

SERIES: VOF-85 | **DESCRIPTION:** AC-DC POWER SUPPLY

FEATURES

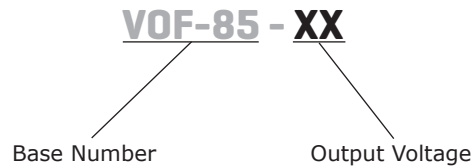
- up to 85 W continuous power
- compact size
- universal input (90~277 Vac)
- single output from 5~48 Vdc
- user trimmable output voltage option
- no load power consumption <0.25W
- 3000 Vac isolation
- over current, over voltage, and short circuit protections
- UL/cUL and TUV 60950-1 safety approvals
- efficiency up to 89%



| MODEL | output voltage | output current | output power ¹ | ripple and noise ² | efficiency |
|-----------|----------------|----------------|---------------------------|-------------------------------|------------|
| | (Vdc) | max (A) | max (W) | max (mVp-p) | typ (%) |
| VOF-85-5 | 5 | 10.6 | 53 | 120 | 78 |
| VOF-85-12 | 12 | 7.1 | 85 | 120 | 86 |
| VOF-85-15 | 15 | 5.7 | 85 | 150 | 88 |
| VOF-85-24 | 24 | 3.6 | 85 | 240 | 87 |
| VOF-85-48 | 48 | 1.8 | 85 | 480 | 89 |

Notes: 1. 5 Vdc output model requires forced air with 6.7 CFM external fan to achieve 53W. All other models can achieve 85W with convection cooling.
 2. Ripple & noise are measured at 20 MHz BW with 0.1 µF ceramic cap and a 10 µF 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 | | 90 | | 277 | Vac |
| frequency | | 47 | | 63 | Hz |
| input current | at 115 Vac, full load at 230 Vac, full load | | 1.8 0.8 | | A A |
| inrush current | at 230 Vac, cold start | | 50 | | A |
| leakage current | at 277 Vac | | | 3.5 | mA |
| no load power consumption | at 110 Vac at 230 Vac | | | 0.25 0.35 | W W |
| input fuse | 5 A/250V time delay fuse (included) | | | | |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|----------------------------|---|-----|-------------------------------------|-----|---|
| line regulation | low line to high line | | ±0.5 | | % |
| load regulation | full load to 10% load | | ±1 | | % |
| initial set point accuracy | | | ±3 | | % |
| transient response | 1 kHz, 10~100% load VOF-85-5 VOF-85-12 VOF-85-15 VOF-85-24 VOF-85-48 | | 500 1200 1500 2400 4800 | | mVp-p mVp-p mVp-p mVp-p mVp-p |
| hold-up time | at 115 Vac, full load | 8 | | | ms |
| start-up time | at 115 Vac, full load | | 50 | | ms |
| start-up delay | at 115 Vac, full load | | 1000 | | ms |
| adjustability | built in trim pot | | ±5 | | % |
| switching frequency | | 61 | 65 | 69 | kHz |
| temperature coefficient | | | ±0.03 | | %/°C |
| fan drive ¹ | 12 Vdc/100 mA for external fan | | | | |

Notes: 1. Fan drive for VOF-85-5 model only.

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|------------------------|-----|-----|-----|-------|
| short circuit protection | hiccup, auto recovery | 110 | | | % |
| over current protection | hiccup, auto recovery | 110 | | | % |
| over voltage protection | clamped by TVS | | | | |

