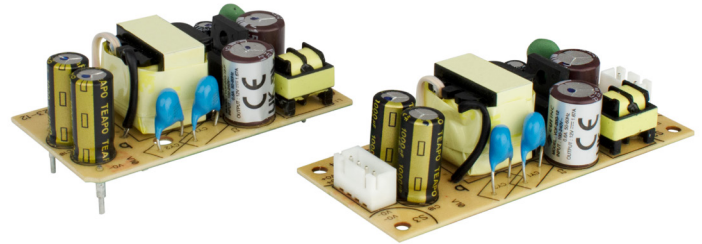


SERIES: VOF-20G | DESCRIPTION: INTERNAL AC-DC POWER SUPPLY

FEATURES

- universal input 90 ~ 264 Vac
- high efficiency up to 87%
- compact size (2.38 x 1.30 inch)
- low no load power consumption (<0.1 W)
- certified to IEC/EN/UL 62368-1
- designed to meet IEC/EN 60335-1
- operating temperature -40 ~ 80°C (with derating)
- class II
- over voltage (OVC II & OVC III) and short-circuit protection
- operating altitude 5,000 m
- CISPR/FCC Class B



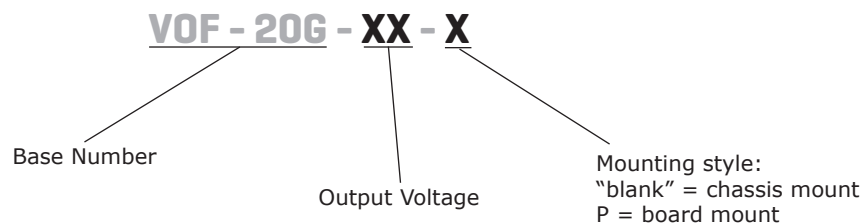
MODEL	output voltage	output current	output power	ripple and noise ¹	efficiency ²
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VOF-20G-5	5	4.0	20	100	84
VOF-20G-12	12	1.67	20	120	86
VOF-20G-15	15	1.34	20	150	86
VOF-20G-24	24	0.83	20	240	86
VOF-20G-48	48	0.42	20	480	87

Notes: 1. Ripple & noise are measured at 20 MHz BW with 0.1 µF ceramic capacitor and a 10 µF electrolytic capacitor.

2. Typical efficiency at 230 Vac and full load at 25°C.

3. Unless otherwise specified, all indicators in this manual are measured at Ta=25 °C, humidity<75% RH, nominal input voltage, and output rated load.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage ⁴	ac input	90	100~240	264	Vac
	dc input	120		370	Vdc
frequency		47	50~60	63	Hz
current	at full load, 100 Vac			0.6	A
inrush current	at 240 Vac, cold start at 25°C		35		A
leakage current				0.1	mA
no load power consumption				0.1	W

Notes: 4. The safety approvals only apply to the ac input.

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output model			4,000	μF
	12 Vdc output model			1,670	μF
	15 Vdc output model			1,340	μF
	24 Vdc output model			830	μF
	48 Vdc output model			420	μF
output voltage accuracy				±2	%
line regulation	low line to high line			±0.5	%
load regulation	10% ~ 100% load			±1	%
hold-up time	at 115 Vac				
	5 Vdc output model		8		ms
	all other outputs		10		ms
switching frequency			65		kHz

