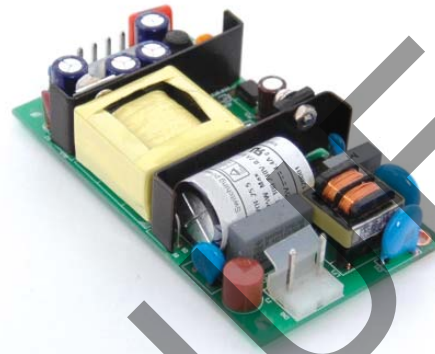



SERIES: VOF-25 | **DESCRIPTION:** AC-DC POWER SUPPLY

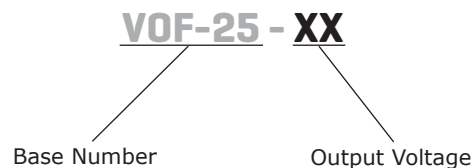
FEATURES

- up to 25 W continuous power
- compact size
- universal input (85~264 Vac)
- single output from 3.3~24 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 82%



| MODEL | output voltage | output current | output power | ripple ¹ and noise | efficiency |
|------------|----------------|----------------|--------------|-------------------------------|------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | typ (%) |
| VOF-25-3.3 | 3.3 | 4.4 | 15 | 50 | 70 |
| VOF-25-5 | 5 | 4.4 | 22 | 50 | 73 |
| VOF-25-7.5 | 7.5 | 3.0 | 23 | 75 | 73 |
| VOF-25-9 | 9 | 2.7 | 24 | 90 | 77 |
| VOF-25-12 | 12 | 2.0 | 24 | 120 | 80 |
| VOF-25-15 | 15 | 1.6 | 24 | 150 | 80 |
| VOF-25-24 | 24 | 1.0 | 24 | 240 | 82 |

Notes: 1. Ripple & noise are measured at 20 MHz BW with 0.1 μ F ceramic cap and a 10 μ 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 | | 264 | Vac |
| | | 120 | | 375 | Vdc |
| frequency | | 47 | | 63 | Hz |
| current | at 110 Vac | | 0.7 | | A |
| | at 220 Vac | | 0.35 | | A |
| inrush current | at 110 Vac, full load, cold start | | | 20 | A |
| | at 220 Vac, full load, cold start | | | 40 | 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 | 16 | | | ms |
| adjustability | adjustable with built-in trim pot | -5 | | +5 | % |
| switching frequency | | 45 | 50 | 55 | kHz |

PROTECTIONS

| 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 | nom | max | units |
|----------------------|--|---------|-----|-----|-------|
| isolation voltage | primary to secondary for 1 minute | 3,000 | | | Vac |
| | primary to transformer core for 1 minute | 1,500 | | | Vac |
| | primary to ground for 1 minute | 1,500 | | | 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

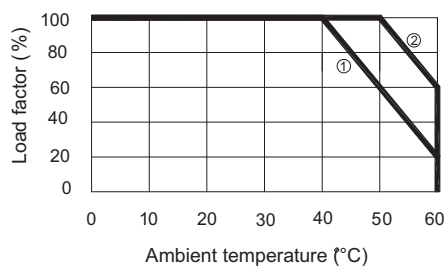
| parameter | conditions/description | min | nom | max | units |
|-----------------------|------------------------|-----|--------|-----|-------|
| operating temperature | see derating curve | 0 | | 60 | °C |
| storage temperature | | -20 | | 85 | °C |
| operating humidity | non-condensing | 20 | | 90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

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|----------------|--|-----|-----|------|-------|
| dimensions | 3.500 x 2.008 x 0.9803 (88.9 x 51 x 24.9 mm) | | | | inch |
| weight | | | | 0.09 | kg |
| cooling method | free air convection or forced air (see derating curves below) | | | | |

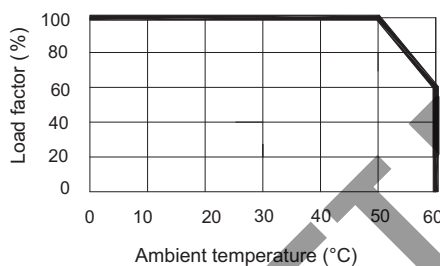
DERATING CURVES

1. output power vs. ambient temperature a. 3.3, 5 V models



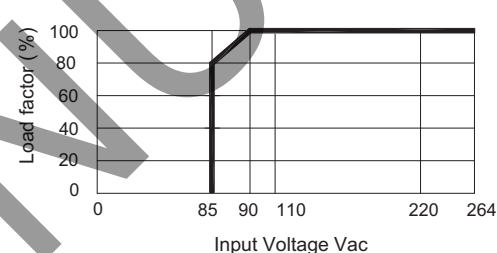
- ① Convection
- ② Forced air (0.5m³/min) (18 CFM)

b. all other models



- ① Forced air (0.5m³/min) (18 CFM)

