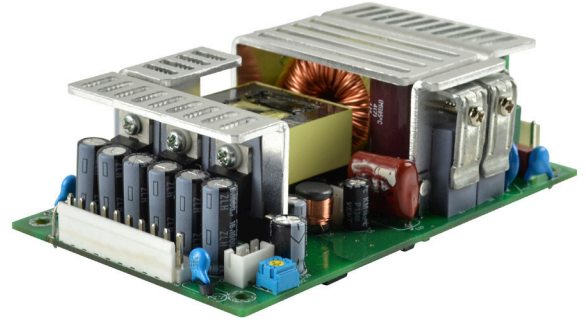




SERIES: VOF-280 | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

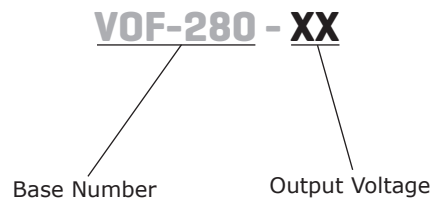
- up to 280 W continuous power
- universal input voltage range
- industry standard 3" x 5" footprint
- power factor correction
- low no load power consumption
- over voltage, over current, and short circuit protections
- output trim
- UL/cUL and TUV safety approvals
- efficiency up to 91%



MODEL	output voltage	output current	output power ¹	ripple and noise ²	efficiency ³
	(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 µF and 47 µF capacitor.
 3. At full load, 230 Vac input, without external fan.
 4. All specifications are measured at Ta=25°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 ¹	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				

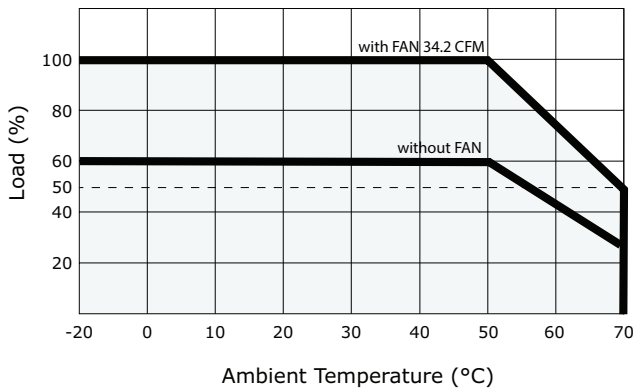
Notes: 1. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

ENVIRONMENTAL

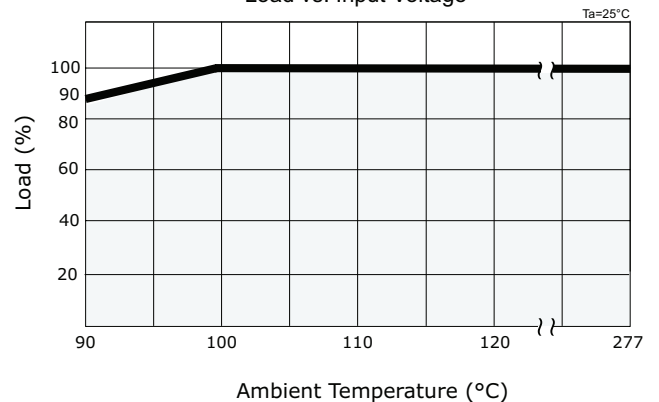
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	20		90	%
operating altitude			5000		m
vibration & shock	10~3000Hz, 10 minutes per cycle, for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