SAFETY & COMPLIANCE

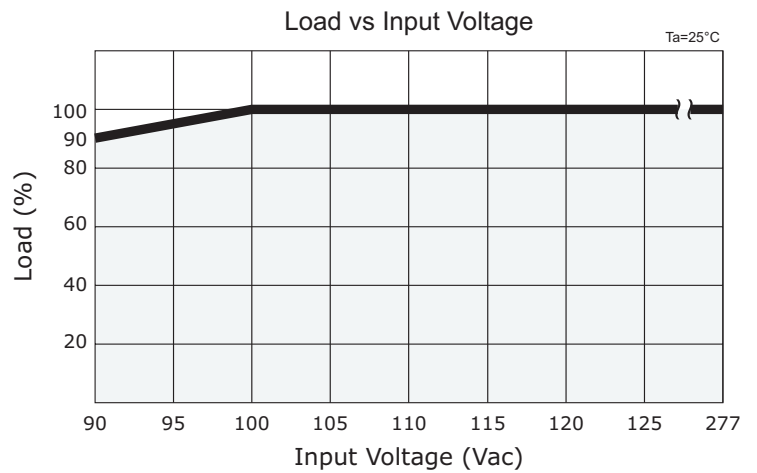
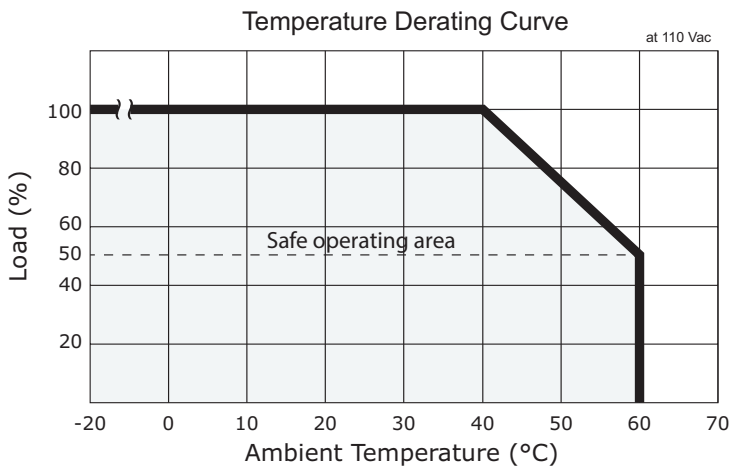
| parameter | conditions/description | min | typ | max | units |
|----------------------|---|-------------------------|-----|-----|-------------------|
| isolation voltage | input to output input to ground output to ground | 3,000 1,500 1,500 | | | Vac Vac Vac |
| safety approvals | UL60950-1, EN60950-1 | | | | |
| EMI/EMC ² | EN 55022: 2010 Class B, EN 61204-3:2000, EN 61000-6-3: 2007 +A1: 2011, EN 61000-3-2: 2006 +A2: 2009, EN 61000-3-3: 2008, EN 55024: 2010, EN 61000-6-1: 2007, ENV 50204: 1995, CE, FCC | | | | |
| class | class II | | | | |
| MTBF | as per MIL-HDBK-217F at 25 °C, full load | 250,000 | | | hours |
| RoHS | 2011/65/EU | | | | |

Notes: 2. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|-----------------------|--|-----|------|-----|-------|
| operating temperature | see derating curves | -20 | | 60 | °C |
| storage temperature | | -40 | | 85 | °C |
| operating humidity | non-condensing | 20 | | 90 | % |
| storage humidity | non-condensing | 20 | | 90 | % |
| operating altitude | | | 2000 | | m |
| vibration & shock | 10~3000Hz, 10 minutes per cycle, for 1 hour along each of the X, Y, and Z axes | | 2 | | G |