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery, hiccup	110		180	%
over voltage protection	latch mode (ac recycle to restart)				
	5 Vdc output model			8.0	Vdc
	12 Vdc output model			16.5	Vdc
	15 Vdc output model			19.6	Vdc
	24 Vdc output model			31.5	Vdc
	48 Vdc output model			60.0	Vdc
short circuit protection	auto recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output, for 1 minute			4,300	Vac
safety approvals	certified to 62368-1: IEC, EN, UL designed to meet 60335-1: IEC, EN				
safety class	Class II, IEC/EN/UL 62368-1, Ed.3.0				
EMC emission	EN 55032:2015+A11:2020, 47 CFR FCC Part 15 Subpart B, ICES-003 Issue7, EN 61204-3:2000, EN 61000-6-3:2007+A1:2011+AC:2012, EN 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, Class B				
conducted disturbance	EN 55032:2015+A11:2020, 47 CFR FCC Part 15 Subpart B, ICES-003 Issue7, EN 61204-3:2000, EN 61000-6-3:2007+A1:2011+AC:2012, Class B				
radiated disturbances	EN 55032:2015+A11:2020, 47 CFR FCC Part 15 Subpart B, ICES-003 Issue7, EN 61204-3:2000, EN 61000-6-3:2007+A1:2011+AC:2012, Class B				
harmonic current emissions	EN 61000-3-2:2019				
voltage fluctuations & flicker	EN 61000-3-3:2013+A1:2019				
EMC immunity	EN 55035:2017+A11:2020, EN 61204-3:2000, EN 61000-6-1:2007				
ESD	IEC 61000-4-2:2008, perf. Criteria A				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
radiated immunity	IEC 61000-4-3:2020, perf. Criteria A				
EFT/burst	IEC 61000-4-4:2012, ± 0.5 kV, ± 1 kV, perf. Criteria A				
surge	IEC 61000-4-5:2014+A1:2017, L-N: ± 0.5 kV, ± 1 kV, perf. Criteria A				
conducted immunity	IEC 61000-4-6:2013, perf. Criteria A				
PFMF	IEC 61000-4-8:2009, perf. Criteria A				
voltage dips	IEC 61000-4-11:2020, Dip: 30% Reduction, Dip >95% Reduction, perf. Criteria A				
voltage interruptions	IEC 61000-4-11:2020, >95% Reduction, perf. Criteria B				
MTBF	MIL-HDBK-217F at 25°C	1,300,000			hours
RoHS	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	-40		80	°C
storage temperature		-40		85	°C
storage humidity	non-condensing	0		93	%
operating altitude	IEC/EN/UL 62368-1 OVC II			5,000	m

MECHANICAL

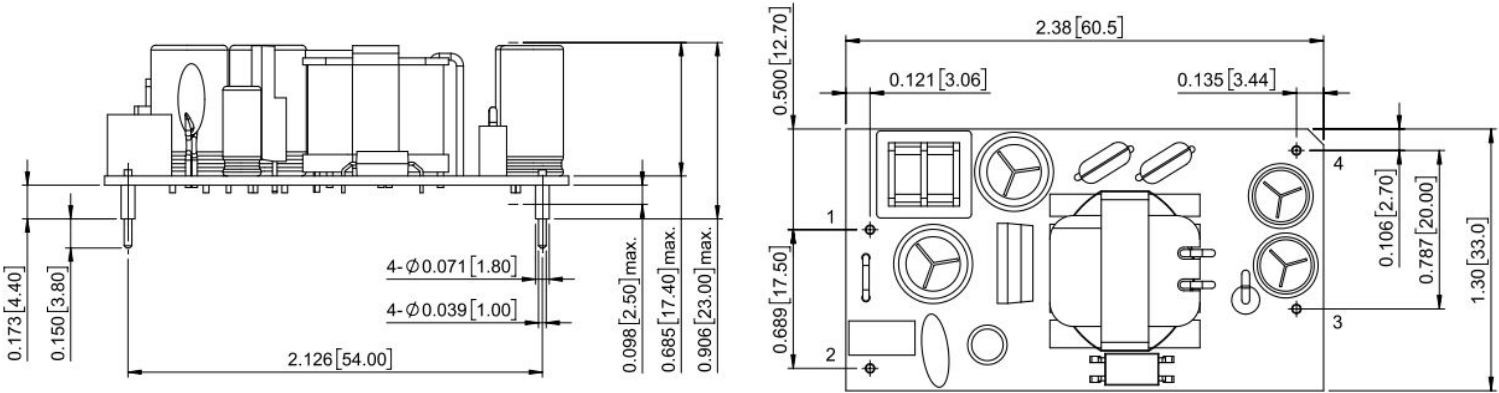
parameter	conditions/description	min	typ	max	units
dimensions	board mount: 2.38 x 1.30 x 0.906 [60.5x33.0x23.00 mm]				inch
	chassis mount: 3.00 x 1.30 x 0.831 [76.2x33.0x21.10 mm]				inch
weight	board mount		35		g
	chassis mount		36		g

