

## SERIES: VGD-30 | DESCRIPTION: AC-DC POWER SUPPLY

### FEATURES

- up to 30 W continuous power
- universal input (85~264 Vac / 120~370 Vdc)
- dual output
- overload, over voltage, and short circuit protections
- UL/cUL and Intertek EN 60950-1 safety approvals
- built-in EMI filter
- efficiency up to 80%



| MODEL       | output<br>voltage<br><br>(Vdc) | output<br>current |            | output<br>power <sup>1</sup><br><br>max<br>(W) | ripple<br>and noise <sup>2</sup><br><br>max<br>(mVp-p) | efficiency<br><br>typ<br>(%) |
|-------------|--------------------------------|-------------------|------------|------------------------------------------------|--------------------------------------------------------|------------------------------|
|             |                                | min<br>(A)        | max<br>(A) |                                                |                                                        |                              |
| VGD-30-D512 | 5                              | 0.3               | 4          | 30                                             | 80                                                     | 79                           |
|             | 12                             | 0.3               | 2          |                                                | 120                                                    |                              |
| VGD-30-D524 | 5                              | 0.3               | 4          | 30                                             | 80                                                     | 80                           |
|             | 24                             | 0.2               | 1          |                                                | 240                                                    |                              |

Note: 1. Maximum total combined power.  
2. Ripple & noise are measured at 20 MHz BW with 22  $\mu$ F aluminum electrolytic capacitor and 0.1  $\mu$ F ceramic capacitor on the output.

### PART NUMBER KEY

**VGD-30 - DXXX**

Base Number

Output Voltage

## INPUT

| parameter      | conditions/description         | min | typ | max  | units |
|----------------|--------------------------------|-----|-----|------|-------|
| voltage        |                                | 85  |     | 264  | Vac   |
|                |                                | 120 |     | 370  | Vdc   |
| frequency      |                                | 47  |     | 63   | Hz    |
| input current  | 115 Vac                        |     |     | 0.6  | A     |
|                | 230 Vac                        |     |     | 0.35 | A     |
| inrush current | 115 Vac, full load, cold start |     |     | 30   | A     |
|                | 230 Vac, full load, cold start |     |     | 60   | A     |

## OUTPUT

| parameter               | conditions/description                         | min | typ   | max | units |
|-------------------------|------------------------------------------------|-----|-------|-----|-------|
| line regulation         |                                                |     | ±1    |     | %     |
| load regulation         |                                                |     | ±5    |     | %     |
| temperature coefficient |                                                |     | ±0.03 |     | %/°C  |
| hold-up time            | 115 Vac, full load                             |     | 10    |     | ms    |
|                         | 230 Vac, full load                             |     | 50    |     | ms    |
| adjustability           | adjustable with built-in trim pot <sup>1</sup> | -5  |       | +5  | %     |

Note: 1. Adjustment of 5 V output only.

## PROTECTIONS

| parameter                | conditions/description                          | min | typ | max | units |
|--------------------------|-------------------------------------------------|-----|-----|-----|-------|
| over voltage protection  | shut down and latch off, recover after restart. |     |     | 7   | V     |
| overload protection      | hiccup mode, automatically recovers             | 110 |     | 160 | %     |
| short circuit protection | continuous, automatically recovers              |     |     |     |       |

## SAFETY & COMPLIANCE

| parameter            | conditions/description                                                  | min     | typ   | max | units |
|----------------------|-------------------------------------------------------------------------|---------|-------|-----|-------|
| isolation voltage    | input to output                                                         |         | 3,000 |     | Vac   |
|                      | input to case                                                           |         | 1,500 |     | Vac   |
|                      | output to case                                                          |         | 500   |     | Vac   |
| isolation resistance | input to output at 500 Vdc at 25°C                                      | 100     |       |     | MΩ    |
| safety approvals     | UL 60950-1, Intertek EN 60950-1                                         |         |       |     |       |
| EMI/EMC              | EN 55022 (CISPR22) Class B, EN 61000-3-2,-3,-4-2,3,4,5,6,8,11; EN 55024 |         |       |     |       |
| leakage current      | at 240 Vac                                                              |         |       | 3.5 | mA    |
| MTBF                 | MIL-HDBK-217F(25°C)                                                     | 300,000 |       |     | hrs   |
| RoHS compliant       | yes                                                                     |         |       |     |       |

