

# DC/DC Converters

## 5 Watts WT Series

**XPiQ inc.**

Intelligent Design Quality Product



2:1 Input Range

Optional 4:1 Input Range

Isolated Outputs

Efficiency to 82%

Fully Regulated Outputs

Optional 3k VDC Isolation

## Specification

### Input

- Input Voltage Range**
  - 12 V (9-18 VDC or 9-36 VDC)
  - 24 V (18-36 VDC or 20-72 VDC) (see note 2)
  - 48 V (36-72 VDC)
- Input Filter**
  - $\pi$  Network

### Output

- Output Power**
  - 5 Watts for 5 V output models
  - 6 Watts for 15 V output models
- Output Voltage**
  - 5, 12 & 15 V single & dual output models
- Voltage Accuracy**
  - $\pm 2\%$  max
- Line Regulation**
  - $\pm 0.5\%$  max
- Load Regulation**
  - $\pm 0.5\%$  max for single output models
  - $\pm 1.0\%$  max for dual output models
- Ripple & Noise**
  - 5 V 100 mV pk-pk max
  - 12 V & 15 V 1% pk-pk max (20 MHz bandwidth)
- Temperature Coefficient**
  - $\pm 0.05\%/^{\circ}\text{C}$  max
- Short Circuit Protection**
  - Continuous

### General

- Switching Frequency**
  - 100 kHz typical
- Efficiency**
  - See Table
- Isolation**
  - 500 VDC input to output (1000 M $\Omega$ /80 pF)
  - Optional high isolation version available, 3000 VDC input to output (1000 M $\Omega$ /80 pF)
- Dimensions**
  - 0.80" x 1.25" x 0.50"
- Weight**
  - 25 g

### Environmental

- Operating Temperature**
  - 25  $^{\circ}\text{C}$  to +71  $^{\circ}\text{C}$
- Storage Temperature**
  - 40  $^{\circ}\text{C}$  to +100  $^{\circ}\text{C}$

## OUTPUT VOLTAGE & CURRENT RATINGS

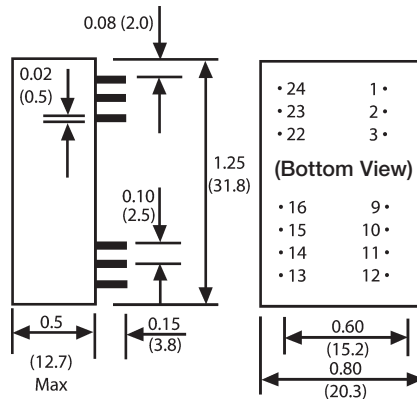
**WT**

| Input Voltage <sup>(1,2,4)</sup> | Output Voltage | Output Current | Input Current <sup>(6)</sup> |           | Efficiency | Model Number <sup>(3)</sup> |
|----------------------------------|----------------|----------------|------------------------------|-----------|------------|-----------------------------|
|                                  |                |                | No Load                      | Full Load |            |                             |
| 9-18 VDC                         | 5 VDC          | 1000 mA        | 7.5 mA                       | 545 mA    | 76%        | <b>WT201</b>                |
|                                  | 12 VDC         | 470 mA         | 7.5 mA                       | 585 mA    | 80%        | <b>WT202</b>                |
|                                  | 15 VDC         | 400 mA         | 7.5 mA                       | 625 mA    | 80%        | WT203                       |
|                                  | ±5 VDC         | ±500 mA        | 12.0 mA                      | 545 mA    | 76%        | WT204                       |
|                                  | ±12 VDC        | ±230 mA        | 12.0 mA                      | 575 mA    | 80%        | <b>WT205</b>                |
| 18-36 VDC                        | ±15 VDC        | ±190 mA        | 12.0 mA                      | 590 mA    | 80%        | WT206                       |
|                                  | 5 VDC          | 1000 mA        | 5.0 mA                       | 265 mA    | 78%        | <b>WT301</b>                |
|                                  | 12 VDC         | 470 mA         | 5.0 mA                       | 285 mA    | 82%        | <b>WT302</b>                |
|                                  | 15 VDC         | 400 mA         | 5.0 mA                       | 305 mA    | 82%        | WT303                       |
|                                  | ±5 VDC         | ±500 mA        | 7.5 mA                       | 265 mA    | 78%        | WT304                       |
| 36-72 VDC                        | ±12 VDC        | ±230 mA        | 7.5 mA                       | 285 mA    | 81%        | <b>WT305</b>                |
|                                  | ±15 VDC        | ±190 mA        | 7.5 mA                       | 295 mA    | 81%        | WT306                       |
|                                  | 5 VDC          | 1000 mA        | 2.0 mA                       | 133 mA    | 78%        | <b>WT401</b>                |
|                                  | 12 VDC         | 470 mA         | 2.0 mA                       | 145 mA    | 81%        | <b>WT402</b>                |
|                                  | 15 VDC         | 400 mA         | 2.0 mA                       | 154 mA    | 81%        | WT403                       |
| 36-72 VDC                        | ±5 VDC         | ±500 mA        | 3.0 mA                       | 133 mA    | 78%        | WT404                       |
|                                  | ±12 VDC        | ±230 mA        | 3.0 mA                       | 142 mA    | 81%        | <b>WT405</b>                |
|                                  | ±15 VDC        | ±190 mA        | 3.0 mA                       | 147 mA    | 81%        | WT406                       |

**Notes**

1. Nominal input voltage 12, 24, or 48 V DC.
2. For optional 4:1 input range: 9-36 VDC: add suffix 'A' to WT20X model number, 20-72 VDC: add suffix "A" to WT30X model number.
3. For 3000 VDC isolation add suffix 'X' to model number.
4. X versions are not available with optional 4:1 input range.
5. Input current is at nominal input voltage.
6. Part numbers in bold type are standard stock models, all others are build to order

**Mechanical Details**



Dimensions in inches (mm)

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

| OPTION 'X' PIN CONNECTIONS |               |             |
|----------------------------|---------------|-------------|
| Pin                        | Single Output | Dual Output |
| 1                          | No Pin        | No Pin      |
| 2                          | - V Input     | - V Input   |
| 3                          | - V Input     | - V Input   |
| 9                          | N/C           | Common      |
| 10                         | N/C           | N/C         |
| 11                         | N/C           | - V Output  |
| 12                         | No Pin        | No Pin      |
| 13                         | No Pin        | No Pin      |
| 14                         | + V Output    | + V Output  |
| 15                         | N/C           | N/C         |
| 16                         | - V Output    | Common      |
| 22                         | + V Input     | + V Input   |
| 23                         | + V Input     | + V Input   |
| 24                         | No Pin        | No Pin      |