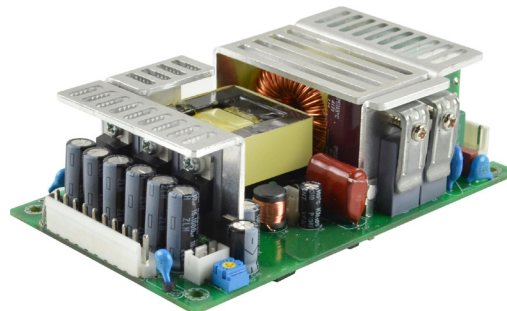




## SERIES: VOF-225 | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

- up to 225 W continuous power
- universal input voltage range
- industry standard 3" x 5" footprint
- power factor correction
- low no load power consumption
- over voltage, over current, and short circuit protections
- output trim
- UL/cUL and TUV safety approvals
- efficiency up to 91%

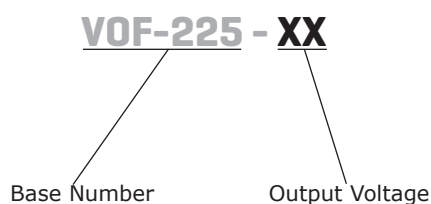


| MODEL      | output voltage | output current max | output power <sup>1</sup> max | ripple and noise <sup>2</sup> max | efficiency <sup>3</sup> typ |
|------------|----------------|--------------------|-------------------------------|-----------------------------------|-----------------------------|
|            | (Vdc)          | (A)                | (W)                           | (mVp-p)                           | (%)                         |
| VOF-225-12 | 12             | 18.75              | 225                           | 120                               | 88                          |
| VOF-225-15 | 15             | 15                 | 225                           | 150                               | 90                          |
| VOF-225-24 | 24             | 9.38               | 225                           | 240                               | 90                          |
| VOF-225-36 | 36             | 6.25               | 225                           | 360                               | 90                          |
| VOF-225-48 | 48             | 4.69               | 255                           | 480                               | 91                          |

Notes:

1. Maximum output power of 225 W with forced air cooling (34.2 CFM), 135 W with convection cooling.
2. At full load, nominal input, 20 MHz bandwidth oscilloscope, using a 12" twisted pair wire terminated together with a 0.1  $\mu$ F and 47  $\mu$ F capacitor.
3. At full load, 230 Vac input, without external fan.
4. All specifications are measured at Ta=25°C, 230 Vac input voltage, and rated output load unless otherwise specified.

### PART NUMBER KEY



## INPUT

| parameter                 | conditions/description                         | min          | typ        | max | units  |
|---------------------------|------------------------------------------------|--------------|------------|-----|--------|
| voltage                   |                                                | 90           |            | 277 | Vac    |
| frequency                 |                                                | 47           |            | 63  | Hz     |
| current                   | at 115 Vac, full load<br>at 230 Vac, full load |              | 2.8<br>1.5 |     | A<br>A |
| inrush current            | at 230 Vac, cold start                         |              |            | 80  | A      |
| leakage current           | at 264 Vac                                     |              |            | 3.5 | mA     |
| power factor correction   | at 115 Vac, full load<br>at 230 Vac, full load | 0.98<br>0.95 |            |     |        |
| no load power consumption | at 230 Vac                                     |              |            | 0.5 | W      |
| input fuse                | 6.3 A / 250 V time delay fuse (included)       |              |            |     |        |

## OUTPUT

| parameter                  | conditions/description                                                                    | min | typ                                       | max | units                                     |
|----------------------------|-------------------------------------------------------------------------------------------|-----|-------------------------------------------|-----|-------------------------------------------|
| initial set point accuracy |                                                                                           |     | ±3                                        |     | %                                         |
| line regulation            |                                                                                           |     | ±0.5                                      |     | %                                         |
| load regulation            | from 100%~10% load                                                                        |     | ±1                                        |     | %                                         |
| transient response         | 1 kHz, 90%~10% load<br>VOF-225-12<br>VOF-225-15<br>VOF-225-24<br>VOF-225-36<br>VOF-225-48 |     | 1,200<br>1,500<br>2,400<br>3,600<br>4,800 |     | mVp-p<br>mVp-p<br>mVp-p<br>mVp-p<br>mVp-p |
| start-up delay time        | at 115 Vac<br>at 230 Vac                                                                  |     | 3<br>2.5                                  |     | s<br>s                                    |
| start-up rise time         | at 115/230 Vac                                                                            |     | 60                                        |     | ms                                        |
| hold-up time               | at 115/230 Vac                                                                            | 10  |                                           |     | ms                                        |
| adjustability              | built in trim pot                                                                         |     | ±5                                        |     | %                                         |
| switching frequency        |                                                                                           | 75  |                                           | 400 | kHz                                       |
| temperature coefficient    | at 0~50°C                                                                                 |     | ±0.03                                     |     | %/°C                                      |
| fan output                 | 12 Vdc / 300 mA                                                                           |     |                                           |     |                                           |