DERATING CURVES

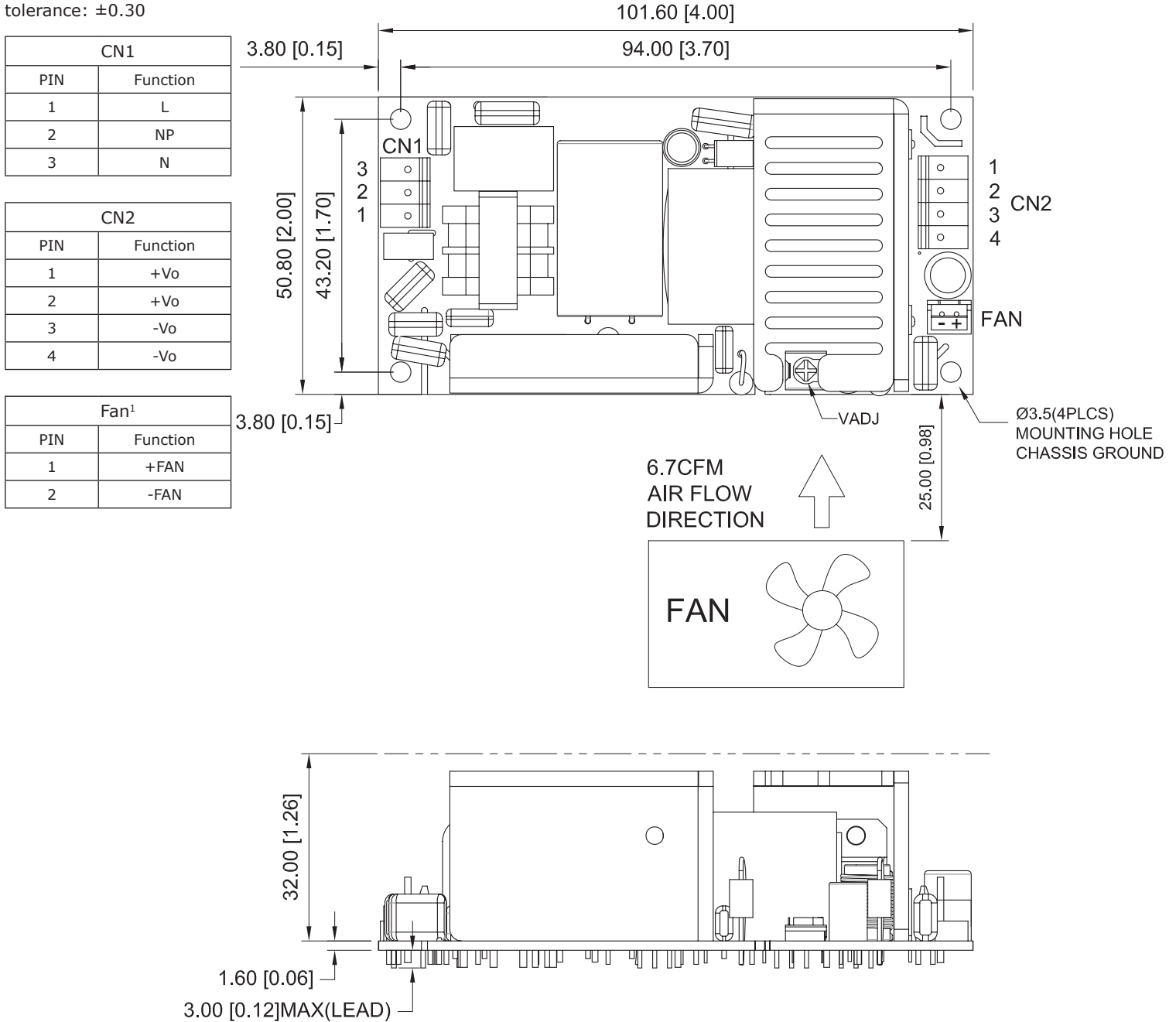


MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|----------------|--|-----|-----|-----|-------|
| dimensions | 101.6 x 50.8 x 33.6 (4.00 x 2.00 x 1.32 inch) | | | | mm |
| weight | | | 170 | | g |
| cooling method | VOF-85-5: 6.7 CFM external fan at 25mm (not included) all other models: open frame (convection) | | | | |

MECHANICAL DRAWING

units: mm[inch]
tolerance: ±0.30



- Notes:
1. Fan connector only populated on model VOF-85-5.
 2. CN1 mates with Molex housing 09-50-3031 with Molex 2478 series crimp contact or equivalent.
 3. CN2 mates with Molex housing 09-50-3041 with Molex 2478 series crimp contact or equivalent.
 4. Fan connector mates with JST housing XHP-2 with JST SXH-001T-P0.6 crimp contact or equivalent.
 5. All specifications are measured at Ta=25°C, 230 Vac input voltage, and rated output load unless otherwise specified.

REVISION HISTORY

| rev. | description | date |
|------|---|------------|
| 1.0 | initial release | 04/08/2014 |
| 1.01 | updated datasheet | 05/09/2014 |
| 1.02 | updated derating curve, updated datasheet | 06/10/2014 |
| 1.03 | updated datasheet | 07/22/2014 |

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



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