MECHANICAL DRAWING

Board mount

units: inch [mm]
tolerance: inch: x.xx=±0.03, x.xxx=±0.020
mm: x.x=±0.7, x.xx=±0.50

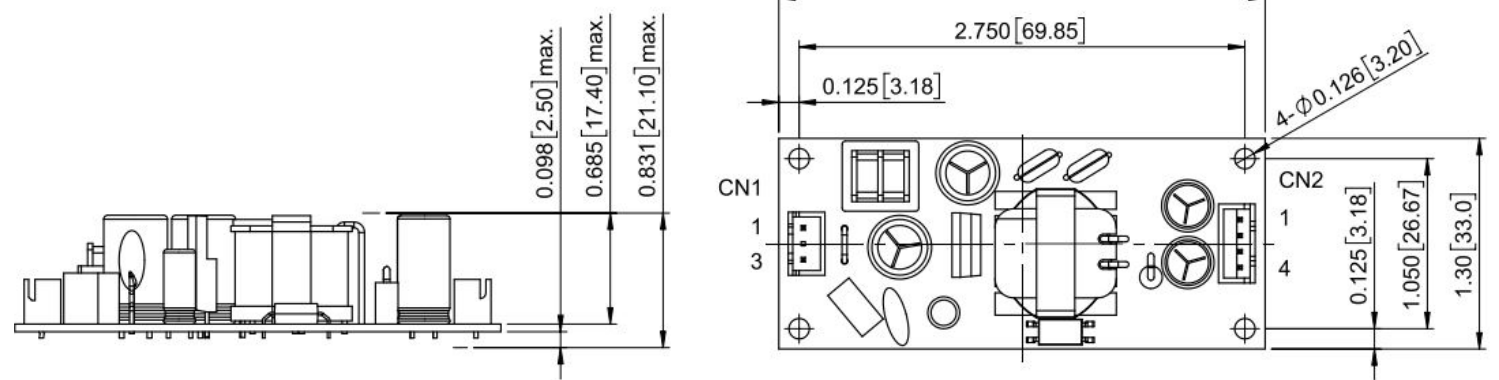
PIN CONNECTIONS	
PIN	Function
1	AC(N)
2	AC(L)
3	+Vo
4	-Vo



MECHANICAL DRAWING

Chassis mount

units: inch [mm]
tolerance: inch: x.xx=±0.03, x.xxx=±0.020
mm: x.x=±0.7, x.xx=±0.50

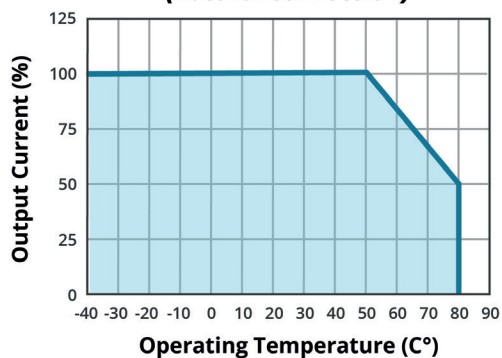


AC Input Connector (CN1): JST B3B-XH-A(LF)(SN) or equivalent			
PIN CONNECTIONS		Mating Housing	Terminal
PIN	Function		
1	AC(N)	JST XHP-3 or equivalent	JST SXH-001T-P0.6N or equivalent
2	-		
3	AC(L)		