## PROTECTIONS

| parameter                | conditions/description                                                           | min                                | typ | max                                | units                           |
|--------------------------|----------------------------------------------------------------------------------|------------------------------------|-----|------------------------------------|---------------------------------|
| over voltage protection  | latch mode<br>VOF-225-12<br>VOF-225-15<br>VOF-225-24<br>VOF-225-36<br>VOF-225-48 | 13.8<br>16.5<br>26.5<br>38.5<br>55 |     | 15.8<br>19.5<br>31.5<br>43.5<br>62 | Vdc<br>Vdc<br>Vdc<br>Vdc<br>Vdc |
| over current protection  | hiccup, auto recovery                                                            | 110                                |     |                                    | %                               |
| short circuit protection | latch                                                                            |                                    |     |                                    |                                 |

## SAFETY & COMPLIANCE

| parameter         | conditions/description                                 | min | typ                   | max | units             |
|-------------------|--------------------------------------------------------|-----|-----------------------|-----|-------------------|
| isolation voltage | input to output<br>input to ground<br>output to ground |     | 3,000<br>1,500<br>500 |     | Vac<br>Vac<br>Vac |
| safety approvals  | UL 60950-1, EN 60950-1, IEC 60950-1                    |     |                       |     |                   |

## SAFETY & COMPLIANCE (CONTINUED)

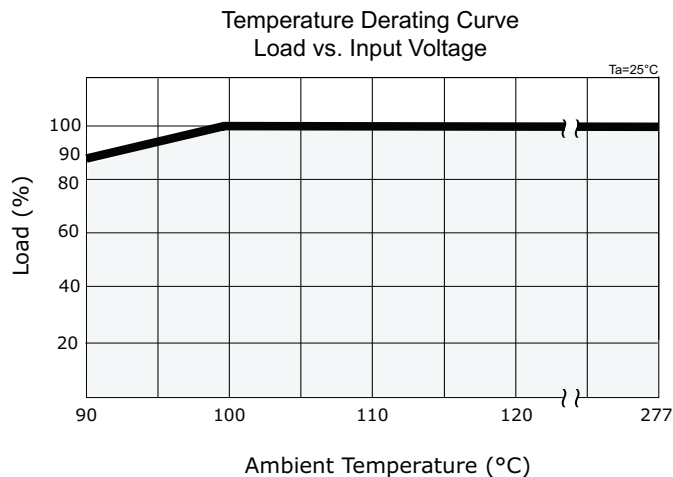
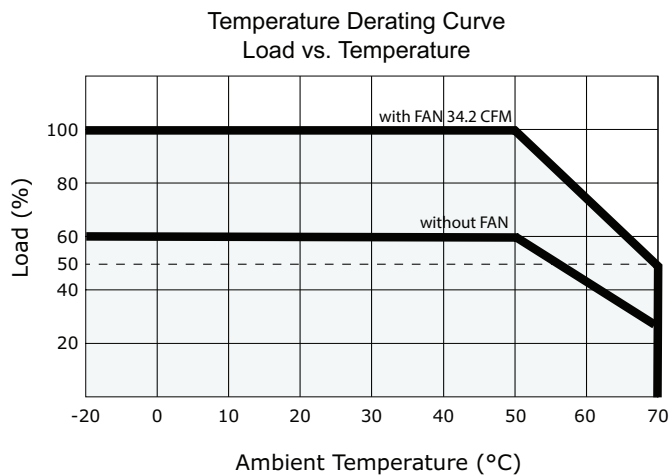
| parameter            | conditions/description                                                                                                                                                                | min     | typ | max | units |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|-----|-------|
| EMI/EMC <sup>1</sup> | 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 I                                                                                                                                                                               |         |     |     |       |
| MTBF                 | as per MIL-HDBK-217F                                                                                                                                                                  | 250,000 |     |     | hours |
| RoHS                 | 2011/65/EU                                                                                                                                                                            |         |     |     |       |

Notes: 1. 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

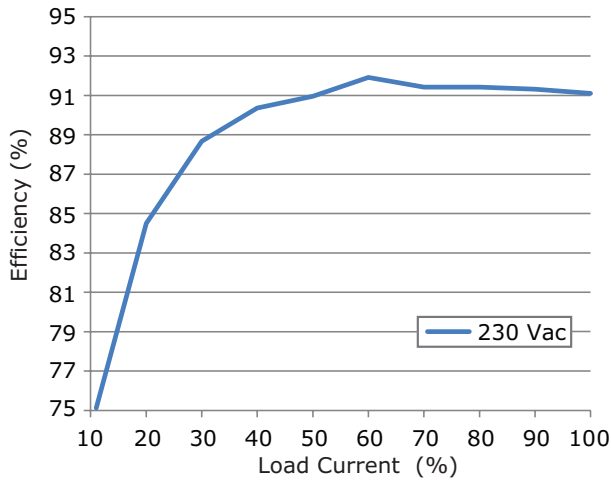
| parameter             | conditions/description                                                         | min | typ  | max | units |
|-----------------------|--------------------------------------------------------------------------------|-----|------|-----|-------|
| operating temperature | see derating curves                                                            | -20 |      | 70  | °C    |
| storage temperature   |                                                                                | -40 |      | 85  | °C    |
| operating humidity    | non-condensing                                                                 | 20  |      | 90  | %     |
| storage humidity      | non-condensing                                                                 | 20  |      | 90  | %     |
| operating altitude    |                                                                                |     | 5000 |     | 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