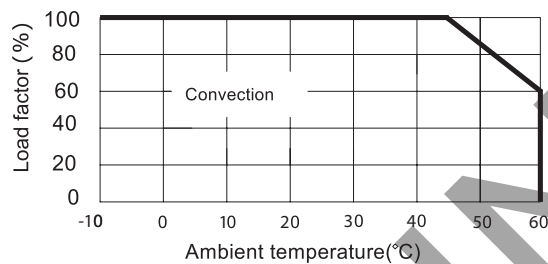
## ENVIRONMENTAL

| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curve     | -10 |     | 60  | °C    |
| storage temperature   |                        | -20 |     | 85  | °C    |
| operating humidity    | non-condensing         | 20  |     | 90  | %     |
| storage humidity      |                        | 10  |     | 95  | %     |

## MECHANICAL

| parameter      | conditions/description                         | min | typ | max | units |
|----------------|------------------------------------------------|-----|-----|-----|-------|
| dimensions     | 3.9 x 3.8 x 1.4 (99 x 97 x 36 mm)              |     |     |     | inch  |
| cooling method | free air convection (see derating curve below) |     |     |     |       |
| weight         |                                                |     | 328 |     | g     |

## DERATING CURVES

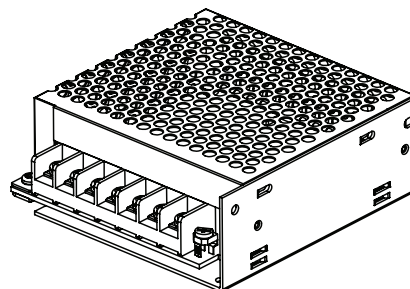
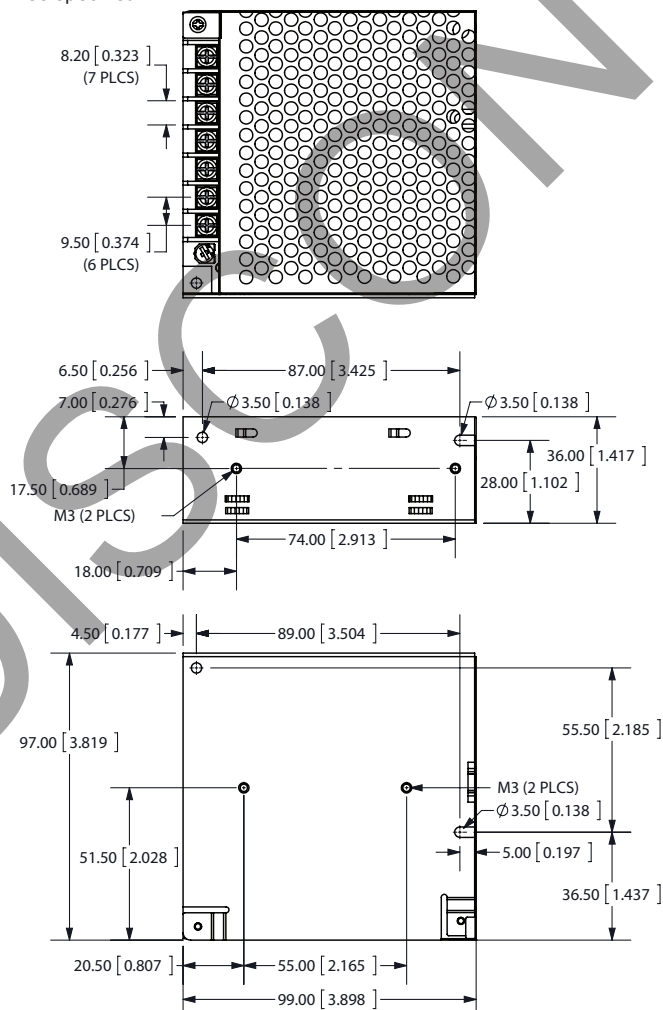


## MECHANICAL DRAWING

units mm[inches]

tolerance:

±0.3mm unless otherwise specified



| PIN CONNECTIONS |            |
|-----------------|------------|
| Pin             | Function   |
| 1               | ac line    |
| 2               | ac natural |
| 3               | FG $\perp$ |
| 4               | COM        |
| 5               | +V2        |
| 6               | COM        |
| 7               | +V1        |

## REVISION HISTORY

| rev. | description                                      | date       |
|------|--------------------------------------------------|------------|
| 1.0  | initial release                                  | 10/26/2011 |
| 1.01 | updated capacitor values for ripple measurements | 04/20/2012 |
| 1.02 | V-Infinity branding removed                      | 08/21/2012 |
| 1.03 | added minimum current requirements               | 11/04/2013 |
| 1.04 | updated datasheet                                | 07/10/2018 |

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



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