DC Output Connector (CN2): JST B4B-XH-A(LF)(SN) or equivalent			
PIN CONNECTIONS		Mating Housing	Terminal
PIN	Function		
1	-Vo	JST XHP-4 or equivalent	JST SXH-001T-P0.6N or equivalent
2	-Vo		
3	+Vo		
4	+Vo		

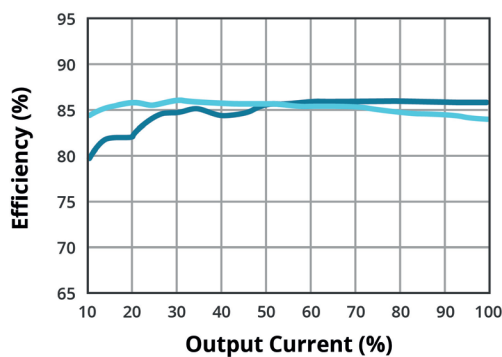
DERATING CURVE

TEMPERATURE DERATING CURVE
(natural convection)



EFFICIENCY CURVES

EFFICIENCY VS OUTPUT LOAD
(VOF-20G-5)

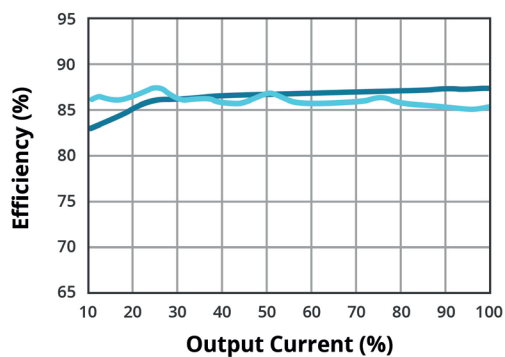


Key

115 V

230 V

EFFICIENCY VS OUTPUT LOAD
(VOF-20G-12)

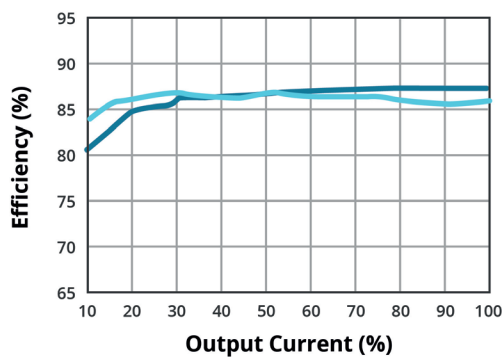


Key

115 V

230 V

EFFICIENCY VS OUTPUT LOAD
(VOF-20G-15)

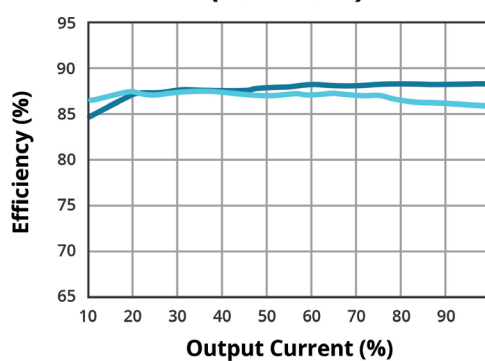


Key

115 V

230 V

EFFICIENCY VS OUTPUT LOAD
(VOF-20G-12)

