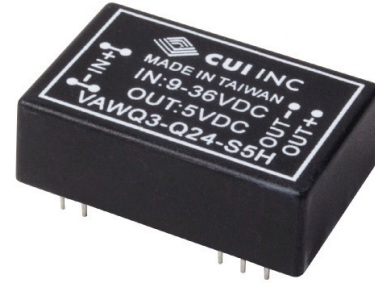


**SERIES:** VAWQ3 | **DESCRIPTION:** DC-DC CONVERTER

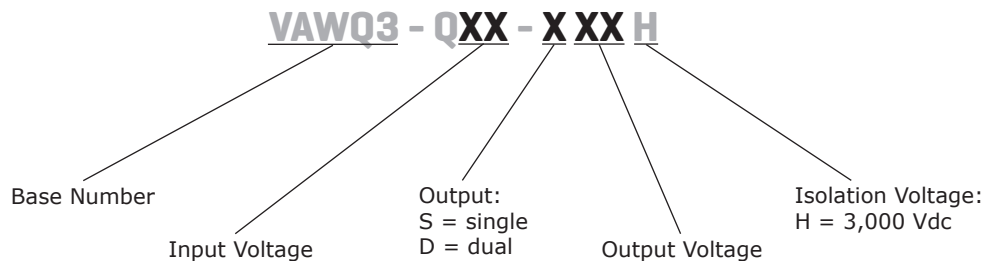
**FEATURES**

- up to 3 W isolated output
- wide input (4:1)
- industry standard 24 pin DIP package style
- single and dual regulated outputs
- 3,000 V isolation (H version)
- short circuit protection
- wide temperature (-25~71°C)
- efficiency up to 77%



| MODEL          | input voltage range | output voltage | output current | output power | ripple and noise | efficiency |
|----------------|---------------------|----------------|----------------|--------------|------------------|------------|
|                | (Vdc)               | (Vdc)          | max (mA)       | max (W)      | max (mVp-p)      | typ (%)    |
| VAWQ3-Q24-S3R3 | 9~36                | 3.3            | 600            | 2            | 100              | 70         |
| VAWQ3-Q24-S5   | 9~36                | 5              | 600            | 3            | 100              | 72         |
| VAWQ3-Q24-S12  | 9~36                | 12             | 250            | 3            | 100              | 76         |
| VAWQ3-Q24-S15  | 9~36                | 15             | 200            | 3            | 100              | 76         |
| VAWQ3-Q24-D5   | 9~36                | ±5             | ±300           | 3            | 100              | 70         |
| VAWQ3-Q24-D12  | 9~36                | ±12            | ±125           | 3            | 120              | 72         |
| VAWQ3-Q24-D15  | 9~36                | ±15            | ±100           | 3            | 150              | 72         |
| VAWQ3-Q48-S3R3 | 18~72               | 3.3            | 600            | 2            | 100              | 70         |
| VAWQ3-Q48-S5   | 18~72               | 5              | 600            | 3            | 100              | 72         |
| VAWQ3-Q48-S12  | 18~72               | 12             | 250            | 3            | 100              | 77         |
| VAWQ3-Q48-S15  | 18~72               | 15             | 200            | 3            | 100              | 77         |
| VAWQ3-Q48-D5   | 18~72               | ±5             | ±300           | 3            | 100              | 71         |
| VAWQ3-Q48-D12  | 18~72               | ±12            | ±125           | 3            | 120              | 72         |
| VAWQ3-Q48-D15  | 18~72               | ±15            | ±100           | 3            | 150              | 72         |

**PART NUMBER KEY**



## INPUT

| parameter               | conditions/description | min | typ | max | units |
|-------------------------|------------------------|-----|-----|-----|-------|
| operating input voltage |                        | 9   | 24  | 36  | Vdc   |
|                         |                        | 18  | 48  | 72  | Vdc   |
| input filter            | PI type                |     |     |     |       |

## OUTPUT

| parameter               | conditions/description              | min | typ | max   | units |
|-------------------------|-------------------------------------|-----|-----|-------|-------|
| line regulation         | measured from low line to high line |     |     | ±0.5  | %     |
| load regulation         | single output models <sup>1</sup>   |     |     | ±0.5  | %     |
|                         | dual output models <sup>2</sup>     |     |     | ±1.0  | %     |
| voltage accuracy        |                                     |     |     | ±2.0  | %     |
| voltage balance         | dual output models                  |     |     | ±1.0  | %     |
| switching frequency     |                                     | 100 |     |       | kHz   |
| temperature coefficient |                                     |     |     | ±0.05 | %/°C  |

