

SERIES: VQB75W | **DESCRIPTION:** DC-DC CONVERTER

FEATURES

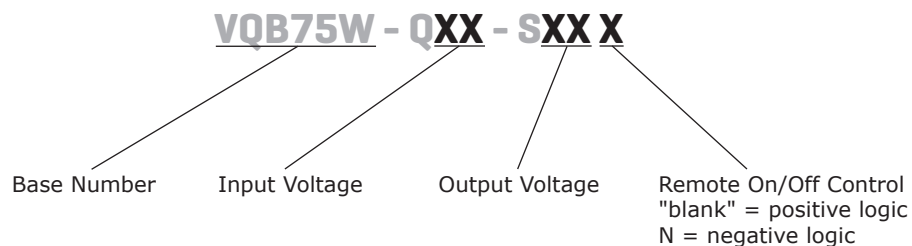
- up to 75 W isolated output
- 4:1 input range (9~36 V, 18~75 V)
- single output from 3.3~24 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 87%



| MODEL | input voltage range (Vdc) | output voltage (Vdc) | output current max (A) | output power max (W) | ripple and noise¹ max (mVp-p) | efficiency typ (%) |
|-----------------|----------------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------------------------|---------------------------|
| VQB75W-Q24-S3R3 | 9 ~ 36 | 3.3 | 12 | 40 | 100 | 81 |
| VQB75W-Q24-S5 | 9 ~ 36 | 5 | 12 | 60 | 100 | 84 |
| VQB75W-Q24-S12 | 9 ~ 36 | 12 | 6.25 | 75 | 150 | 86 |
| VQB75W-Q24-S15 | 9 ~ 36 | 15 | 5 | 75 | 150 | 86 |
| VQB75W-Q24-S24 | 9 ~ 36 | 24 | 3.12 | 75 | 240 | 86 |
| VQB75W-Q48-S3R3 | 18 ~ 75 | 3.3 | 12 | 40 | 100 | 82 |
| VQB75W-Q48-S5 | 18 ~ 75 | 5 | 12 | 60 | 100 | 85 |
| VQB75W-Q48-S12 | 18 ~ 75 | 12 | 6.25 | 75 | 150 | 86 |
| VQB75W-Q48-S15 | 18 ~ 75 | 15 | 5 | 75 | 150 | 87 |
| VQB75W-Q48-S24 | 18 ~ 75 | 24 | 3.12 | 75 | 240 | 87 |

Notes: 1. ripple and noise are measured at 20 MHz BW with 10µF tantalum capacitor and 1µF ceramic capacitor across output

PART NUMBER KEY



INPUT

| parameter | conditions/description | | min | typ | max | units |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------|-----|-----|-----|-------|
| operating input voltage | | | 9 | 24 | 36 | Vdc |
| | | | 18 | 48 | 75 | Vdc |
| under voltage lockout | power up | 24 V input | | 8.8 | | Vdc |
| | | 48 V input | | 17 | | Vdc |
| | power down | 24 V input | | 8 | | Vdc |
| | | 48 V input | | 16 | | Vdc |
| remote on/off ¹ | | | | | | |
| filter | PI type | | | | | |
| Notes: | 1. logic compatibility, open collector ref to -input for positive logic Module ON, >3.5~75 Vdc or open circuit Module OFF, <1.8 Vdc | | | | | |

OUTPUT

| parameter | conditions/description | | min | typ | max | units |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------|-----|-------|------|-------|
| line regulation | measured from high line to low line | | | | ±0.2 | % |
| load regulation | measured from full load to zero load | | | | ±0.2 | % |
| voltage accuracy | | | | | ±1.5 | % |
| transient response | 75~100% step load change recovery time | error band | | ±5 | 500 | µs |
| | | | | | | %Vout |
| adjustability ² | | | | ±10 | | % |
| switching frequency | 100% load, input voltage range | | | 300 | | kHz |
| temperature coefficient | | | | ±0.03 | | %/°C |
| Notes: | 2. trim-up: connect a resistor between the trim pin and -Sense trim-down: connect a resistor between the trim pin and +Sense | | | | | |

