


**SERIES:** VGS-50 | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- up to 53 W continuous power
- compact footprint
- universal input (88~264 Vac / 125~373 Vdc)
- single output from 3.3 to 48 V
- over voltage, over load, and short circuit protections
- UL/cUL and TUV safety approvals
- long life electrolytic capacitors
- no load power consumption < 0.5 W
- efficiency 90%



| MODEL      | output<br>voltage<br>(Vdc) | output<br>current<br>max<br>(A) | output<br>power<br>max<br>(W) | ripple and<br>noise<br>max<br>(mVp-p) | efficiency<br>(%) |
|------------|----------------------------|---------------------------------|-------------------------------|---------------------------------------|-------------------|
| VGS-50-3.3 | 3.3                        | 10                              | 33                            | 100                                   | 78                |
| VGS-50-5   | 5                          | 10                              | 50                            | 100                                   | 83                |
| VGS-50-12  | 12                         | 4.2                             | 50.4                          | 120                                   | 88                |
| VGS-50-15  | 15                         | 3.4                             | 51                            | 120                                   | 89                |
| VGS-50-24  | 24                         | 2.2                             | 52.8                          | 120                                   | 90                |
| VGS-50-48  | 48                         | 1.1                             | 52.8                          | 120                                   | 90                |

**PART NUMBER KEY**
**VGS-50 - XX**

Base Number

Output Voltage

## INPUT

| parameter       | conditions/description                           | min       | nom | max         | units      |
|-----------------|--------------------------------------------------|-----------|-----|-------------|------------|
| voltage range   |                                                  | 88<br>125 |     | 264<br>373  | Vac<br>Vdc |
| frequency range |                                                  | 50        |     | 60          | Hz         |
| current         | at 115 Vac, cold start<br>at 230 Vac, cold start |           |     | 1.3<br>0.65 | A<br>A     |
| inrush current  | at 230 Vac, full load, cold start                |           |     | 40          | A          |

## OUTPUT

| parameter         | conditions/description | min | nom  | max | units |
|-------------------|------------------------|-----|------|-----|-------|
| voltage adjust    |                        |     | ±10  |     |       |
| voltage tolerance | 3.3 V models           |     | ±3   |     | %     |
|                   | 5 V models             |     | ±2   |     | %     |
|                   | all other models       |     | ±1   |     | %     |
| line regulation   | low line to high line  |     | ±0.5 |     | %     |
| load regulation   | 3.3 V models           |     | ±2.0 |     | %     |
|                   | 5 V models             |     | ±1.0 |     | %     |
|                   | all other models       |     | ±0.5 |     | %     |
| start-up time     | at 115 Vac, cold start |     | 1.0  |     | s     |
|                   | at 230 Vac, cold start |     | 0.8  |     | s     |
| rise time         | at 115 Vac, cold start |     | 65   |     | ms    |
|                   | at 230 Vac, cold start |     | 50   |     | ms    |
| hold-up time      | at 115 Vac, cold start | 10  |      |     | ms    |
|                   | at 230 Vac, cold start | 32  |      |     | ms    |

## SAFETY & COMPLIANCE

| parameter         | conditions/description                                                                                                                                                                             | min     | nom | max | units |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|-----|-------|
| isolation voltage | input to output:                                                                                                                                                                                   | 4,242   |     |     | Vdc   |
|                   | input to case:                                                                                                                                                                                     | 2,121   |     |     | Vdc   |
|                   | output to case:                                                                                                                                                                                    | 707     |     |     | Vdc   |
| safety approvals  | UL 60950-1 / TUV EN 60950-1                                                                                                                                                                        |         |     |     |       |
| EMI/EMC           | EN55022 : 1998+A1 : 2000+A2 : 2003 Class B, EN61000-3-2 : 2000+A2 : 2005 Class A, EN61000-3-3 : 1995+A1 : 2001, EN61204-3 : 2000 EN50204 1998+A1 : 2001+A2 : 2003 light industry level, criteria A |         |     |     |       |
| leakage current   | measured per IEC 60950-1, paragraph 5.1, test voltage of 240 Vac/60 Hz                                                                                                                             |         |     | 2   | mA    |
| RoHS compliant    | yes                                                                                                                                                                                                |         |     |     |       |
| MTBF              | at 230 Vac, MIL-HDBK-217F 25 °C ambient                                                                                                                                                            | 620,300 |     |     | hrs   |

