

SERIES: VGD-35 | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

- universal input voltage range (85~264 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 | | output power ¹ max (W) | ripple and noise ² max (mVp-p) | efficiency typ (%) |
|-------------|----------------------------|-------------------|------------|--------------------------------------------|----------------------------------------------------|------------------------------|
| | | min (A) | max (A) | | | |
| VGD-35-D512 | 5 | 0.4 | 4 | 32 | 80 | 81 |
| | 12 | 0.1 | 1 | | 150 | |
| VGD-35-D524 | 5 | 0.22 | 2.2 | 35 | 80 | 83 |
| | 24 | 0.1 | 1 | | 150 | |

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

PART NUMBER KEY



INPUT

| parameter | conditions/description | min | typ | max | units |
|----------------|--------------------------------|-----|-----|------|-------|
| voltage | | 85 | | 264 | Vac |
| | | 120 | | 373 | Vdc |
| frequency | | 47 | | 63 | Hz |
| input current | 115 Vac | | | 0.75 | A |
| | 230 Vac | | | 0.5 | A |
| inrush current | 115 Vac, full load, cold start | | 30 | | A |
| | 230 Vac, full load, cold start | | 50 | | A |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|-------------------------|------------------------------------------------|------|-------|------|-------|
| line regulation | Vo1, at full load | | ±0.5 | | % |
| | Vo2, at full load | | ±1.5 | | % |
| load regulation | Vo1, 10% ~ 100% (balanced load) | | ±0.5 | | % |
| | Vo2, 10% ~ 100% (balanced load) | | ±5.0 | | % |
| temperature coefficient | | | ±0.03 | | %/°C |
| hold-up time | 115 Vac, full load | | 5 | | ms |
| | 230 Vac, full load | | 30 | | ms |
| adjustability | adjustable with built-in trim pot ¹ | 4.75 | | 5.50 | Vdc |
| output voltage accuracy | Vo1, full load range | | ±2.0 | | % |
| | Vo2, full load range | | ±8.0 | | % |

Note: 1. Adjustment of 5 V output only.

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|-------------------------------------|------|-----|------|-------|
| over voltage protection | output clamped | 5.75 | | 6.75 | V |
| overload protection | hiccup mode, automatically recovers | 110 | | 220 | % |
| short circuit protection | hiccup, continuous, self-recovery | | | | |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|----------------------|----------------------------------------------------------------------------|-----|-------|-----|-------|
| isolation voltage | output to output | | 500 | | Vdc |
| | input to output | | 3,000 | | Vac |
| | input to ground | | 2,000 | | Vac |
| | output to ground | | 500 | | Vac |
| isolation resistance | input to output at 500 Vdc at 25°C | 100 | | | MΩ |
| safety approvals | IEC/EN/UL62368 (designed to meet IEC/EN/UL60335) | | | | |
| 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 | | | | |

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 compliant | yes | | | | |

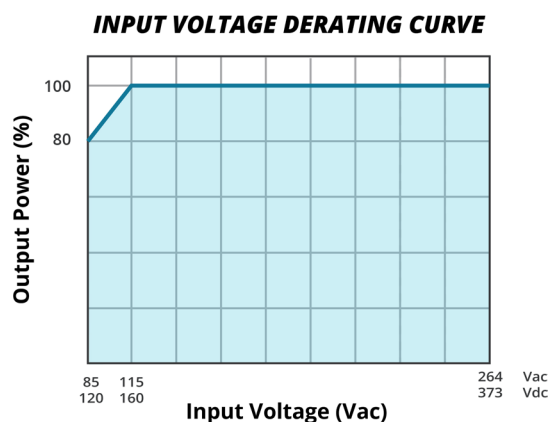
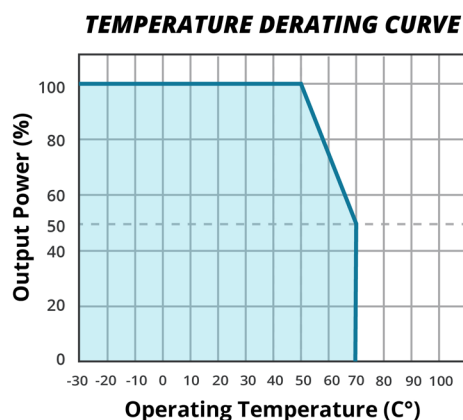
ENVIRONMENTAL

| parameter | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature | see derating curve | -30 | | 70 | °C |
| storage temperature | | -40 | | 85 | °C |
| operating humidity | non-condensing | 10 | | 95 | % |
| storage humidity | non-condensing | 10 | | 95 | % |

