

**SERIES:** VOF-6G | **DESCRIPTION:** INTERNAL AC-DC POWER SUPPLY

**FEATURES**

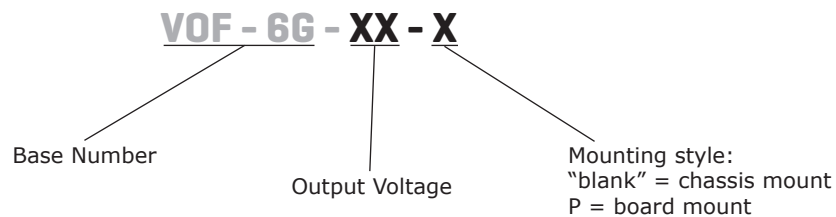
- universal input 90 ~ 264 Vac
- high efficiency up to 83%
- compact size (1.56 x 0.76 inch)
- low no load power consumption (<0.075 W)
- certified to IEC/EN/UL 62368-1
- designed to meet IEC/EN 60335-1
- operating temperature -40 ~ 80°C (with derating)
- class II
- over voltage (OVC II & OVC III) and short-circuit protection
- operating altitude 5,000 m
- CISPR/FCC Class B



MODEL	output voltage	output current	output power	ripple and noise <sup>1</sup>	efficiency <sup>2</sup>
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VOF-6G-3	3.3	1.50	4.95	100	75
VOF-6G-5	5	1.20	6.0	100	78
VOF-6G-9	9	0.67	6.0	100	81
VOF-6G-12	12	0.50	6.0	120	81
VOF-6G-15	15	0.40	6.0	150	81
VOF-6G-24	24	0.25	6.0	240	83

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 <sup>4</sup>	ac input	90	100~240	264	Vac
	dc input	120		370	Vdc
frequency		47	50~60	63	Hz
current	at full load, 100 Vac			0.25	A
inrush current	at 240 Vac, cold start at 25°C			90	A
leakage current				0.25	mA
no load power consumption				0.075	W

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

**OUTPUT**

parameter	conditions/description	min	typ	max	units
capacitive load	3.3 Vdc output model			1,500	µF
	5 Vdc output model			1,200	µF
	9 Vdc output model			670	µF
	12 Vdc output model			500	µF
	15 Vdc output model			400	µF
	24 Vdc output model			250	µF
output voltage accuracy	3.3 Vdc output model			±6	%
	5 & 9 Vdc output model			±5	%
	12, 15 & 24 Vdc output model			±3	%
line regulation	low line to high line			±1	%
load regulation	10% ~ 100% load				
	3.3 Vdc output model			±6	%
	5 & 9 Vdc output model			±5	%
	12, 15 & 24 Vdc output model			±3	%
hold-up time	at 115 Vac		12		ms
switching frequency		30		70	kHz

**PROTECTIONS**

parameter	conditions/description	min	typ	max	units
over current protection	auto recovery, hiccup	110		200	%
over voltage protection	auto recovery, hiccup				
	3.3 & 5 Vdc output model	6.45		7.14	Vdc
	9 Vdc output model	10.5		12.1	Vdc
	12 Vdc output model	14.3		15.8	Vdc
	15 Vdc output model	17.1		19.5	Vdc
	24 Vdc output model	28.5		31.5	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 <sup>5</sup>	Class II (to be determined at end product), IEC/EN/UL 62368-1				
EMC emission	EN 55032:2015+A1:2020, EN 55032:2015+A11:2020 EN 61000-6-3:2021, Class B				
conducted disturbance	EN 55032:2015+A1:2020, EN 55032:2015+A11:2020 EN 61000-6-3:2021, Class B				
radiated disturbances	EN 55032:2015+A1:2020, EN 55032:2015+A11:2020 EN 61000-6-3:2021, Class B				
harmonic current emissions	EN 61000-3-2:2019+A1:2021				

