

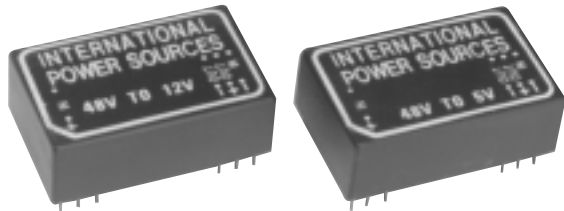
# DC/DC Converters

**XPiQ inc.**

Intelligent Design Quality Product



**3 Watts  
WA Series**



- 2:1 Input Range
- Isolated Outputs
- Efficiency to 74%
- Optional 4:1 Input Range
- Input  $\pi$  Filter
- Fully Regulated Outputs
- Industry Standard Pinouts

## Specification

### Input

- Input Voltage Range • See Table
- Input Filter •  $\pi$  Network

### Output

- Voltage Accuracy •  $\pm 3\%$  max
- Line Regulation (Full Input Range) •  $\pm 1\%$  max
- Load Regulation (No Load-Full Load) •  $\pm 2\%$  max
- Ripple & Noise (DC-20MHz) • 100 mV p-p max
- Temperature Coefficient •  $\pm 0.5\%/^{\circ}\text{C}$  max
- Short Circuit Protection • Indefinite

### General

- Switching Frequency • 25 kHz
- Efficiency • See Table
- Isolation (Input-Output) • 500 VDC/3000 VDC\* (1000 Mohm/80pF)
- Weight • 20 grams approx

### Environmental

- Operating Temperature •  $-25^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$
- Storage Temperature •  $-55^{\circ}\text{C}$  to  $105^{\circ}\text{C}$