Notes: 1. measured from 10% to 100% full load  
2. measured from 25% to 100% full load

## PROTECTIONS

| parameter                | conditions/description | min | typ | max | units |
|--------------------------|------------------------|-----|-----|-----|-------|
| short circuit protection | continuous             |     |     |     |       |

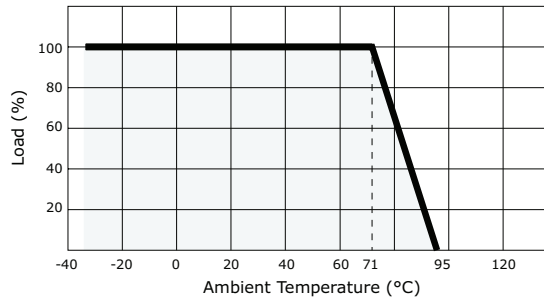
## SAFETY AND COMPLIANCE

| parameter             | conditions/description | min   | typ | max | units |
|-----------------------|------------------------|-------|-----|-----|-------|
| isolation voltage     |                        | 3,000 |     |     | Vdc   |
| insulation resistance |                        | 1,000 |     |     | MΩ    |
| RoHS compliant        | yes                    |       |     |     |       |

## ENVIRONMENTAL

| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | -25 |     | 71  | °C    |
| case temperature      |                        |     |     | 95  | °C    |
| storage temperature   |                        | -40 |     | 100 | °C    |

## DERATING CURVES

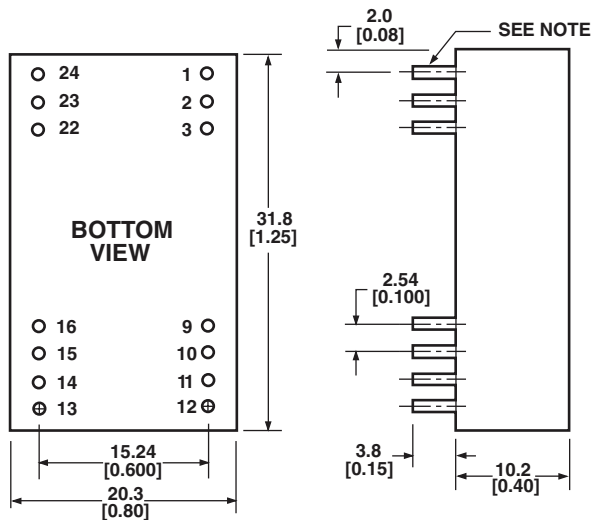


## MECHANICAL

| parameter     | conditions/description                     | min | typ  | max | units |
|---------------|--|-----|------|-----|-------|
| dimensions    | 1.25 x 0.80 x 0.40 (31.8 x 20.3 x 10.2 mm) |     |      |     | inch  |
| case material | non-conductive black plastic               |     |      |     |       |
| weight        |  |     | 12.5 |     | g     |

## MECHANICAL DRAWING

units: mm [inches]  
 tolerance: inches: x.xx = ±0.02, x.xxx = ±0.010  
 mm: x.xx = ±0.5, x.xxx = ±0.25  
 Note: Pin diameter 0.02 inch (0.5 mm)



| PIN CONNECTIONS |               |             |
|-----------------|---------------|-------------|
|                 | SINGLE OUTPUT | DUAL OUTPUT |
| PIN             | FUNCTION      | FUNCTION    |
| 1,24            | NP            | NP          |
| 2,3             | -Vin          | -Vin        |
| 4,5             | NP            | NP          |
| 9               | NC            | Common      |
| 10,15           | NC            | NC          |
| 11              | NC            | -Vo         |
| 12,13           | NP            | NP          |
| 14              | +Vo           | +Vo         |
| 16              | -Vo           | Common      |
| 20,21           | NP            | NP          |
| 22,23           | +Vin          | +Vin        |

NP = No Pin  
 NC = No connection

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             | 04/06/2009 |
| 1.01 | updated to new template     | 06/06/2012 |
| 1.02 | V-Infinity branding removed | 09/11/2012 |
| 1.03 | updated spec                | 03/12/2013 |

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



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

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