**SAFETY & COMPLIANCE**

parameter	conditions/description	min	typ	max	units
voltage fluctuations & flicker	EN 61000-3-3:2013+A2:2021				
EMC immunity	EN 55035:2017+A11:2020, EN 61000-6-1:2019, EN 61000-6-2:2019, IEC 61000-4-2,3,4,5,6,11				
ESD	IEC 61000-4-2:2008, Air Discharge: ±8 kV, Contact Discharge: ±4 kV, perf. Criteria A				
radiated immunity	IEC 61000-4-3:2020, perf. Criteria A				
EFT/burst	IEC 61000-4-4:2012, ±1.0 kV, ±2 kV, perf. Criteria A				
surge	IEC 61000-4-5:2014+A1:2017, L-N: ±0.5 kV, ±1 kV, perf. Criteria A				
conducted disturbance	IEC 61000-4-6:2013+COR1:2015, 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			1,120,000	hours
RoHS	yes				

Notes: 5. The UL 623681-1 standard is Ed. 2.0.

**ENVIRONMENTAL**

parameter	conditions/description	min	typ	max	units
operating temperature		-40		80	°C
storage temperature		-40		85	°C
storage humidity	non-condensing	0		93	%
operating altitude	IEC/EN/UL 62368-1 OVC II IEC 62368-1 OVC III			5,000 2,000	m m

**MECHANICAL**

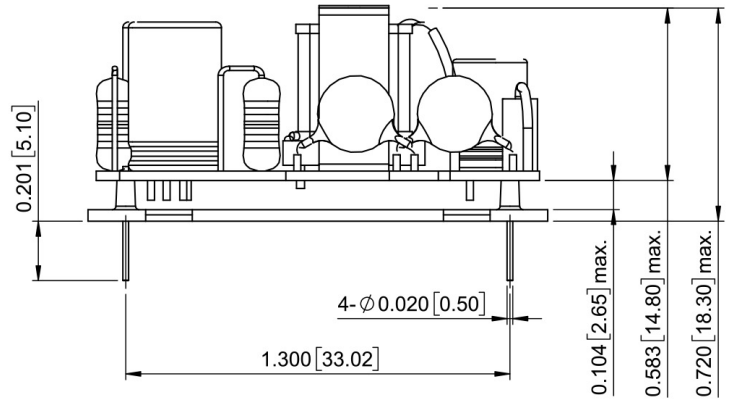
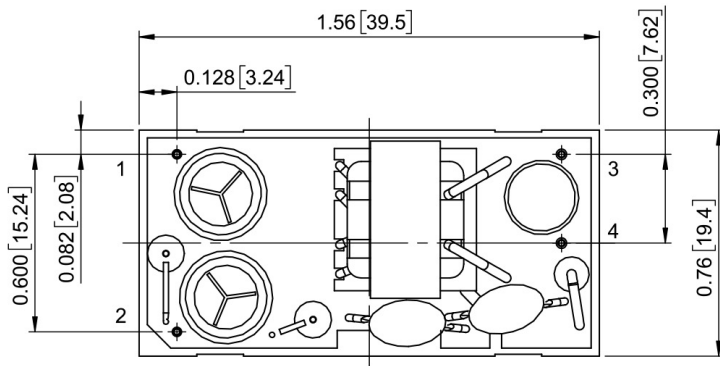
parameter	conditions/description	min	typ	max	units
dimensions	board mount: 1.56 x 0.76 x 0.72 [39.5 x 19.4 x 18.3 mm] chassis mount: 1.95 x 0.73 x 0.689 [49.5 x 18.5 x 17.50 mm]				inch inch
weight	board mount chassis mount		11 12		g g

