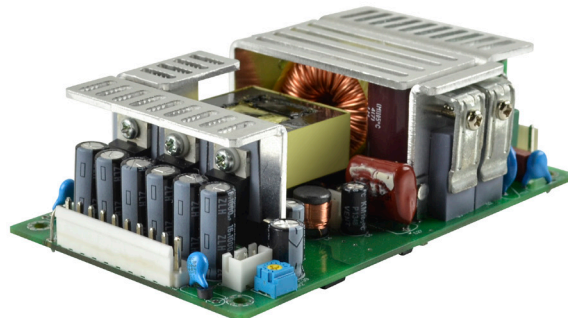




## SERIES: VOF-280 | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

- up to 280 W continuous power
- universal input voltage range
- industry standard 3" x 5" footprint
- power factor correction
- low no load power consumption
- over voltage, over current, and short circuit protections
- output trim
- UL/cUL and TUV safety approvals
- efficiency up to 91%

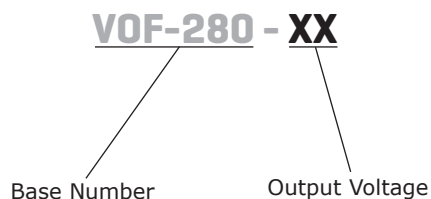


MODEL	output voltage	output current	output power <sup>1</sup>	ripple and noise <sup>2</sup>	efficiency <sup>3</sup>
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VOF-280-12	12	23.33	280	120	88
VOF-280-15	15	18.67	280	150	90
VOF-280-24	24	11.67	280	240	90
VOF-280-36	36	7.78	280	360	90
VOF-280-48	48	5.84	280	480	91

Notes:

1. Maximum output power of 280 W with forced air cooling (34.2 CFM), 168 W with convection cooling.
2. At full load, nominal input, 20 MHz bandwidth oscilloscope, using a 12" twisted pair wire terminated together with a 0.1  $\mu$ F and 47  $\mu$ F capacitor.
3. At full load, 230 Vac input, without external fan.
4. All specifications are measured at  $T_a=25^\circ\text{C}$ , 230 Vac input voltage, and rated output load unless otherwise specified.

### PART NUMBER KEY



## INPUT

parameter	conditions/description	min	typ	max	units
voltage		90		277	Vac
frequency		47		63	Hz
current	at 115 Vac, full load at 230 Vac, full load		3.5 1.7		A A
inrush current	at 230 Vac, cold start			80	A
leakage current	at 264 Vac			3.5	mA
power factor correction	at 115 Vac, full load at 230 Vac, full load	0.98 0.95			
no load power consumption	at 230 Vac			0.5	W
input fuse	6.3 A / 250 V time delay fuse (included)				

## OUTPUT

parameter	conditions/description	min	typ	max	units
initial set point accuracy			±3		%
line regulation			±0.5		%
load regulation	from 100%~10% load		±1		%
transient response	1 kHz, 90%~10% load				
	VOF-280-12		1,200		mVp-p
	VOF-280-15		1,500		mVp-p
	VOF-280-24		2,400		mVp-p
	VOF-280-36		3,600		mVp-p
	VOF-280-48		4,800		mVp-p
start-up delay time	at 115 Vac		3		s
	at 230 Vac		2.5		s
start-up rise time	at 115/230 Vac		60		ms
hold-up time	at 115/230 Vac	10			ms
adjustability	built in trim pot		±5		%
switching frequency		75		400	kHz
temperature coefficient	at 0~50°C		±0.03		%/°C
fan output	12 Vdc / 300 mA				

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	latch mode				
	VOF-280-12	13.8		15.8	Vdc
	VOF-280-15	16.5		19.5	Vdc
	VOF-280-24	26.5		31.5	Vdc
	VOF-280-36	38.5		43.5	Vdc
	VOF-280-48	55		62	Vdc
over current protection	hiccup, auto recovery	110			%
short circuit protection	latch				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output		3,000		Vac
	input to ground		1,500		Vac
	output to ground		500		Vac
safety approvals	UL 60950-1, EN 60950-1, IEC 60950-1				

## SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
EMI/EMC <sup>1</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 I				
MTBF	as per MIL-HDBK-217F	250,000			hours
RoHS	2011/65/EU				

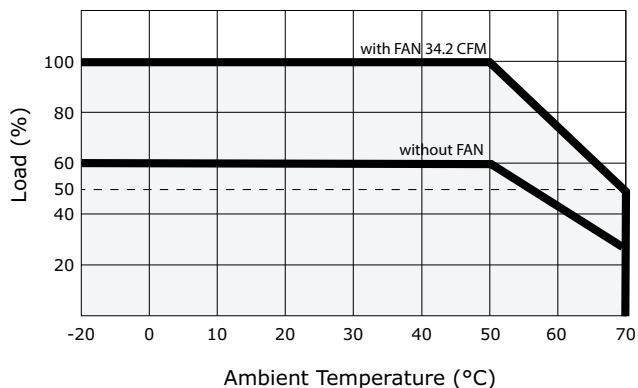
Notes: 1. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

## ENVIRONMENTAL

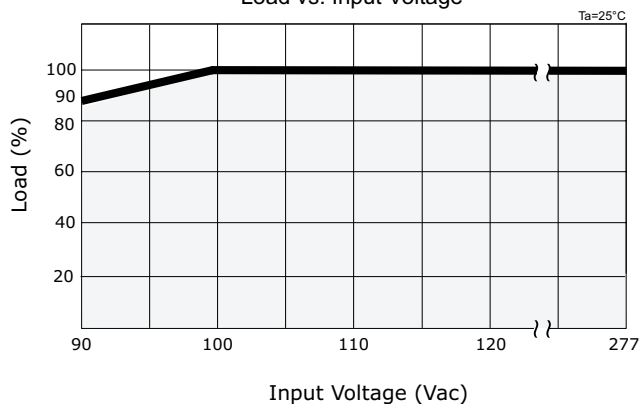
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	20		90	%
operating altitude			5000		m
vibration & shock	10~3000Hz, 10 minutes per cycle, for 1 hour along each of the X, Y, and Z axes		2		G

