CUI INC®



# **SERIES:** VMS-40 | **DESCRIPTION:** AC-DC POWER SUPPLY

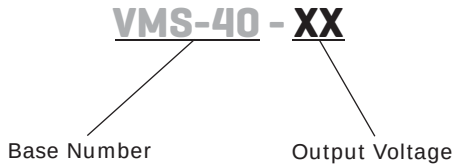
## FEATURES

- up to 40 W continuous power
- compact size
- universal input (90~264 Vac)
- single output from 3.3~48 V
- no load power < 0.3W
- over voltage and short circuit protections
- full medical safety approvals
- efficiency up to 88%


| MODEL | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise[1] max (mVp-p) | efficiency typ (%) |
|---|---|---|---|---|---|
| VMS-40-3.3 | 3.3 | 6 | 19.8 | 50 | 76 |
| VMS-40-5 | 5 | 6 | 30 | 50 | 80 |
| VMS-40-9 | 9 | 4.45 | 40 | 90 | 84 |
| VMS-40-12 | 12 | 3.34 | 40 | 120 | 86 |
| VMS-40-15 | 15 | 2.67 | 40 | 150 | 87 |
| VMS-40-24 | 24 | 1.67 | 40 | 240 | 88 |
| VMS-40-30 | 30 | 1.33 | 40 | 300 | 88 |
| VMS-40-36 | 36 | 1.11 | 40 | 360 | 88 |
| VMS-40-48 | 48 | 0.834 | 40 | 480 | 88 |

Notes: 1. Measured at 20MHz, with 0.1uF ceramic and 10uF electrolytic capacitors

## PART NUMBER KEY



## INPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| voltage | | 90 | | 264 | Vac |
| frequency | | 47 | | 63 | Hz |
| input current | at 100 Vac<br>at 240 Vac | | | 1<br>0.55 | A<br>A |
| inrush current | at 240 Vac | | | 60 | A |

## OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| line regulation | low line to high line, full load | | ±0.5 | | % |
| load regulation | 10% to 100% full load | | ±1 | | % |
| hold-up time | 115 Vac | | 10 | | ms |
| switching frequency | | | 65 | | KHz |

## PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| over voltage protection | TVS component to clamp | | | | |
| short circuit protection | hiccup mode, recovers automatically | | | | |

## SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| isolation voltage | input to output | 5,656 | | | Vdc |
| safety approvals | UL 60601-1, EN 60601-1, IEC 60601-1, CAN/CSA-C22.2 60601-1, ANSI/AAMI ES 60601-1 | | | | |
| EMI/EMC | FCC CFR 47 Part 15 Subpart B, CISPR 22 Class B, EN 55011 Class B, EN 61000-3-(2, 3), IEC 61000-4-(2, 3, 4, 5, 6, 8, 11) | | | | |
| leakage current | | | | 0.1 | mA |
| RoHS compliant | yes | | | | |
| MTBF | MIL-HDBK-217F, GB, at 25°C, 115 Vac | 200,000 | | | hrs |

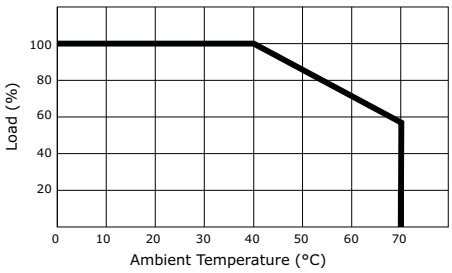
## ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | see derating curve | 0 | | 70 | °C |
| storage temperature | | -20 | | 85 | °C |
| operating humidity | non-condensing | | | 93 | % |

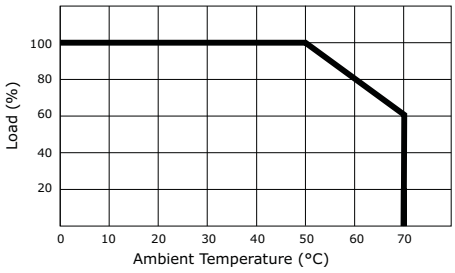
## DERATING CURVES

output power vs. ambient temperature

5 V model (Natural Convection)




All other models (Natural Convection)



