



## SERIES: VOF-6 | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

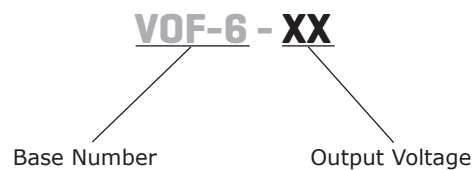
- up to 6 W continuous power
- compact size
- universal input (85~264 Vac / 120~375 Vdc)
- single output from 3.3~24 Vdc
- no minimum load required
- 3000 Vac isolation
- over current, over voltage, and short circuit protections
- UL/cUL and TUV 60950-1 safety approvals
- no load power consumption < 0.5 W
- efficiency up to 80%



| MODEL     | output<br>voltage | output<br>current<br>max | output<br>power<br>max | ripple <sup>1</sup><br>and noise<br>max | efficiency |
|-----------|-------------------|--------------------------|------------------------|-----------------------------------------|------------|
|           | (Vdc)             | (A)                      | (W)                    | (mVp-p)                                 | typ<br>(%) |
| VOF-6-3.3 | 3.3               | 1.20                     | 3.96                   | 100                                     | 66         |
| VOF-6-5   | 5                 | 1.20                     | 6                      | 100                                     | 73         |
| VOF-6-12  | 12                | 0.50                     | 6                      | 120                                     | 77         |
| VOF-6-15  | 15                | 0.40                     | 6                      | 150                                     | 78         |
| VOF-6-24  | 24                | 0.25                     | 6                      | 240                                     | 80         |

Notes: 1. Ripple & noise are measured at 20 MHz BW with 47  $\mu$ F ceramic and 100 nF electrolytic capacitors on the output

### PART NUMBER KEY



## INPUT

| parameter      | conditions/description                                                 | min       | typ | max        | units      |
|----------------|------------------------------------------------------------------------|-----------|-----|------------|------------|
| voltage        |                                                                        | 85<br>120 |     | 264<br>375 | Vac<br>Vdc |
| frequency      |                                                                        | 47        |     | 63         | Hz         |
| current        |                                                                        |           |     | 0.6        | A          |
| inrush current | at 110 Vac, full load, cold start<br>at 220 Vac, full load, cold start |           |     | 10<br>20   | A<br>A     |
| input fuse     | built-in, non-user serviceable                                         |           |     |            |            |

## OUTPUT

| parameter                 | conditions/description            | min | typ   | max          | units  |
|---------------------------|-----------------------------------|-----|-------|--------------|--------|
| line regulation           | 3.3 Vdc model<br>all other models |     |       | ±0.6<br>±0.5 | %<br>% |
| load regulation           | 3.3 Vdc model<br>all other models |     |       | ±1.2<br>±1   | %<br>% |
| temperature coefficient   |                                   |     | ±0.05 |              | %/°C   |
| hold-up time              | at 115 Vac, full load             |     | 6     |              | ms     |
| adjustability             | adjustable with built-in trim pot |     | ±5    |              | %      |
| switching frequency       |                                   |     | 67    |              | kHz    |
| no load power consumption |                                   |     |       | 0.5          | W      |

## PROTECTIONS

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

## SAFETY & COMPLIANCE

| parameter            | conditions/description                | min     | typ | max   | units |
|----------------------|---------------------------------------|---------|-----|-------|-------|
| isolation voltage    | input to output at 10 mA for 1 minute |         |     | 3,000 | Vac   |
| isolation resistance | input to output at 500 Vdc at 25°C    | 50      |     |       | MΩ    |
| safety approvals     | TUV EN 60950, UL/cUL 60950-1          |         |     |       |       |
| EMI/EMC              | FCC class B, EN55022 class B, CE      |         |     |       |       |
| leakage current      |                                       |         |     | 0.25  | mA    |
| RoHS                 | 2011/65/EU                            |         |     |       |       |
| MTBF                 | according to MIL-HDBK-217F            | 250,000 |     |       | hours |

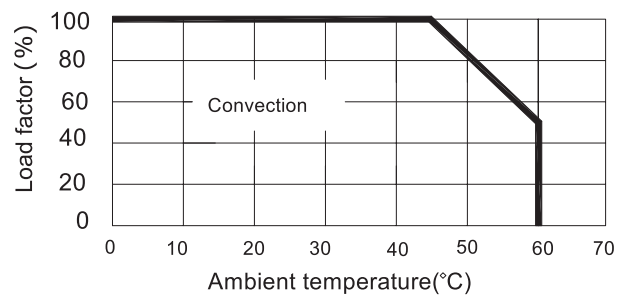
## ENVIRONMENTAL

| 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  |     | 90  | %     |

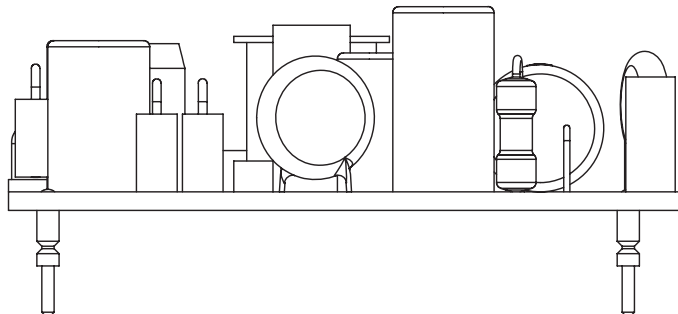
## MECHANICAL

| parameter      | conditions/description                         | min | typ | max | units |
|----------------|------------------------------------------------|-----|-----|-----|-------|
| dimensions     | 55 x 35 x 16.5 (2.17 x 1.38 x 0.65 inches)     |     |     |     | mm    |
| cooling method | free air convection (see derating curve below) |     |     |     |       |