DERATING CURVES

Temperature Derating Curve
Load vs. Temperature

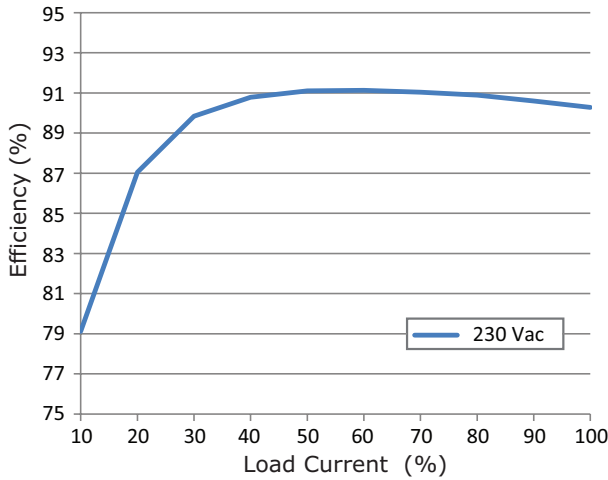


Temperature Derating Curve
Load vs. Input Voltage

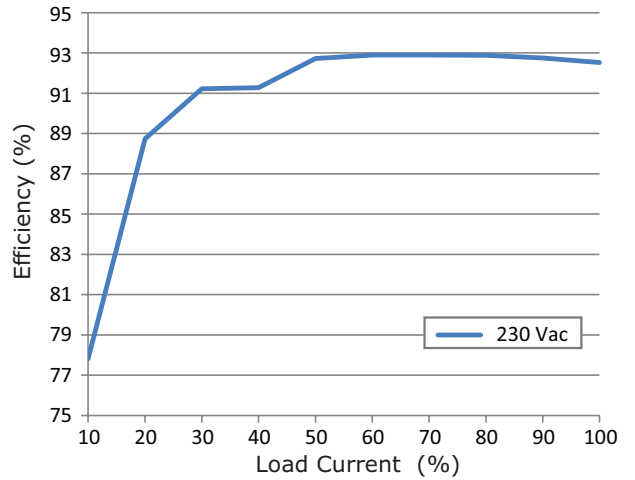


EFFICIENCY CURVES

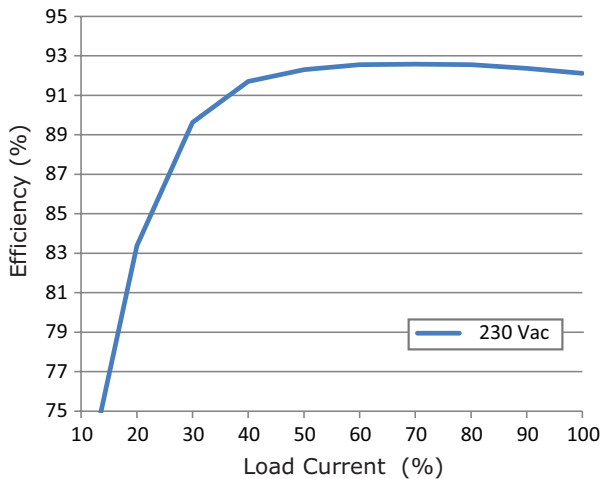
VOF-280-12 Efficiency Curve
(Efficiency vs. Load Current at 230 Vac)



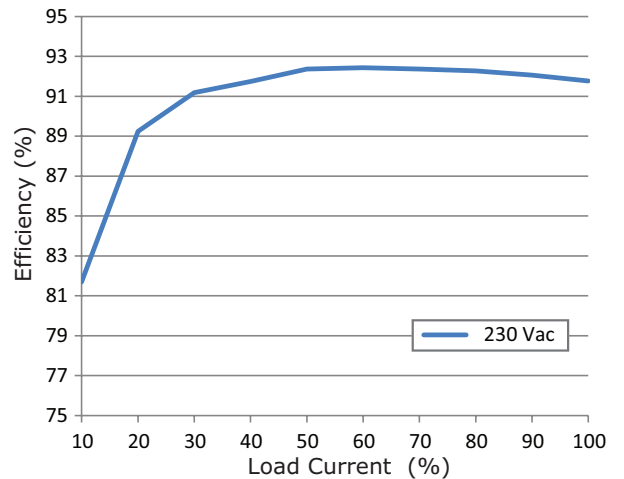
VOF-280-15 Efficiency Curve
(Efficiency vs. Load Current at 230 Vac)



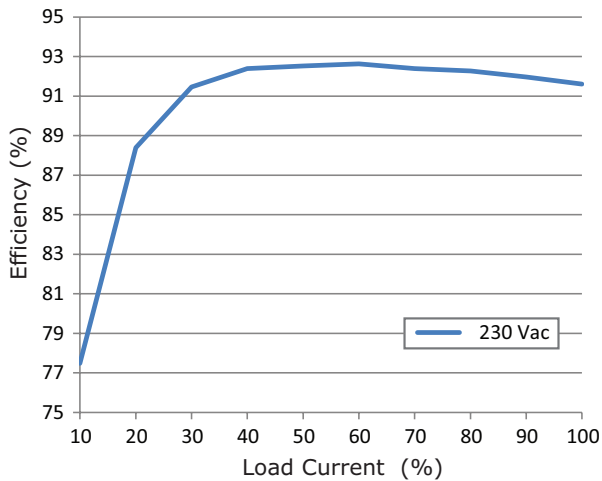
VOF-280-24 Efficiency Curve
(Efficiency vs. Load Current at 230 Vac)