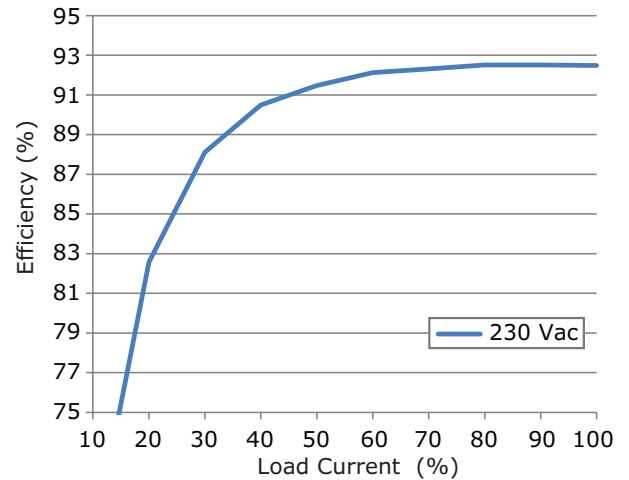


## EFFICIENCY CURVES

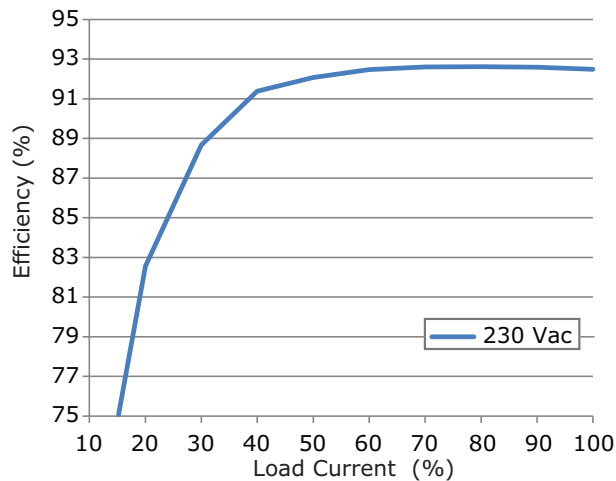
VOF-225-12 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



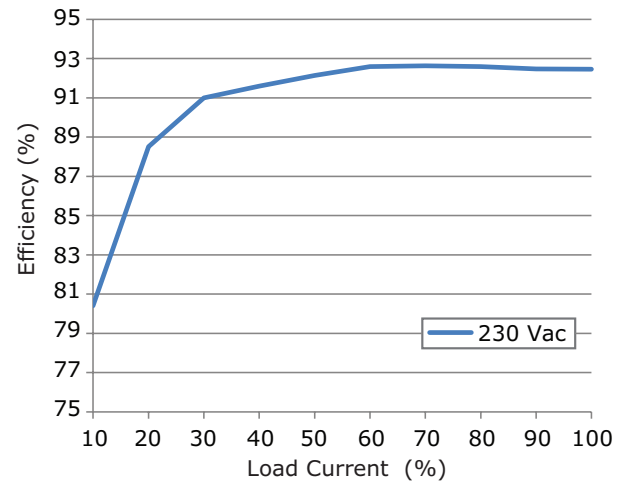
VOF-225-15 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



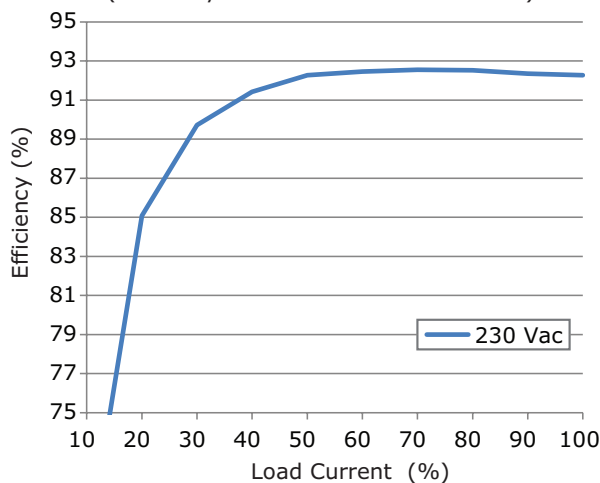
VOF-225-24 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



VOF-225-36 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)



VOF-225-48 Efficiency Curve  
(Efficiency vs. Load Current at 230 Vac)





## REVISION HISTORY

| rev. | description             | date       |
|------|-------------------------|------------|
| 1.0  | initial release         | 06/27/2016 |
| 1.01 | added efficiency curves | 09/27/2016 |

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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