## MECHANICAL DRAWING

### Board mount

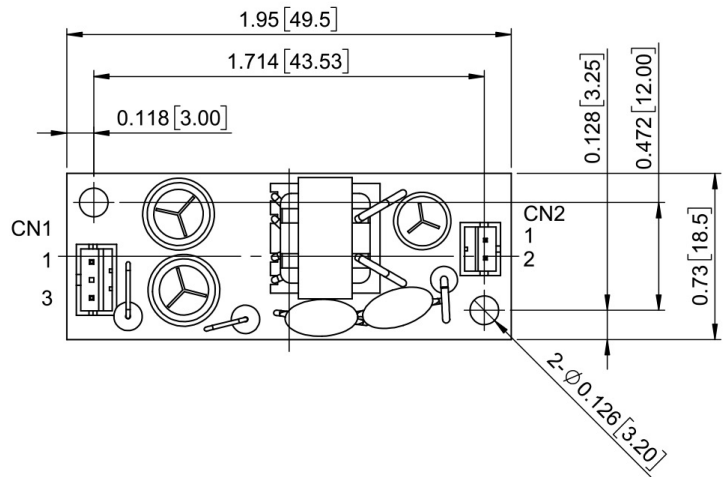
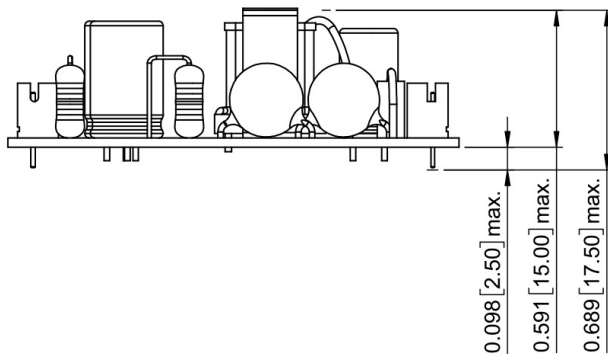
units: inch [mm]  
 tolerance: inch: x.xx=±0.03, x.xxx=±0.020  
 mm: x.x=±0.7, x.xx=±0.50

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



### Chassis mount

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

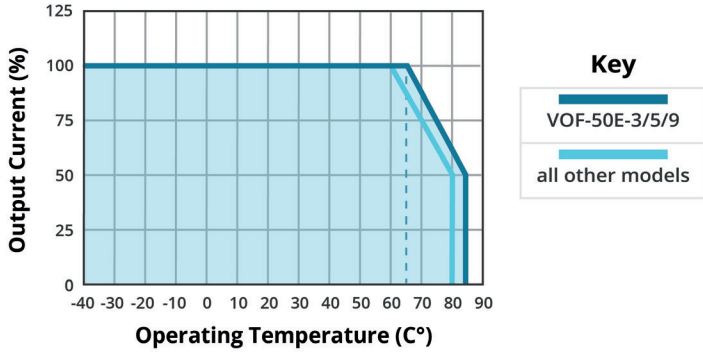


AC Input Connector (CN1): JST B3B-PH-K-S(LF)(SN) or equivalent			
PIN CONNECTIONS		Mating Housing	Terminal
PIN	Function		
1	AC(N)	TKP PHR-3 or equivalent	TKP SPH-002T-P0.5L or equivalent
2	-		
3	AC(L)		

DC Output Connector (CN2): JST B2B-PH-K-S(LF)(SN) or equivalent			
PIN CONNECTIONS		Mating Housing	Terminal
PIN	Function		
1	+Vo	TKP PHR-2 or equivalent	TKP SPH-002T-P0.5L or equivalent
2	-Vo		