## DERATING CURVES

Temperature Derating Curve  
Load vs. Temperature

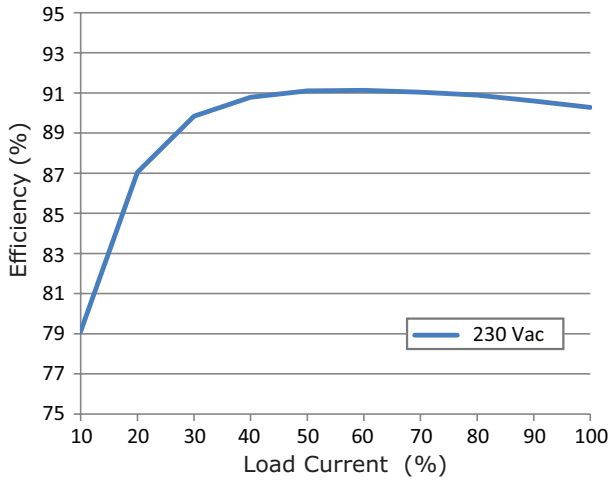


Temperature Derating Curve  
Load vs. Input Voltage

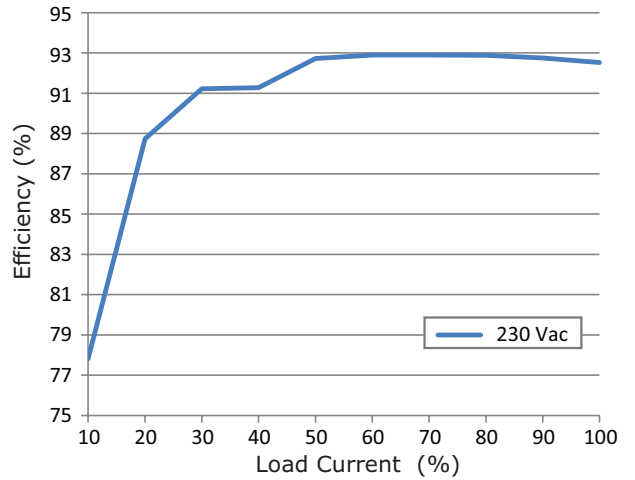


## EFFICIENCY CURVES

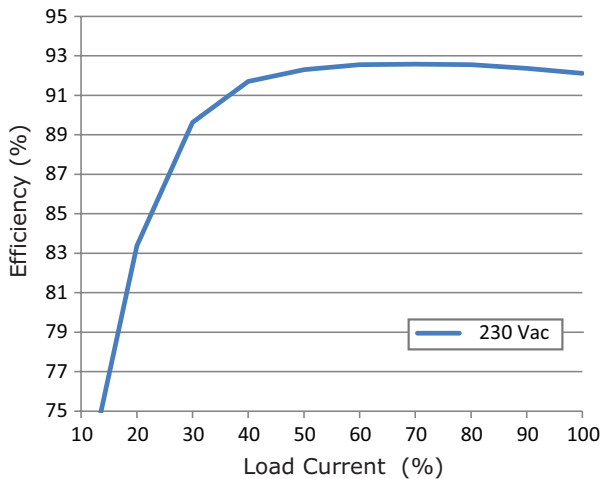
VOF-280-12 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



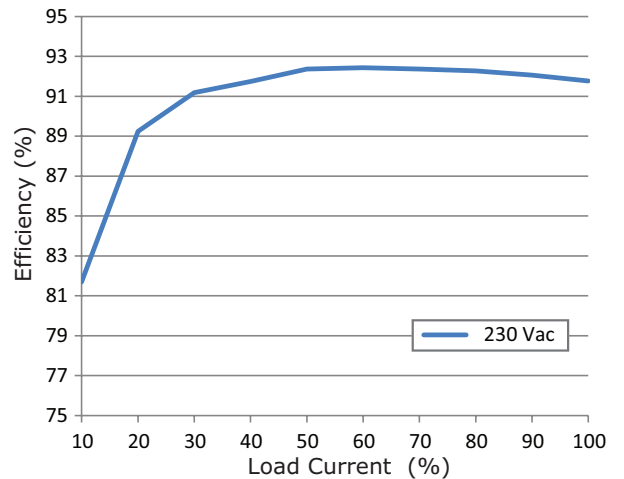
VOF-280-15 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



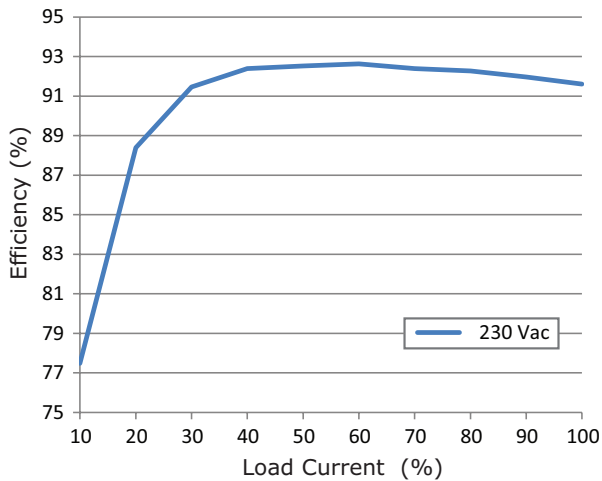
VOF-280-24 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



VOF-280-36 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



VOF-280-48 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	127 x 76.2 x 39.6				mm
weight			0.36		kg
cooling	external fan				
AC input	CN1 mates with Molex 09-50-7031 housing with Molex 2478 series crimp contact or equivalent				
DC output	CN2 mates with Molex 09-50-7101 housing with Molex 2478 series crimp contact or equivalent				
Auxiliary (Fan) output	Fan mates with JST XHP-2 housing with JST SXH-001T-P0.6 contact or equivalent				