### Safety

- Safety Approvals • UL1950 for XU versions only

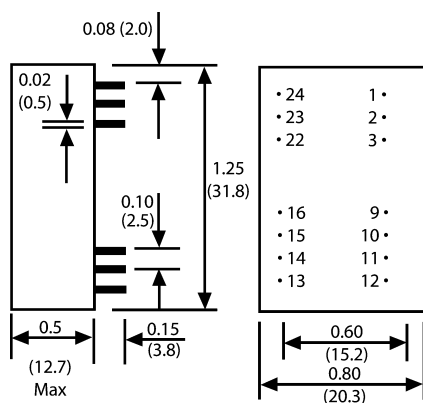


| OUTPUT VOLTAGE & CURRENT RATINGS |               |                |                |               |           | WA           |
|----------------------------------|---------------|----------------|----------------|---------------|-----------|--------------|
| Model                            | Input Voltage | Output Voltage | Output Current | Input Current |           | % Efficiency |
|                                  |               |                |                | No Load       | Full Load |              |
| WA101                            | 4.5-6.0 VDC   | 5 VDC          | 500 mA         | 75 mA         | 730 mA    | 69           |
| WA102                            | 4.5-6.0 VDC   | 12 VDC         | 250 mA         | 75 mA         | 874 mA    | 69           |
| WA103                            | 4.5-6.0 VDC   | 15 VDC         | 200 mA         | 75 mA         | 869 mA    | 69           |
| WA104                            | 4.5-6.0 VDC   | ±5 VDC         | ±250 mA        | 75 mA         | 715 mA    | 70           |
| WA105                            | 4.5-6.0 VDC   | ±12 VDC        | ±125 mA        | 75 mA         | 855 mA    | 70           |
| WA106                            | 4.5-6.0 VDC   | ±15 VDC        | ±100 mA        | 75 mA         | 855 mA    | 70           |
| WA201                            | 9.0-18.0 VDC  | 5 VDC          | 500 mA         | 25 mA         | 310 mA    | 67           |
| WA202                            | 9.0-18.0 VDC  | 12 VDC         | 250 mA         | 25 mA         | 345 mA    | 73           |
| WA203                            | 9.0-18.0 VDC  | 15 VDC         | 200 mA         | 25 mA         | 357 mA    | 70           |
| WA204                            | 9.0-18.0 VDC  | ±5 VDC         | ±250 mA        | 25 mA         | 320 mA    | 65           |
| WA205                            | 9.0-18.0 VDC  | ±12 VDC        | ±125 mA        | 25 mA         | 370 mA    | 68           |
| WA206                            | 9.0-18.0 VDC  | ±15 VDC        | ±100 mA        | 25 mA         | 370 mA    | 68           |
| WA301                            | 18.0-36.0 VDC | 5 VDC          | 500 mA         | 15 mA         | 150 mA    | 70           |
| WA302                            | 18.0-36.0 VDC | 12 VDC         | 250 mA         | 15 mA         | 170 mA    | 74           |
| WA303                            | 18.0-36.0 VDC | 15 VDC         | 200 mA         | 15 mA         | 174 mA    | 72           |
| WA304                            | 18.0-36.0 VDC | ±5 VDC         | ±250 mA        | 15 mA         | 170 mA    | 61           |
| WA305                            | 18.0-36.0 VDC | ±12 VDC        | ±125 mA        | 15 mA         | 186 mA    | 67           |
| WA306                            | 18.0-36.0 VDC | ±15 VDC        | ±100 mA        | 15 mA         | 182 mA    | 69           |
| WA401                            | 36.0-72.0 VDC | 5 VDC          | 500 mA         | 15 mA         | 73 mA     | 71           |
| WA402                            | 36.0-72.0 VDC | 12 VDC         | 250 mA         | 15 mA         | 94 mA     | 66           |
| WA403                            | 36.0-72.0 VDC | 15 VDC         | 200 mA         | 15 mA         | 92 mA     | 68           |
| WA404                            | 36.0-72.0 VDC | ±5 VDC         | ±250 mA        | 15 mA         | 85 mA     | 61           |
| WA405                            | 36.0-72.0 VDC | ±12 VDC        | ±125 mA        | 15 mA         | 94 mA     | 67           |
| WA406                            | 36.0-72.0VDC  | ±15 VDC        | ±100 mA        | 15 mA         | 94 mA     | 67           |

#### Notes

1. Nominal Input voltage, 5, 12, 24 or 48 VDC. For optional 4:1 input range:  
9-36 VDC: Add suffix "A" to WA200 series. 20-72 VDC: Add suffix "A" to WA300 series.
2. For 3000 VDC isolation add suffix "U"
3. For UL1950 approved product, add suffix "XU". UL approved product only available with 3000 VDC isolation and alternate pinout.

#### Mechanical Details



(BOTTOM VIEW)

| PIN | Single Output | Dual Output |
|-----|---------------|-------------|
| 1   | +V Input      | +V Input    |
| 2   | No Connection | -V Output   |
| 3   | No Connection | Common      |
| 10  | -V Output     | Common      |
| 11  | +V Output     | +V Output   |
| 12  | -V Output     | -V Input    |
| 13  | -V Output     | -V Input    |
| 14  | +V Output     | +V Output   |
| 15  | -V Output     | Common      |
| 22  | No Connection | Common      |
| 23  | No Connection | -V Input    |
| 24  | +V Input      | +V Input    |

| PIN | Single Output | Dual Output   |
|-----|---------------|---------------|
| 1   | No Pin        | No Pin        |
| 2   | -V Input      | -V Input      |
| 3   | -V Input      | -V Input      |
| 9   | No Connection | Common        |
| 10  | No Connection | No Connection |
| 11  | No Connection | -V Output     |
| 12  | No Pin        | No Pin        |
| 13  | No Pin        | No Pin        |
| 14  | +V Output     | +V Output     |
| 15  | No Connection | No Connection |
| 16  | -V Output     | Common        |
| 22  | +V Input      | +V Input      |
| 23  | +V Input      | +V Input      |
| 24  | No Pin        | No Pin        |

Alternate Pin Out  
3000 VDC Isolation  
Suffix "X"

Dimensions in inches (mm)  
Specifications subject to change.  
\*3000 VDC on "X" Package