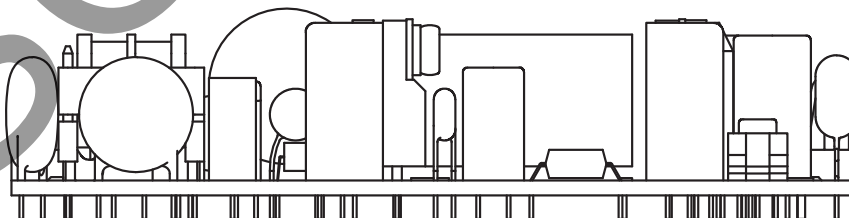
2. output power vs. input voltage all models



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



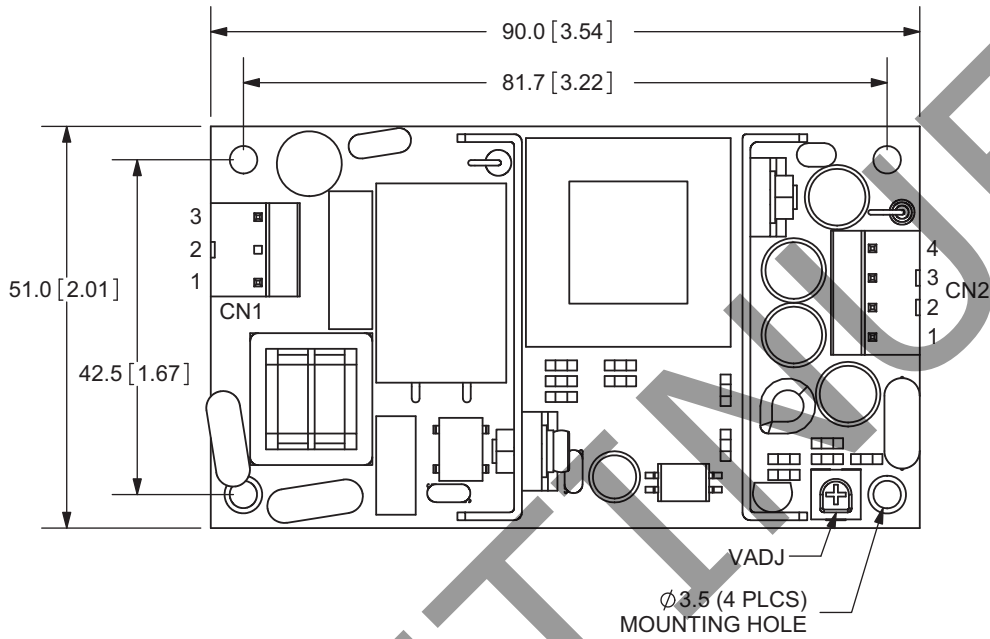
Horizontal

(performance evaluations conducted under this mounting method)

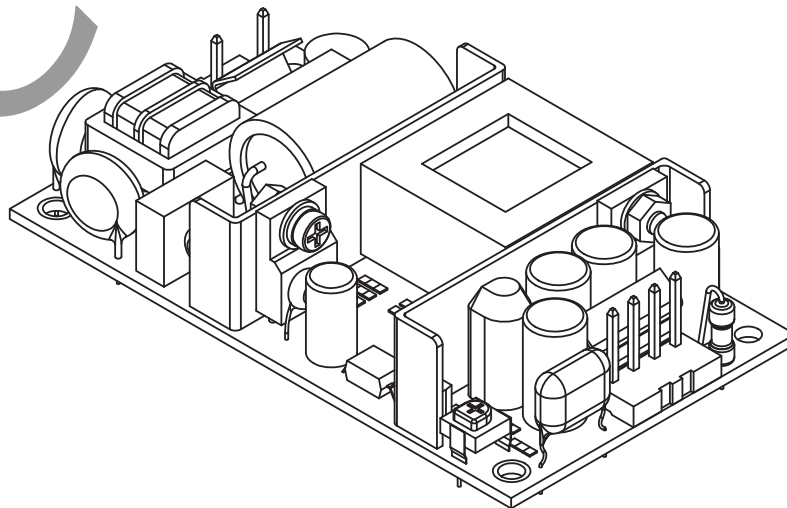
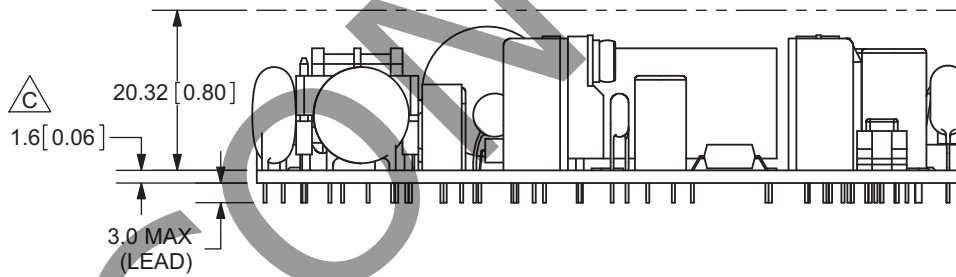
MECHANICAL DRAWING

units: mm [inches]
 tolerance: ± 0.3 [± 0.01]

| 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 | corrected CN1 connector designation on mech drawing | 02/16/2010 |
| 1.02 | dimension added to drawing | 05/02/2011 |
| 1.03 | new template applied | 05/13/2011 |
| 1.04 | added MTBF data | 09/20/2011 |
| 1.05 | 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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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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