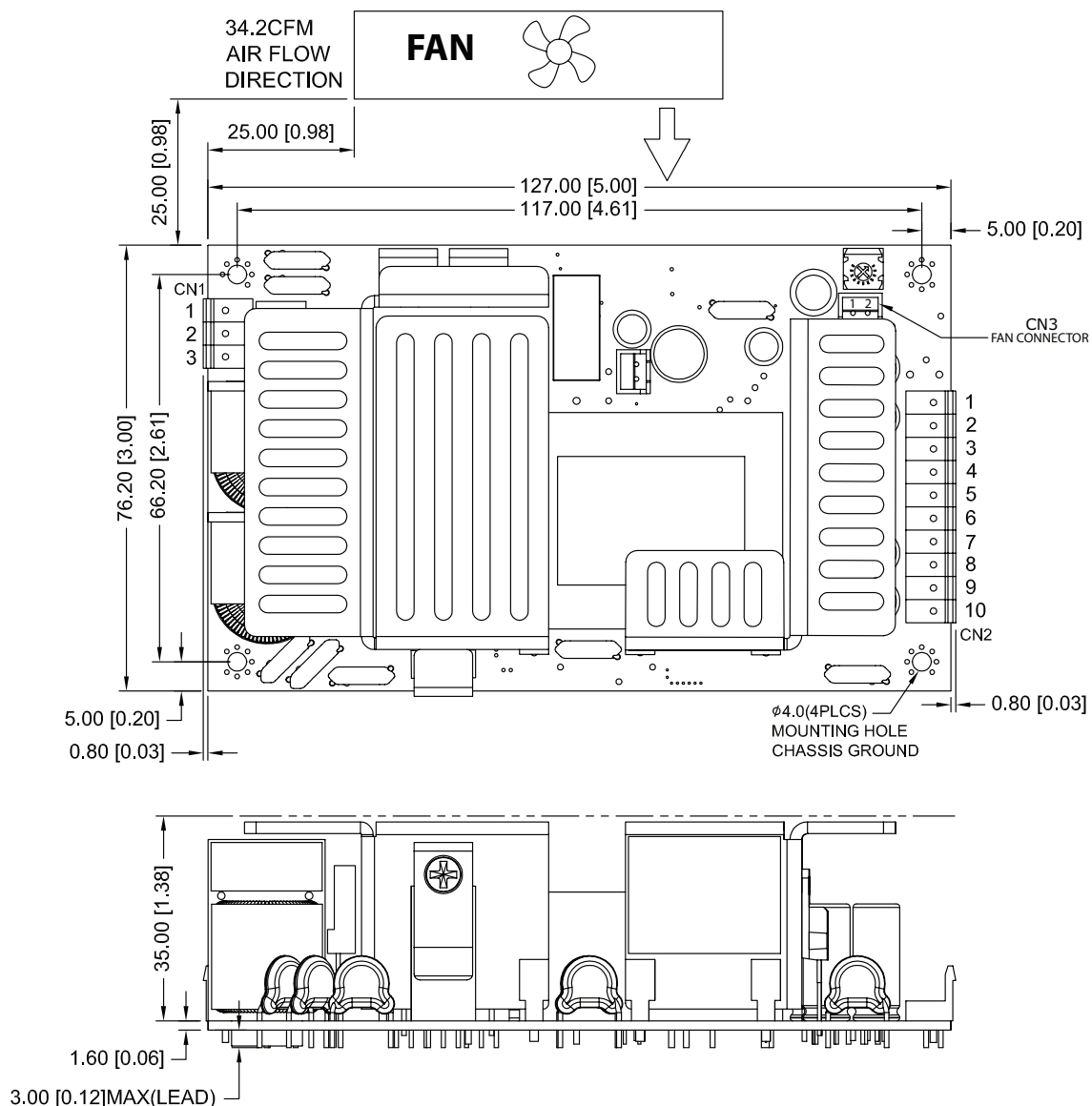
## MECHANICAL DRAWING

units: mm [inch]  
tolerance: ±0.3 mm

CN1	
PIN	Function
1	L
2	NP
3	N

CN2	
PIN	Function
1	+Vo
2	+Vo
3	+Vo
4	+Vo
5	+Vo
6	-Vo
7	-Vo
8	-Vo
9	-Vo
10	-Vo

CN3 (FAN)	
PIN	Function
1	+FAN
2	-FAN



## REVISION HISTORY

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rev.	description	date
1.0	initial release	06/27/2016
1.01	added efficiency curves	09/27/2016

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

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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.