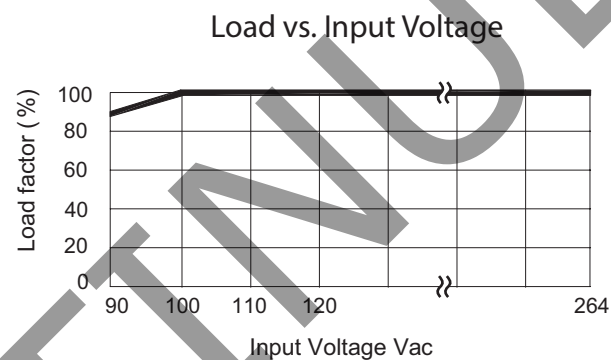
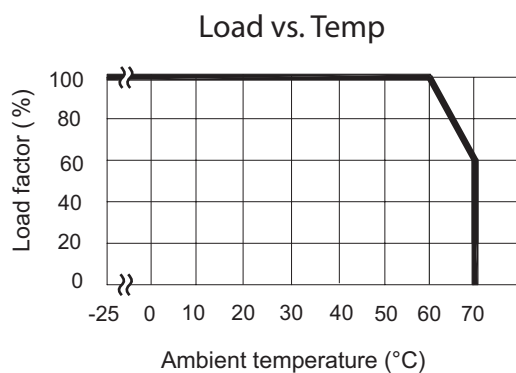
## ENVIRONMENTAL

| parameter               | conditions/description                        | min | nom | max | units |
|-------------------------|-----------------------------------------------|-----|-----|-----|-------|
| operating temperature   | see derating curve                            | -25 |     | 70  | °C    |
| storage temperature     |                                               | -40 |     | 85  | °C    |
| operating humidity      | non-condensing                                | 20  |     | 90  | %     |
| storage humidity        | non-condensing                                | 10  |     | 95  | %     |
| temperature coefficient | (0 ~ 50°C)                                    |     | 0.3 |     | %/°C  |
| vibration               | (10 ~ 500 Hz, 1 hour per axis, 3 hours total) |     | 5   |     | Grms  |

## PROTECTIONS

| parameter     | conditions/description     | min | nom | max | units |
|---------------|----------------------------|-----|-----|-----|-------|
| over load     | hiccup mode, auto recovery |     |     | 110 | %     |
| over voltage  | latch off mode             | 115 |     | 150 | %     |
| short circuit | continuous                 |     |     |     |       |

