# SERIES: VGD-75 | DESCRIPTION: AC-DC POWER SUPPLY

## FEATURES

- universal input voltage range (90~264 Vac)
- provides dual outputs; independently isolated
- short circuit, over current and over voltage protections
- safety certified: IEC/EN/UL 62368
- designed to meet: IEC/EN/UL 60335
- class B EMI performance, meets CISPR32 / EN 55032

| MODEL | output voltage (Vdc) | output current min (A) | output current max (A) | output power[1] max (W) | ripple and noise[2] max (mVp-p) | efficiency typ (%) |
|---|---|---|---|---|---|---|
| VGD-75-D512 | 5<br>12 | 0.7<br>0.3 | 7<br>3 | 71 | 80<br>120 | 82 |
| VGD-75-D524 | 5<br>24 | 0.5<br>0.2 | 5<br>2 | 73 | 80<br>150 | 84 |

Notes: 1. Maximum total combined power.
2. Ripple & noise are measured at 20 MHz BW with 47 μF aluminum electrolytic capacitor and 0.1 μF ceramic capacitor on the output.

## PART NUMBER KEY

VGD-75 - DXXX

Base Number

Output Voltage



Please read our datasheet & drawing disclaimer here.

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## INPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| voltage | | 90<br>120 | | 264<br>373 | Vac<br>Vdc |
| frequency | | 47 | | 63 | Hz |
| input current | 115 Vac<br>230 Vac | | | 1.7<br>0.9 | A<br>A |
| inrush current | 115 Vac, full load, cold start<br>230 Vac, full load, cold start | | 30<br>45 | | A<br>A |

## OUTPUT

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| line regulation | Vo1, full load<br>Vo2, full load | | ±0.5<br>±1.5 | ±1.0 | %<br>% |
| load regulation | Vo1, 10 ~ 100% (balanced load)<br>Vo2, 10 ~ 100% (balanced load) | | ±0.5<br>±5.0 | | %<br>% |
| temperature coefficient | | | ±0.03 | | %/°C |
| hold-up time | 115 Vac, full load<br>230 Vac, full load | 5<br>30 | | | ms<br>ms |
| adjustability | adjustable with built-in trim pot[1] | 4.75 | | 5.5 | V |
| output voltage accuracy | Vo1, full load range<br>Vo2, full load range | | ±2.0<br>±8.0 | | %<br>% |

Note: 1. Adjustment of 5 V output only.

## PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| over voltage protection | hiccup mode | 5.75 | | 6.75 | V |
| overload protection | hiccup mode, automatically recovers | 110 | | | % |
| short circuit protection | hiccup, continuous, self-recovery | | | | |

## SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| isolation voltage | input to output<br>input to ground<br>output to ground<br>output Vo1 - output Vo2 | | 3,000<br>2,000<br>500<br>500 | | Vac<br>Vac<br>Vac<br>Vdc |
| isolation resistance | input to output at 500 Vdc @ 25°C | 100 | | | MΩ |
| safety approvals | IEC/EN/UL62368 designed to meet EN60335 | | | | |
| safety class | Class I | | | | |
| conducted emissions | CISPR32/ EN55032 Class B | | | | |
| radiated emissions | CISPR32/ EN55032 Class B | | | | |
| ESD | IEC/EN61000-4-2, Contact ±6KV / Air ±8KV, perf. Criteria A | | | | |
| radiated immunity | IEC/EN61000-4-3, 10V/m, perf. Criteria A | | | | |
| EFT/burst | IEC/EN61000-4-4, ±2KV, perf. Criteria A | | | | |
| surge | IEC/EN 61000-4-5, Line to Line ±2KV / Line to Ground±4KV, perf. Criteria A | | | | |
| conducted immunity | IEC/EN61000-4-6, 10 Vrms, perf. Criteria A | | | | |



