mates with Molex housing 09-50-3031 with Molex 2478 series crimp contact or equivalent.
- 3. CN2 mates with Molex housing 09-50-3041 with Molex 2478 series crimp contact or equivalent.
- 4. Fan connector mates with JST housing XHP-2 with JST SXH-001T-P0.6 crimp contact or equivalent.
- 5. All specifications are measured at Ta=25°C, 230 Vac input voltage, and rated output load unless otherwise specified.

## REVISION HISTORY

rev.	description	date
1.0	initial release	04/08/2014
1.01	updated datasheet	05/09/2014
1.02	updated derating curve, updated datasheet	06/10/2014
1.03	updated datasheet	07/22/2014

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



**Headquarters**  
20050 SW 112th Ave.  
Tualatin, OR 97062  
**800.275.4899**

Fax 503.612.2383  
**cui.com**  
techsupport@cui.com

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