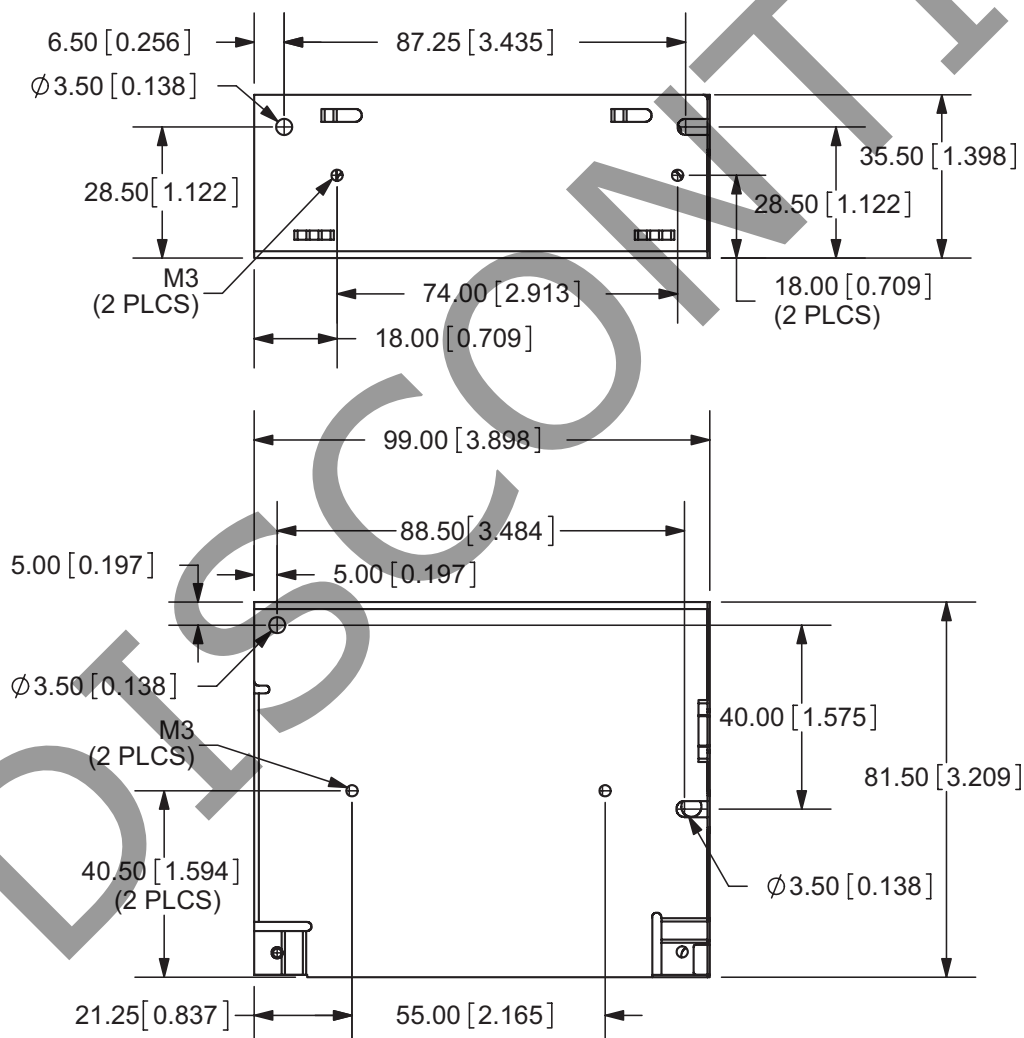
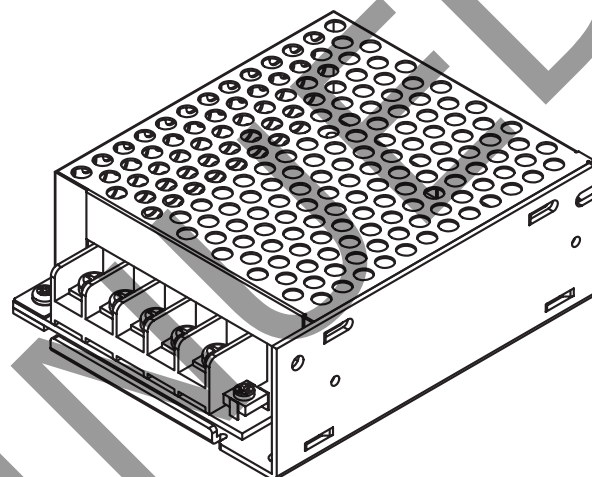
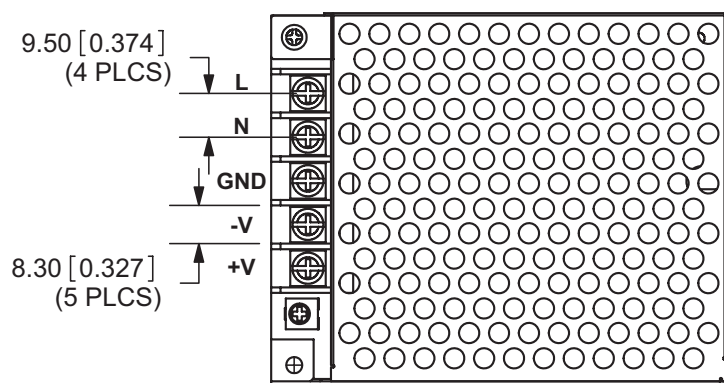
## DERATING CURVES



## MECHANICAL DRAWING

Note:  
terminal block screws #6-32 (5 PLCS)

Tolerance:  $\pm 0.3\text{mm}$  unless otherwise  
specified



## REVISION HISTORY

| rev. | description                 | date       |
|------|-----------------------------|------------|
| 1.0  | initial release             | 08/12/2011 |
| 1.01 | V-Infinity branding removed | 08/21/2012 |
| 1.02 | updated datasheet           | 11/08/2017 |

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

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