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				

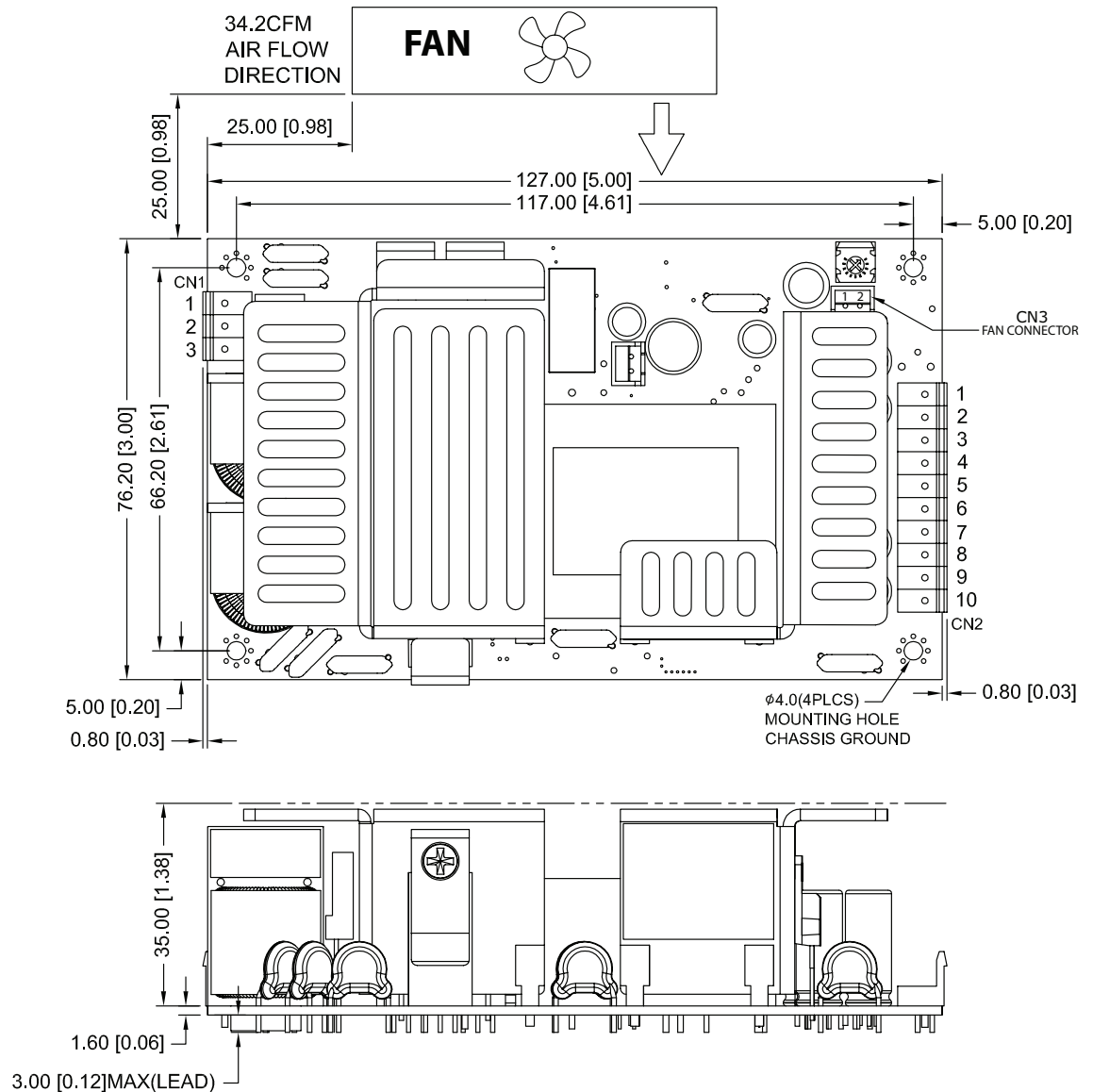
MECHANICAL DRAWING

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

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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