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## SAFETY & COMPLIANCE (CONTINUED)

| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| power-frequency magnetic fields immunity | EN 61000-4-8 | | | | |
| voltage dips & interruptions | IEC/EN61000-4-11, 0%,70%, perf. Criteria B | | | | |
| MTBF | MIL-HDBK-217F at 25°C | 300,000 | | | hrs |
| RoHS | yes | | | | |

## ENVIRONMENTAL

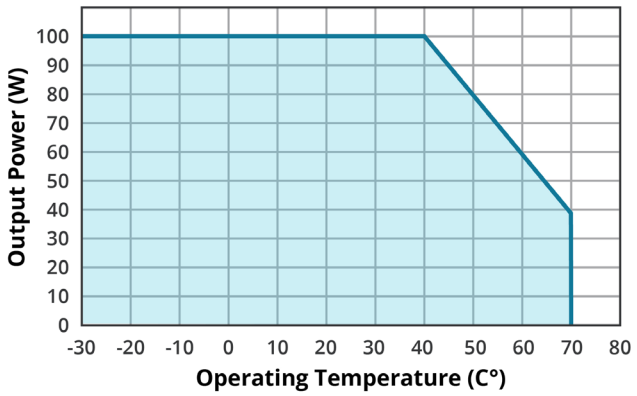
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| operating temperature | see derating curve | -30 | | 70 | °C |
| storage temperature | | -40 | | 85 | °C |
| operating humidity | non-condensing | | | 95 | % |
| storage humidity | non-condensing | | | 95 | % |

## MECHANICAL

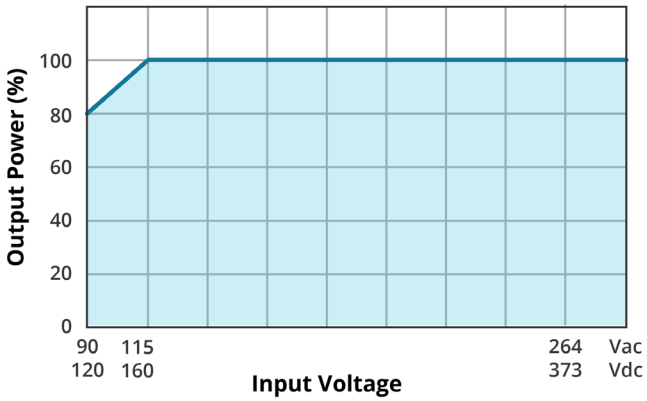
| parameter | conditions/description | min | typ | max | units |
|---|---|---|---|---|---|
| dimensions | 129 x 97 x 30 (5.1 x 3.8 x 1.2 inch) | | | | mm |
| cooling method | free air convection (see derating curve below) | | | | |
| weight | | | 310 | | g |