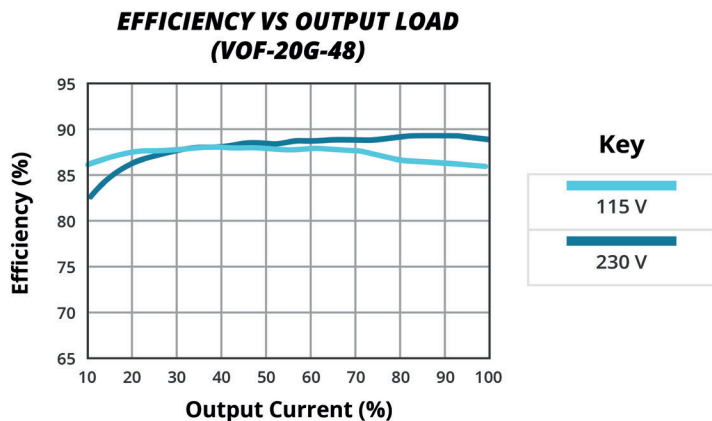


Key

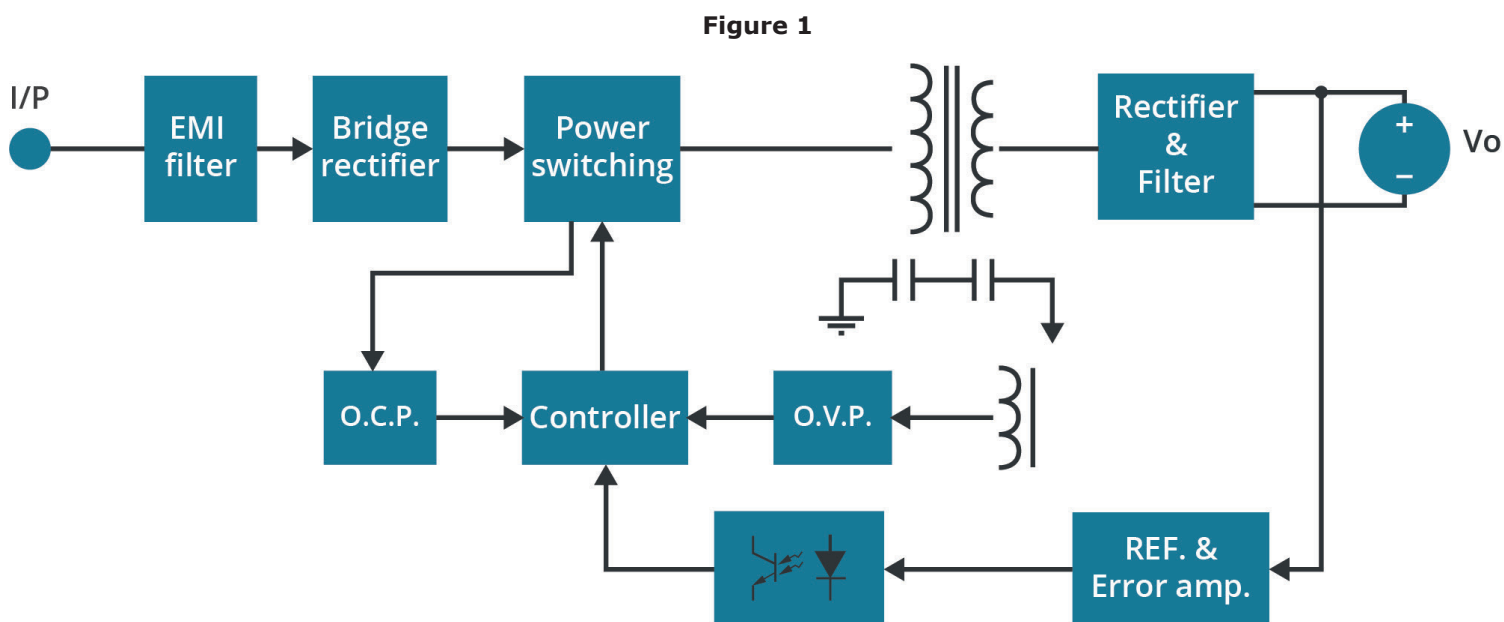
115 V

230 V

EFFICIENCY CURVES (CONTINUED)



ELECTRICAL BLOCK DIAGRAM



REVISION HISTORY

rev.	description	date
1.0	initial release	07/14/2025

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



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