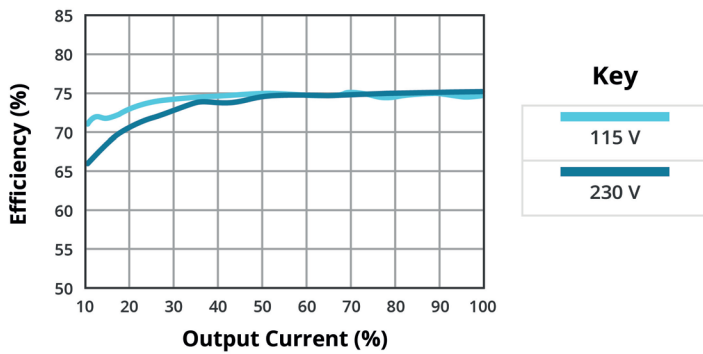
## DERATING CURVE

**TEMPERATURE DERATING CURVE**  
(natural convection)

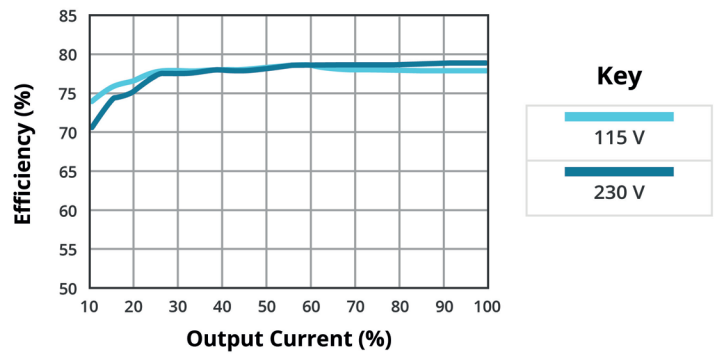


## EFFICIENCY CURVES

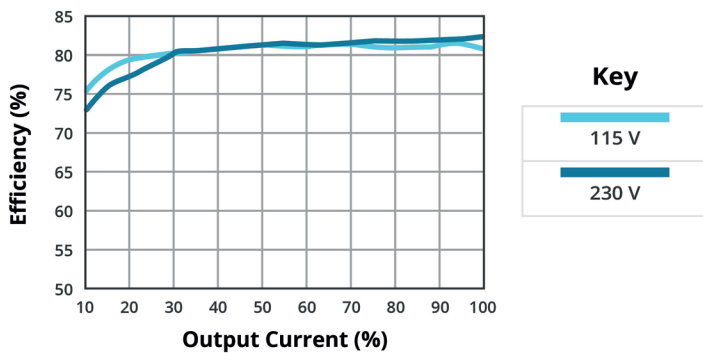
**EFFICIENCY VS OUTPUT LOAD**  
(VOF-6G-3)



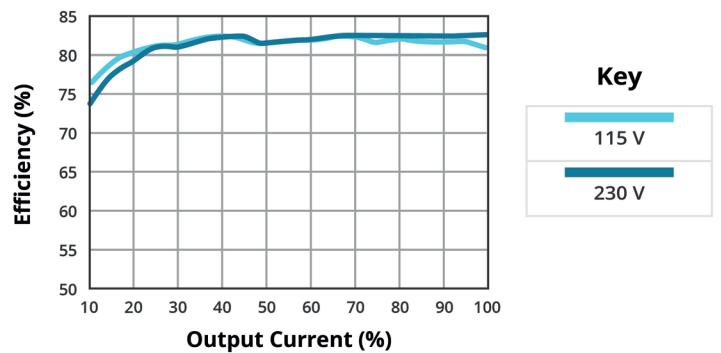
**EFFICIENCY VS OUTPUT LOAD**  
(VOF-6G-5)



