

## SERIES: VGS-50 | DESCRIPTION: SWITCHING 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%

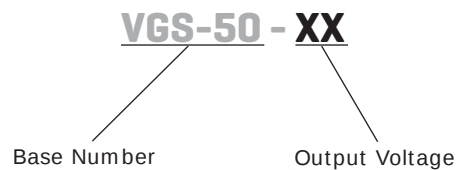


**V-Infinity**



| MODEL      | output<br>voltage | output<br>current<br>max | output<br>power<br>max | ripple and<br>noise<br>max | efficiency |
|------------|-------------------|--------------------------|------------------------|----------------------------|------------|
|            | (Vdc)             | (A)                      | (W)                    | (mVp-p)                    | (%)        |
| 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



## INPUT

| parameter       | conditions/description            | min | nom | max  | units |
|-----------------|-----------------------------------|-----|-----|------|-------|
| voltage range   |                                   | 88  |     | 264  | Vac   |
|                 |                                   | 125 |     | 373  | Vdc   |
| frequency range |                                   | 50  |     | 60   | Hz    |
| current         | at 115 Vac, cold start            |     |     | 1.3  | A     |
|                 | at 230 Vac, cold start            |     |     | 0.65 | 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  | UL60950-1 / TUV EN60950-1 Approved                                                                                                                                                                       |         |     |     |       |
| 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   |

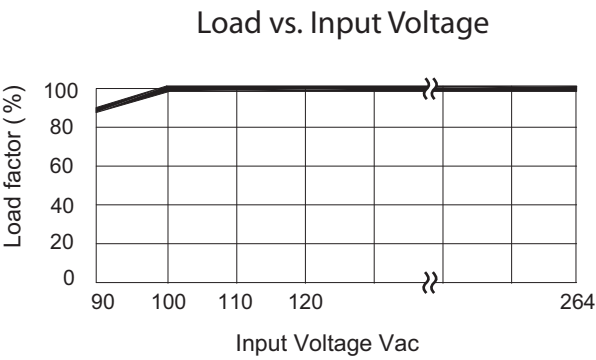
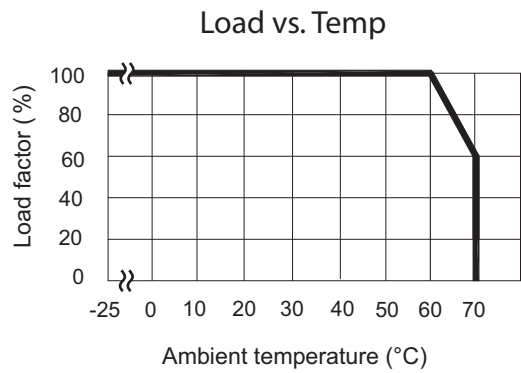
## ENVIRONMENTAL

| parameter               | conditions/description                        | min | nom | max | units |
|-------------------------|-----------------------------------------------|-----|-----|-----|-------|
| operating temperature   | see derating curve                            | -20 |     | 70  | °C    |
| storage temperature     | see derating curve                            | -40 |     | 85  | °C    |
| relative humidity       | non-condensing operating                      | 20  |     | 90  | %     |
| 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                 |     |     |     |       |

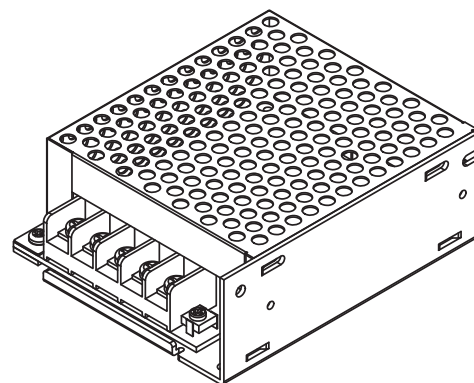
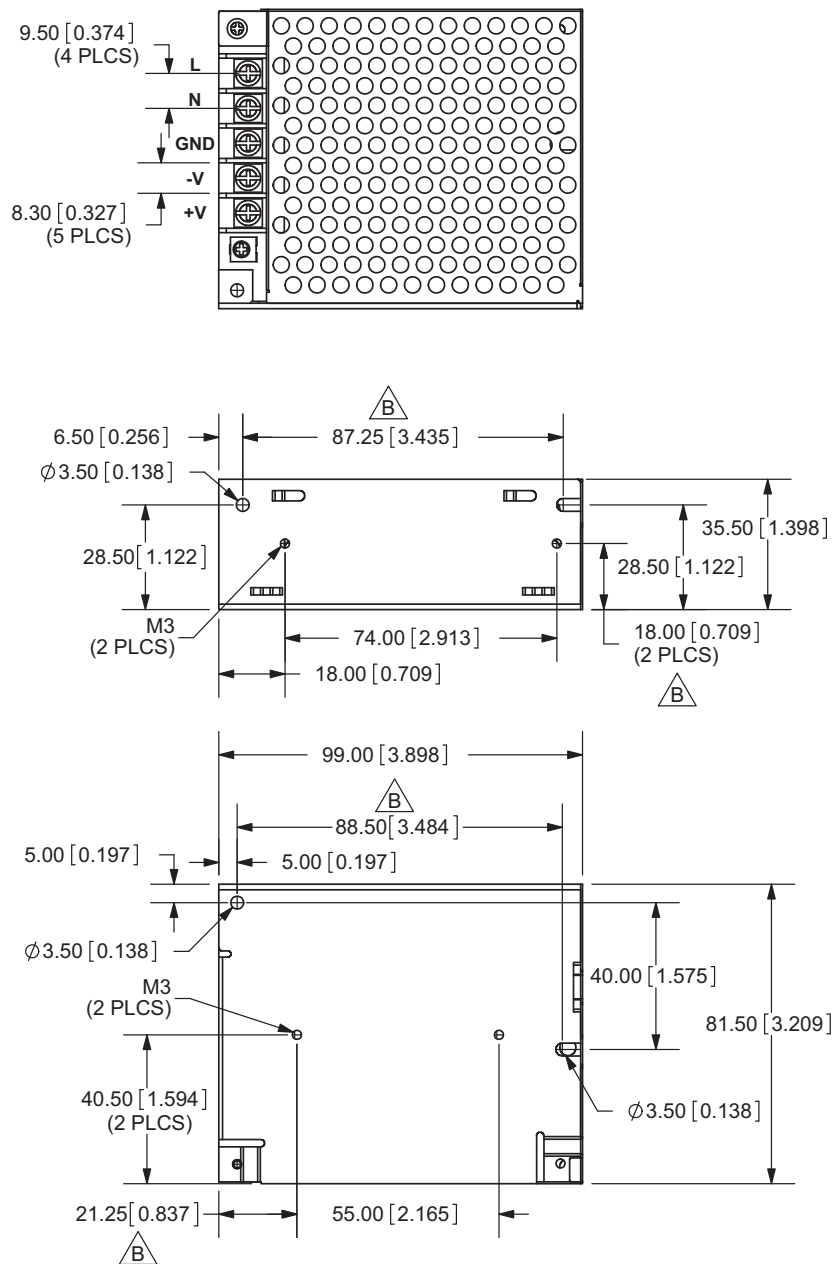
DERATING CURVES



## 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 |

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



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