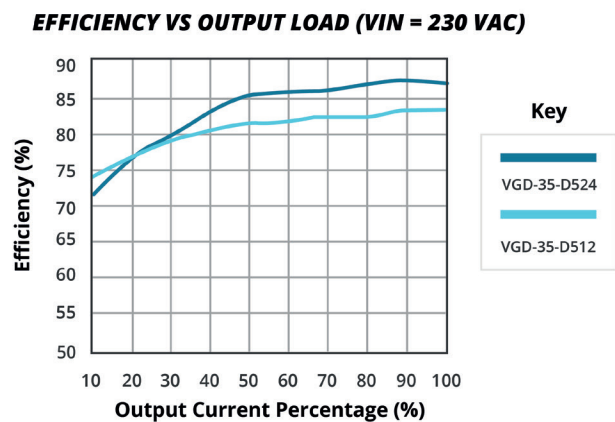
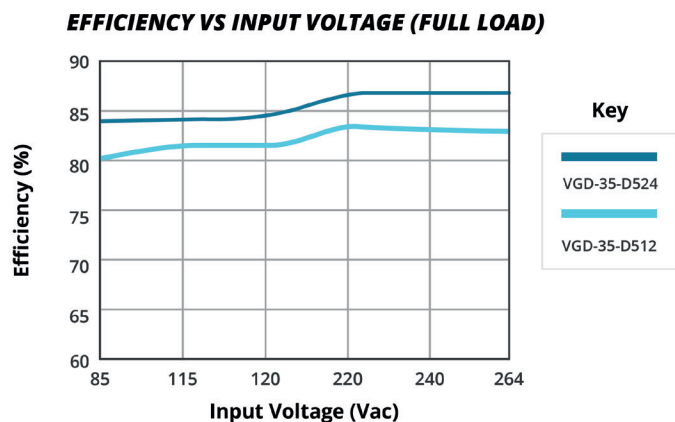
MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|----------------|------------------------------------------------|-----|-----|-----|-------|
| dimensions | 3.9 x 3.8 x 1.2 (99 x 97 x 30 mm) | | | | inch |
| cooling method | free air convection (see derating curve below) | | | | |
| weight | | | 210 | | g |
| case material | Metal (AL1100, SGCC) | | | | |

DERATING CURVES



EFFICIENCY CURVES



MECHANICAL DRAWING

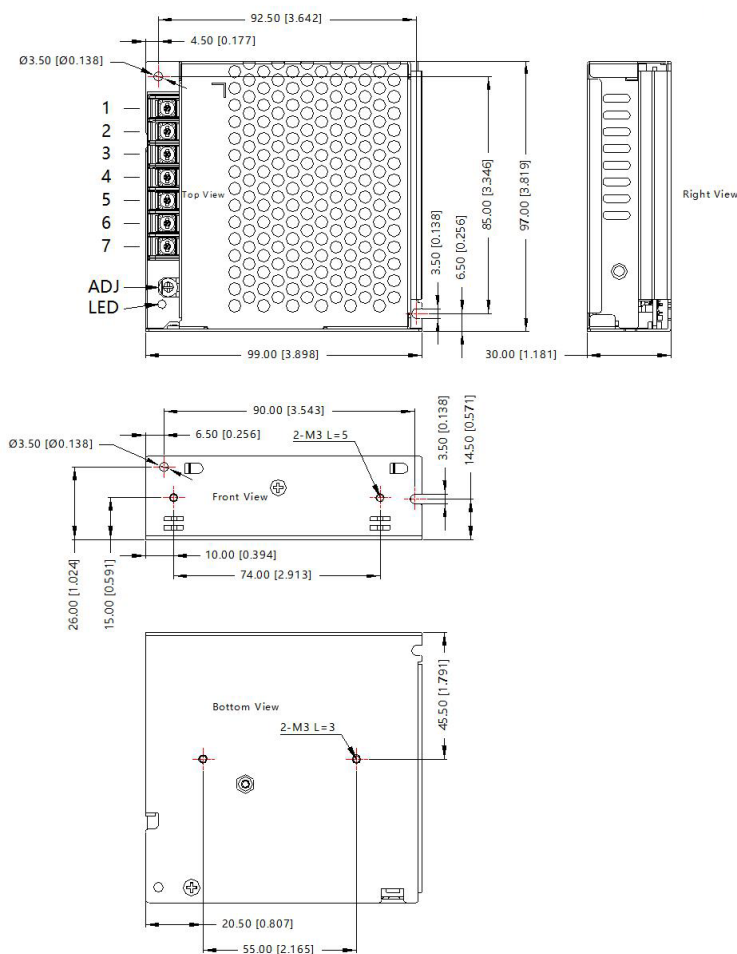
units: mm [inches]

tolerance: ± 1.0 [± 0.039]

wire range: 22-14 AWG

tightening torque: M3, 0.5N.m

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



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 | 04/28/2021 |

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



CUI INC
a bel group

Headquarters
20050 SW 112th Ave.
Tualatin, OR 97062
800.275.4899

Fax 503.612.2383
cui.com
techsupport@cui.com

CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.