## DERATING CURVES



## MOUNTING METHOD

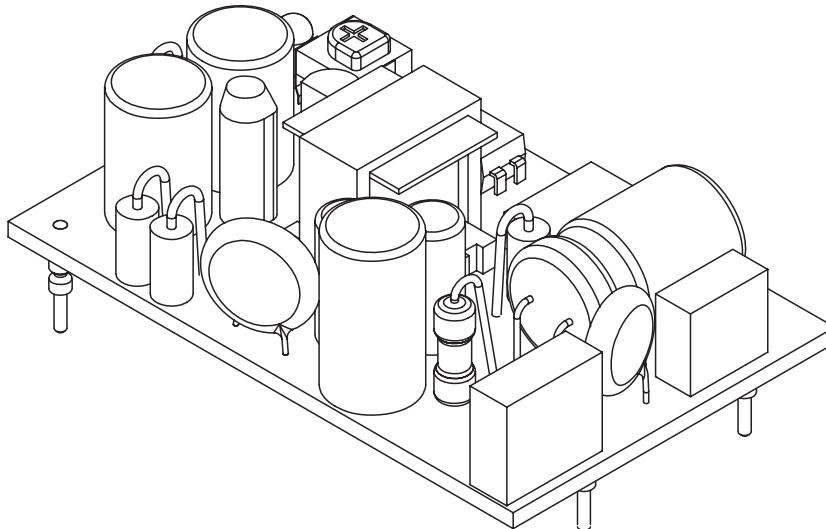
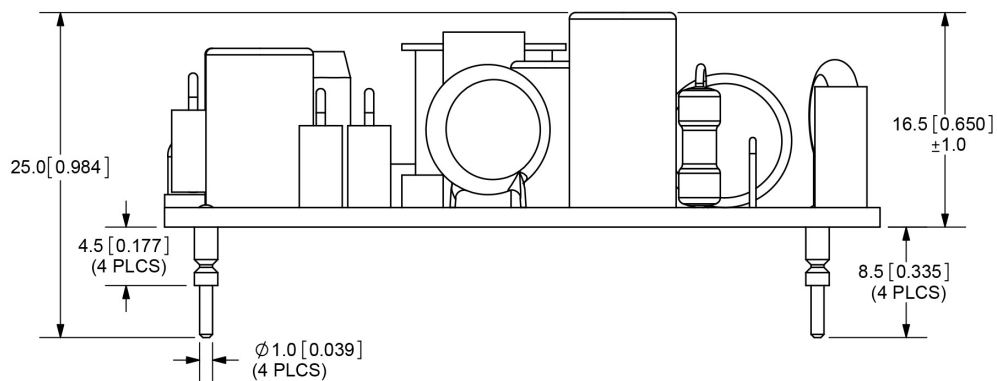
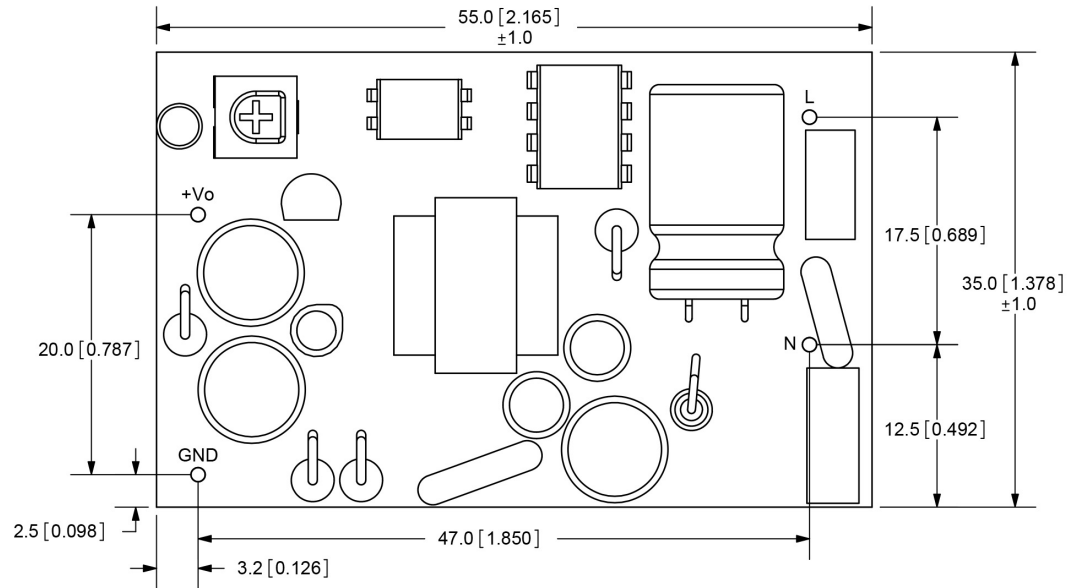


### Horizontal

(performance evaluations conducted under this mounting method)

## MECHANICAL DRAWING

units: mm [inches]  
tolerance:  $\pm 0.3$  [ $\pm 0.01$ ]  
unless otherwise specified



## REVISION HISTORY

| rev. | description                                                     | date       |
|------|-----------------------------------------------------------------|------------|
| 1.0  | initial release                                                 | 10/19/2010 |
| 1.01 | new template applied                                            | 05/13/2011 |
| 1.02 | added MTBF data                                                 | 09/20/2011 |
| 1.03 | V-Infinity branding removed                                     | 09/06/2012 |
| 1.04 | VOF-6-3.3 efficiency changed, outer dimension tolerance changed | 12/28/2015 |

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



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