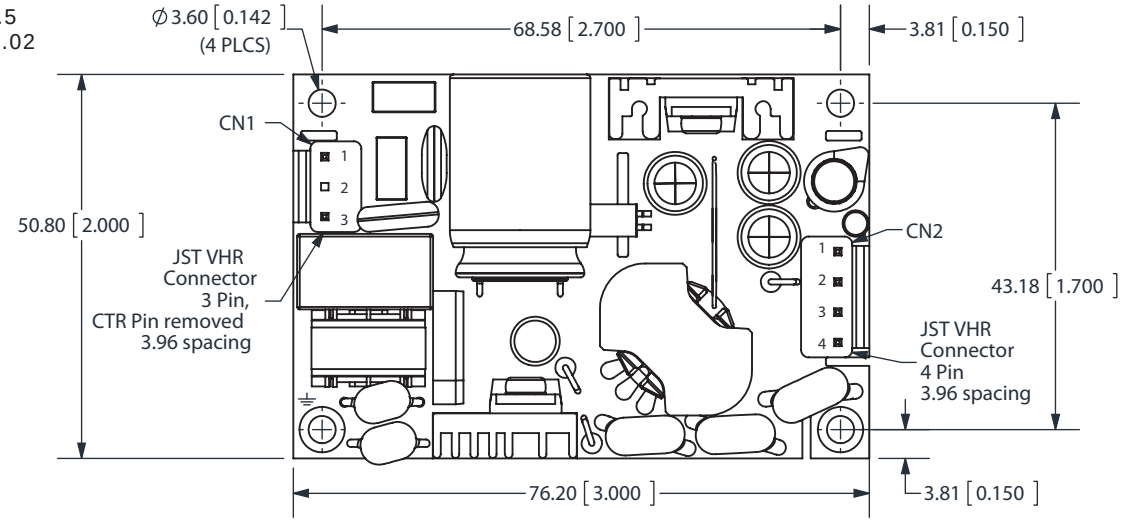
## MECHANICAL

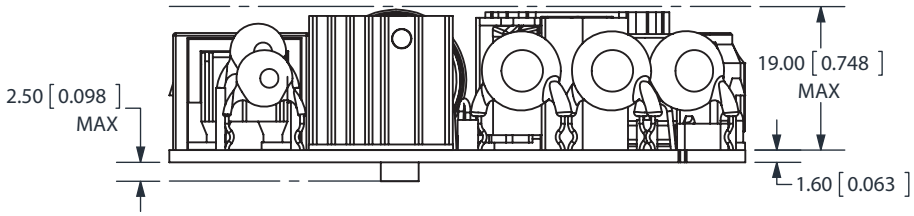
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | 3.00 x 2.00 x 0.91 (76.2 x 50.8 x 23.1 mm) | | | | inch |
| weight | | | | 90 | g |
| cooling method | free air convection<br>(see derating curves below) | | | | |

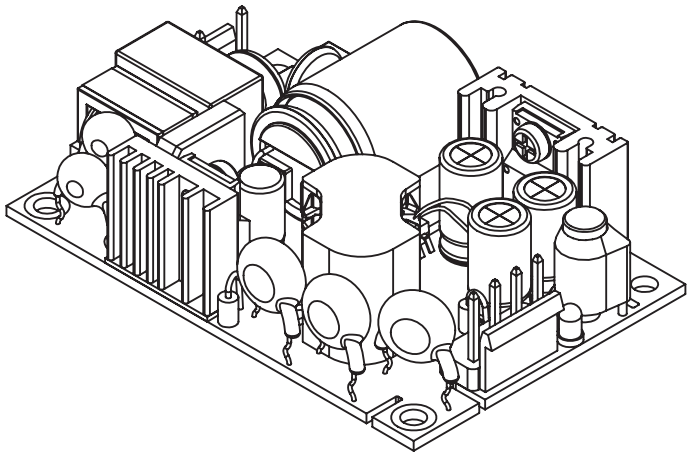
## MECHANICAL DRAWING

units: mm[in]
tolerance: mm: ±0.5
inch: ±0.02

| CN1 | |
|---|---|
| 1 | AC Line |
| 2 | No pin |
| 3 | AC Neutral |



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

## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 10/26/2011 |
| 1.01 | V-Infinity branding removed | 08/27/2012 |

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

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