

## Excellent Integrated System Limited

Stocking Distributor

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[CUI Inc.](#)

[VOF-45-3.3](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)



**date** 08/17/2012  
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**SERIES:** VOF-45 | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

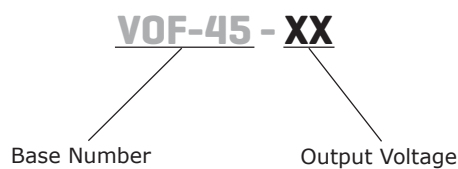
- up to 45 W continuous power
- industry standard footprint
- universal input (85~264 Vac)
- single output from 3.3~48 V
- user trimmable output voltage
- 3000 V isolation
- over current, over voltage, and short circuit protections
- UL/cUL and TUV 60950-1 safety approvals
- efficiency up to 88%



MODEL	output voltage	output current max	output power max	ripple <sup>1</sup> and noise max	efficiency
	(Vdc)	(A)	(W)	(mVp-p)	typ (%)
VOF-45-3.3	3.3	6.0	20	50	74
VOF-45-5	5	6.0	30	50	78
VOF-45-7.5	7.5	5.0	38	75	78
VOF-45-9	9	4.4	40	90	82
VOF-45-12	12	3.7	44	120	84
VOF-45-15	15	3.0	45	150	85
VOF-45-24	24	1.9	46	240	86
VOF-45-48	48	0.93	45	480	88

Notes: 1. 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		85 120		264 375	Vac Vdc
frequency		47		63	Hz
input current	110 Vac 220 Vac		1 0.5		A A
inrush current	110 Vac, full load, cold start 220 Vac, full load, cold start			25 50	A A
input fuse	built-in, non-user serviceable				

## OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	high line to low line at full load		±0.5		%
load regulation	full load to 10% load		±1		%
temperature coefficient			±0.05		%/°C
hold-up time	115 Vac at full load	8			ms
adjustability	adjustable with built-in trim pot	-5		+5	%
switching frequency			60		kHz

## OUTPUT

parameter	conditions/description	min	typ	max	units
over voltage protection	clamped by TVS			115	%
over current protection	automatically recovers		105		%Io
short circuit protection	protected, long term short circuit may reduce reliability				

## SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	primary to secondary for 1 minute primary to transformer core for 1 minute primary to ground for 1 minute	3,000 1,500 1,500			Vac Vac Vac
isolation resistance	input to output at 500 Vdc at 25°C	50			MΩ
safety approvals	TUV EN 60950, CE, UL/cUL 60950-1				
EMI/EMC	FCC class B, EN 55022 class B				
leakage current				1.5	mA
RoHS compliant	yes				
MTBF	according to MIL-HDBK-217F	250,000			hours

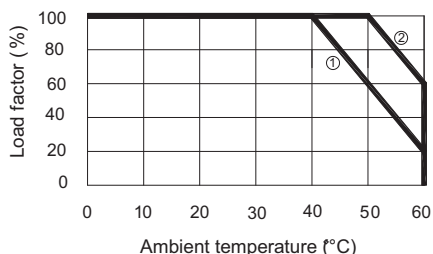
## ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curve	0		60	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	20		95	%
operating altitude			10,000 3,000		ft m
storage altitude			30,000 9,000		ft m

## DERATING CURVES

### 1. output power vs. ambient temperature

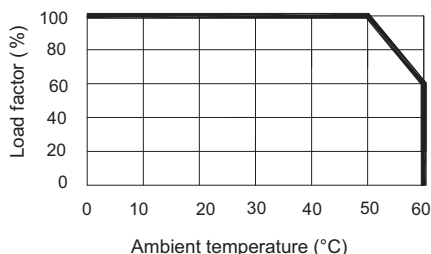
#### a. 3.3, 5, 7.5 V models



① Convection

② Forced air (0.5m<sup>3</sup>/min) (18 CFM)

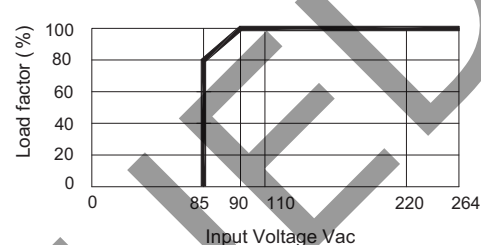
#### b. all other models



① Forced air (0.5m<sup>3</sup>/min) (18 CFM)

### 2. output power vs. input voltage

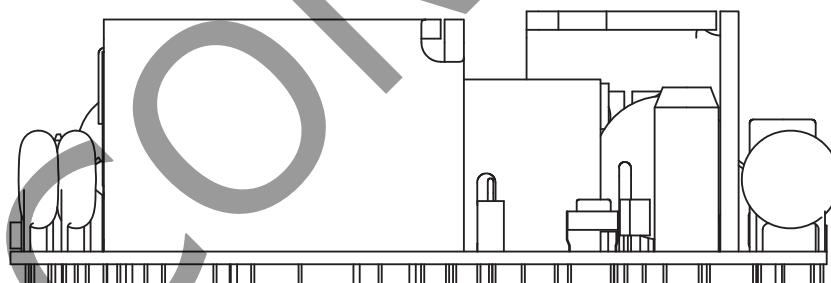
#### all models



## MATING CONNECTORS

parameter	conditions/description
ac input (CN1)	mates with Molex housing 09-50-3031 with Molex 2878 series crimp contact
dc output (CN2)	mates with Molex housing 09-50-3041 with Molex 2878 series crimp contact