**EFFICIENCY VS OUTPUT LOAD**  
(VOF-6G-9)

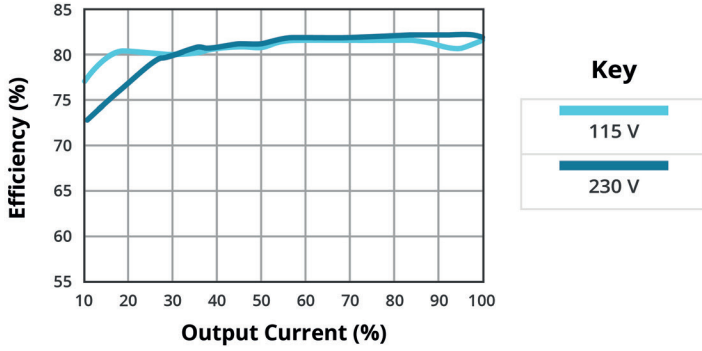


**EFFICIENCY VS OUTPUT LOAD**  
(VOF-6G-12)

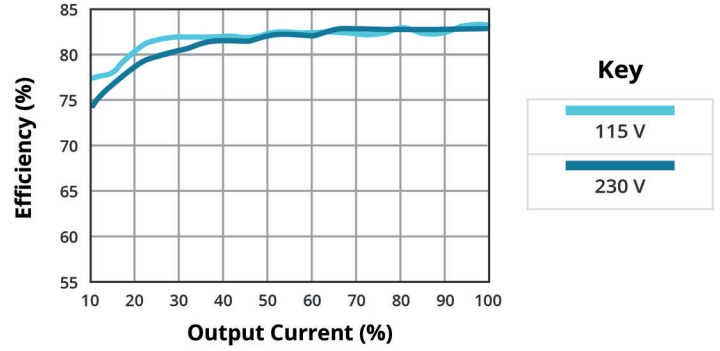


## EFFICIENCY CURVES (CONTINUED)

**EFFICIENCY VS OUTPUT LOAD  
(VOF-6G-15)**

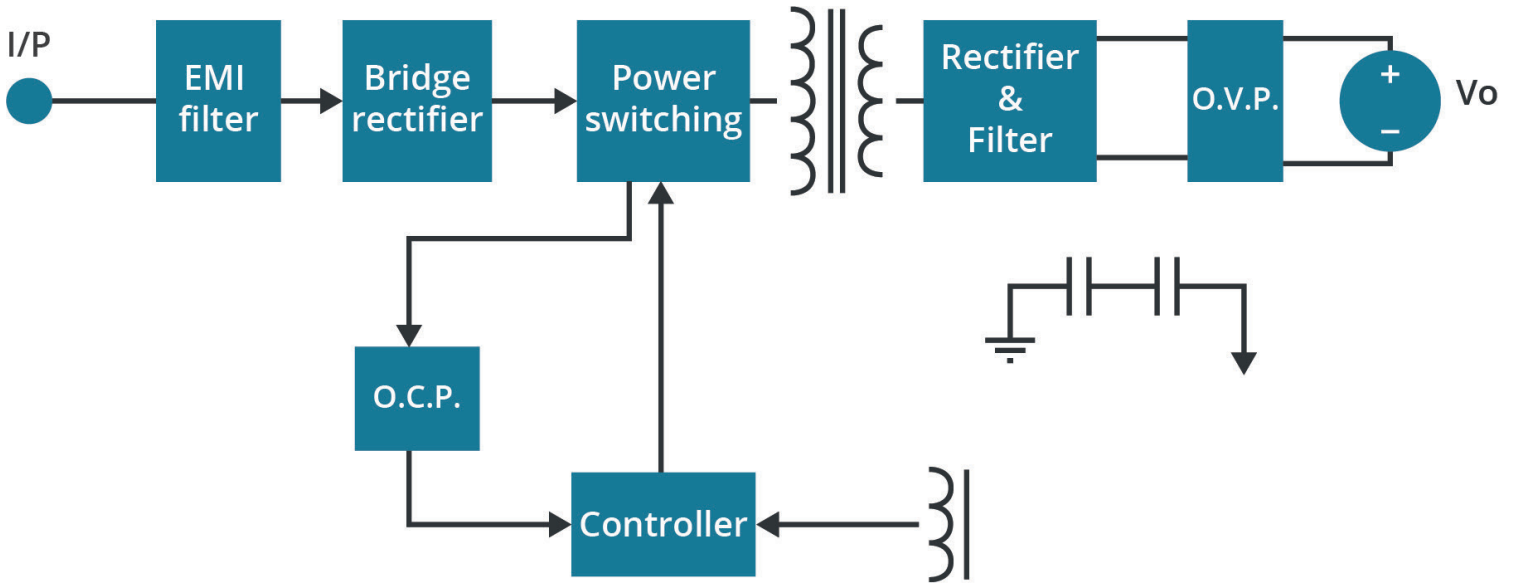


**EFFICIENCY VS OUTPUT LOAD  
(VOF-6G-24)**



## ELECTRICAL BLOCK DIAGRAM

Figure 1



## REVISION HISTORY

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rev.	description	date
1.0	initial release	07/22/2025
1.01	dimensions corrected	10/10/2025

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



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## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
voltage fluctuations & flicker	EN 61000-3-3:2013+A2:2021				
EMC immunity	EN 55035:2017+A11:2020, EN 61000-6-1:2019, EN 61000-6-2:2019, IEC 61000-4-2,3,4,5,6,11				
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voltage interruptions	IEC 61000-4-11:2020, >95% Reduction, perf. Criteria B				
MTBF	MIL-HDBK-217F at 25°C			1,120,000	hours
RoHS	yes				

## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		-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	1.620 x 0.830 x 0.787 [41.1x21.0x20.00 mm]				inch
weight			30		g

## MECHANICAL DRAWING

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