## DERATING CURVES

***TEMPERATURE DERATING CURVE***

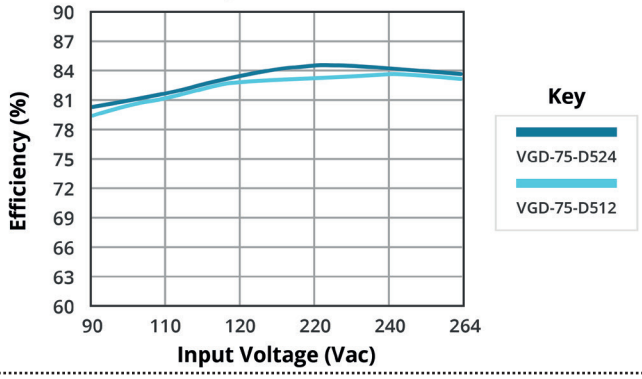



***INPUT VOLTAGE DERATING CURVE***

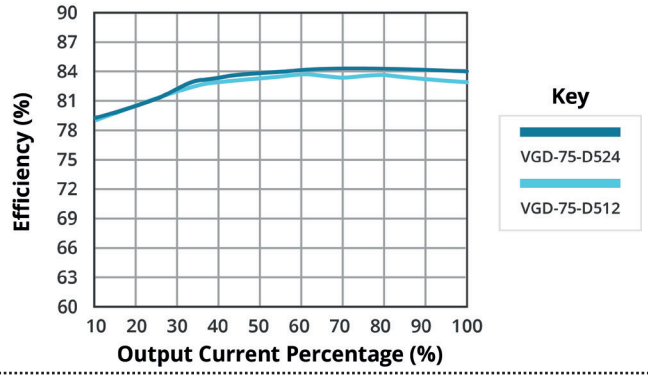



## EFFICIENCY CURVES

***EFFICIENCY VS INPUT LOAD (full load)***




***EFFICIENCY VS OUTPUT LOAD (at 230 Vac)***



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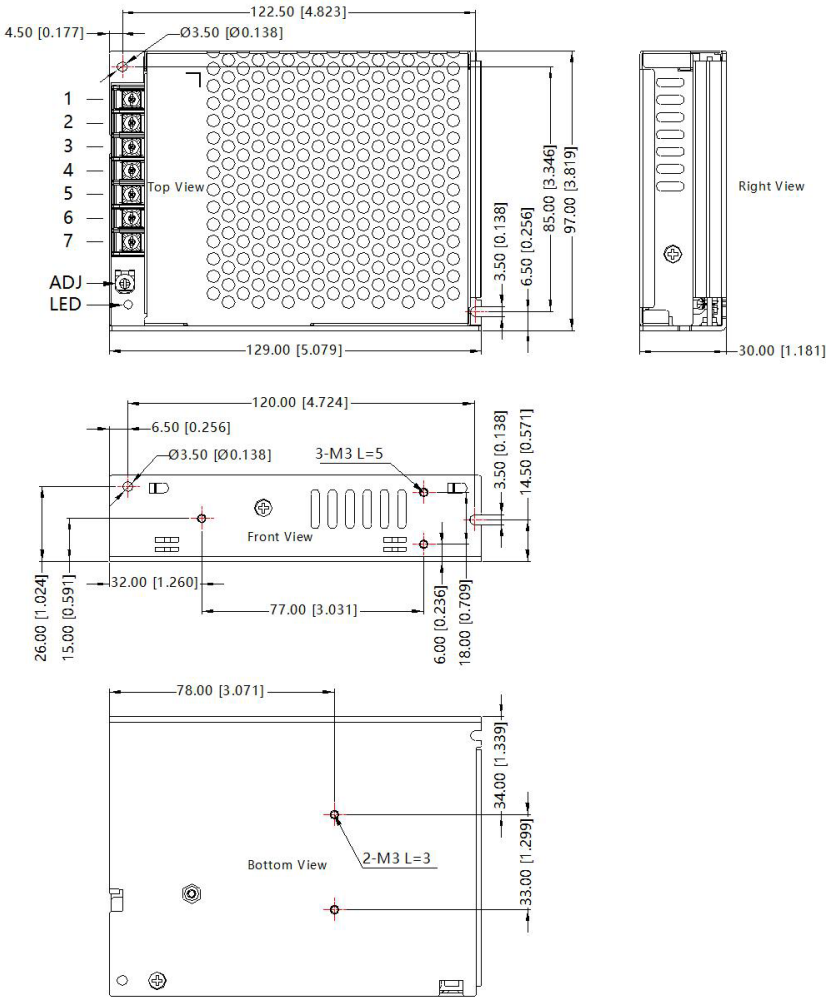
## MECHANICAL DRAWING

units: mm [inches]
wire range: 22 - 14 AWG
tightening torque: M3, 0.5 N.m
tolerance: ±1.0 mm unless otherwise specified

| PIN CONNECTIONS | |
|---|---|
| Pin | Function |
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | ⏚ |
| 4 | -Vo2 |
| 5 | +Vo2 |
| 6 | -Vo1 |
| 7 | +Vo1 |



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## REVISION HISTORY

| rev. | description | date |
|---|---|---|
| 1.0 | initial release | 11/08/2019 |
| 1.01 | company logo updated | 12/22/2020 |
| 1.02 | derating and efficiency curves updated | 06/10/2021 |

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

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