PROTECTIONS

| parameter | conditions/description | min | typ | max | units |
|--------------------------|--------------------------|-----|-----|-----|-------|
| over voltage protection | %Vo | 115 | | 140 | % |
| over current protection | % nominal output current | 110 | | 140 | % |
| short circuit protection | continuous | | | | |

SAFETY AND COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|----------------------|------------------------|-------|-----|-----|-------|
| isolation voltage | input to output | 1,500 | | | Vdc |
| | input to case | 1,500 | | | Vdc |
| | output to case | 1,500 | | | Vdc |
| isolation resistance | tested at 500 Vdc | 100 | | | MΩ |
| RoHS compliant | yes | | | | |

ENVIRONMENTAL

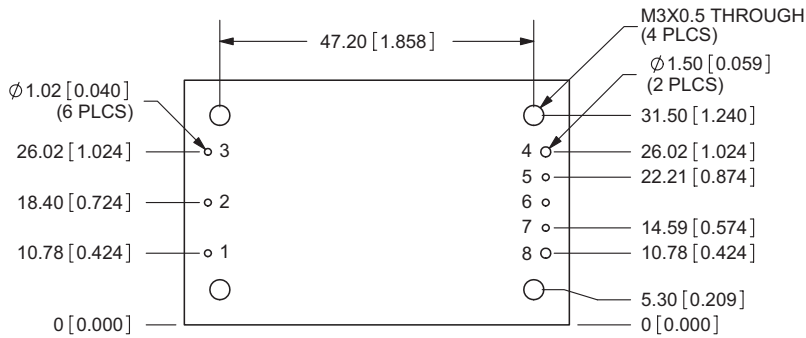
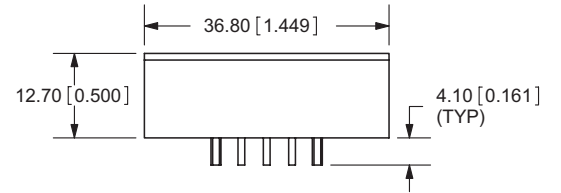
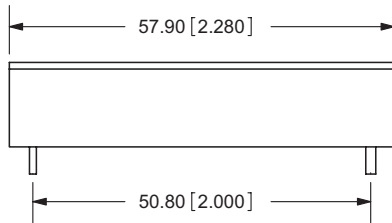
| parameter | conditions/description | min | typ | max | units |
|-----------------------------|------------------------|-----|-----|-----|-------|
| case operating temperature | | -40 | | 100 | °C |
| storage temperature | | -55 | | 105 | °C |
| thermal shutdown case temp. | | | 105 | | °C |

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|---------------|---------------------------------------------------|-----|-----|-----|-------|
| dimensions | 36.8 x 57.90 x 12.70 (1.449 x 2.280 x 0.500 inch) | | | | mm |
| case material | aluminum baseplate, plastic case | | | | |

MECHANICAL DRAWING

units: mm[inch]
 tolerance:
 X.X = ±0.5mm
 X.XX = ±0.25mm



| PIN CONNECTIONS | |
|-----------------|----------|
| PIN | FUNCTION |
| 1 | +Vin |
| 2 | on/off |
| 3 | -Vin |
| 4 | -Vo |
| 5 | -S |
| 6 | trim |
| 7 | +S |
| 8 | +Vo |

Note: All specifications measured at 25°C, nominal input voltage, and full load unless otherwise noted.

REVISION HISTORY

| rev. | description | date |
|------|-----------------------------|------------|
| 1.0 | initial release | 12/04/2008 |
| 1.01 | updated mechanical drawing | 01/08/2009 |
| 1.02 | V-Infinity branding removed | 09/25/2012 |
| 1.03 | updated spec | 03/18/2013 |

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



CUI INC[®]

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.