## MOUNTING METHOD



### Horizontal

(performance evaluations conducted under this mounting method)

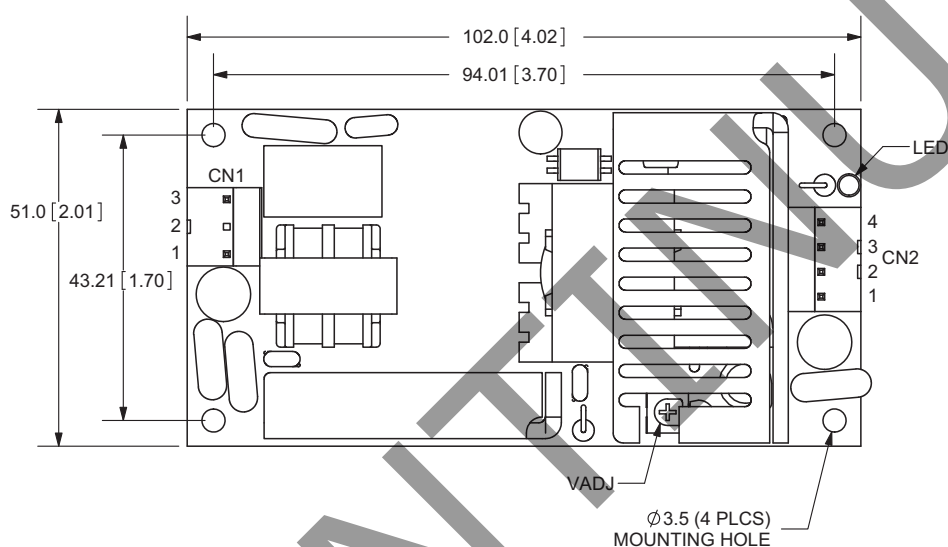
## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	4 x 2 x 1.44 (102 x 51 x 36.6 mm)				inch
weight				0.17	kg
cooling method	free air convection or forced air				

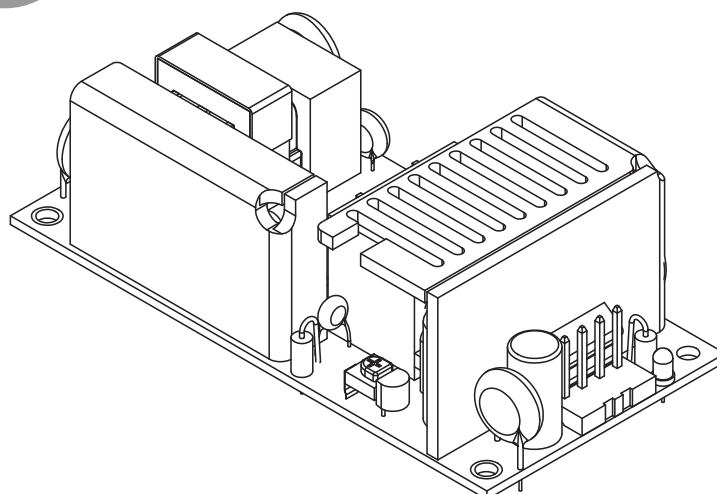
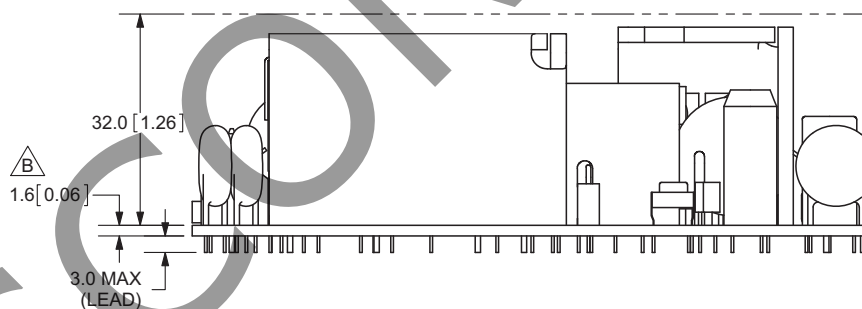
## MECHANICAL DRAWING

units: mm[inch]  
tolerance:  $\pm 0.3$ [0.1]

CN1	
1	L
2	no pin
3	N



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



## REVISION HISTORY

rev.	description	date
1.0	initial release	04/03/2009
1.01	dimension added to drawing	05/02/2011
1.02	new template applied	05/13/2011
1.03	added MTBF data	09/20/2011
1.04	V-Infinity branding removed	08/17/2012

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



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