

# 5 Watts

## WT Series



- 2:1 Input Range
- Optional 4:1 Input Range
- Isolated Outputs
- Efficiency to 82%
- Fully Regulated Outputs
- Optional 3 kVDC Isolation
- UL Approved Versions

### Specification

#### Input

- |                         |  |
|-------------------------|--|
| Input Voltage Range     | <ul style="list-style-type: none"> <li>• 12 V (9-18 or 9-36 VDC - A version)</li> <li>• 24 V (18-36 or 18-72 VDC - A version)</li> <li>• 48 V (36-72 VDC)</li> </ul> |
| Input Current (no load) | <ul style="list-style-type: none"> <li>• See table</li> </ul>  |
| Input Filter            | <ul style="list-style-type: none"> <li>• Pi network</li> </ul>   |
| Undervoltage Lockout    | <ul style="list-style-type: none"> <li>• Turn On &gt; 65% nominal input</li> <li>• Turn Off &lt; 63% nominal input</li> </ul>  |

#### Output

- |                          |   |
|--------------------------|---|
| Output Voltage           | <ul style="list-style-type: none"> <li>• see tables</li> </ul>  |
| Output Voltage Balance   | <ul style="list-style-type: none"> <li>• <math>\pm 1\%</math> max, dual output models</li> </ul>  |
| Initial Set Accuracy     | <ul style="list-style-type: none"> <li>• <math>\pm 2\%</math> max</li> </ul>  |
| Start Up Rise Time       | <ul style="list-style-type: none"> <li>• 3 ms max</li> </ul>  |
| Line Regulation          | <ul style="list-style-type: none"> <li>• <math>\pm 0.5\%</math> max from high line to low line</li> </ul>   |
| Load Regulation          | <ul style="list-style-type: none"> <li>• <math>\pm 0.5\%</math> max for 10-100% load change for single output models,</li> <li>• <math>\pm 1.0\%</math> max for 25-100% load change for dual output models</li> </ul> |
| Cross Regulation         | <ul style="list-style-type: none"> <li>• <math>\pm 2.2\%</math> on dual output models</li> </ul>  |
| Transient Response       | <ul style="list-style-type: none"> <li>• &lt;1.0% max deviation, recovering within 200 <math>\mu</math>s for a 50% load change</li> </ul>   |
| Ripple & Noise           | <ul style="list-style-type: none"> <li>• 100 or 1.0% pk-pk, whichever is greater, 20MHz BW</li> </ul>   |
| Short Circuit Protection | <ul style="list-style-type: none"> <li>• Continuous with auto recovery</li> </ul>   |
| Temperature Coefficient  | <ul style="list-style-type: none"> <li>• <math>\pm 0.05</math> /<math>^{\circ}</math>C max</li> </ul>   |

#### General

- |                     |  |
|---------------------|--|
| Efficiency          | <ul style="list-style-type: none"> <li>• See table</li> </ul>  |
| Isolation           | <ul style="list-style-type: none"> <li>• 500 VDC Input to Output (1000 M /80 pF)</li> <li>• Optional high isolation version, 3000 VDC Input to Output, add suffix 'X'</li> </ul> |
| Switching Frequency | <ul style="list-style-type: none"> <li>• 100 kHz typical</li> </ul>  |
| MTBF                | <ul style="list-style-type: none"> <li>• 1,000 kHrs to MIL-HDBK-217F</li> </ul>  |

#### Environmental

- |                       |   |
|-----------------------|---|
| Operating Temperature | <ul style="list-style-type: none"> <li>• -25 <math>\text{^{\circ}}</math>C to +70 <math>\text{^{\circ}}</math>C (see derating curve)</li> </ul> |
| Case Temperature      | <ul style="list-style-type: none"> <li>• +95 <math>\text{^{\circ}}</math>C max</li> </ul>   |
| Storage Temperature   | <ul style="list-style-type: none"> <li>• -40 <math>\text{^{\circ}}</math>C to +100 <math>\text{^{\circ}}</math>C</li> </ul>                     |

#### EMC & Safety

- |                    |   |
|--------------------|---|
| Emissions          | <ul style="list-style-type: none"> <li>• EN55022, level A conducted</li> <li>• EN55022, level A radiated</li> </ul> |
| ESD Immunity       | <ul style="list-style-type: none"> <li>• EN61000-4-2, level 2</li> <li>• Perf Criteria A</li> </ul>                 |
| Radiated Immunity  | <ul style="list-style-type: none"> <li>• EN61000-4-3 3 V/m</li> <li>• Perf Criteria A</li> </ul>                    |
| Conducted Immunity | <ul style="list-style-type: none"> <li>• EN61000-4-6 3 V rms</li> <li>• Perf Criteria A</li> </ul>                  |
| Safety             | <ul style="list-style-type: none"> <li>• UL1950 (for XU versions only)</li> </ul>                                   |

**Models and Ratings**

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	3.3 VDC	1000 mA	7.5 mA	393 mA	70%	WT200
	5.0 VDC	1000 mA	7.5 mA	545 mA	76%	WT201
	12.0 VDC	470 mA	7.5 mA	585 mA	80%	WT202
	15.0 VDC	400 mA	7.5 mA	625 mA	80%	WT203
	±5.0 VDC	±500 mA	12.0 mA	545 mA	76%	WT204
	±12.0 VDC	±230 mA	12.0 mA	575 mA	80%	WT205
	±15.0 VDC	±190 mA	12.0 mA	590 mA	80%	WT206
18-36 VDC	3.3 VDC	1000 mA	5.0 mA	197 mA	70%	WT300
	5.0 VDC	1000 mA	5.0 mA	265 mA	78%	WT301
	12.0 VDC	470 mA	5.0 mA	285 mA	82%	WT302
	15.0 VDC	400 mA	5.0 mA	305 mA	82%	WT303
	±5.0 VDC	±500 mA	7.5 mA	265 mA	78%	WT304
	±12.0 VDC	±230 mA	7.5 mA	285 mA	81%	WT305
	±15.0 VDC	±190 mA	7.5 mA	295 mA	81%	WT306
36-72 VDC	3.3 VDC	1000 mA	2.0 mA	98 mA	70%	WT400
	5.0 VDC	1000 mA	2.0 mA	133 mA	78%	WT401
	12.0 VDC	470 mA	2.0 mA	145 mA	81%	WT402
	15.0 VDC	400 mA	2.0 mA	154 mA	81%	WT403
	±5.0 VDC	±500 mA	3.0 mA	133 mA	78%	WT404
	±12.0 VDC	±230 mA	3.0 mA	142 mA	81%	WT405
	±15.0 VDC	±190 mA	3.0 mA	147 mA	81%	WT406

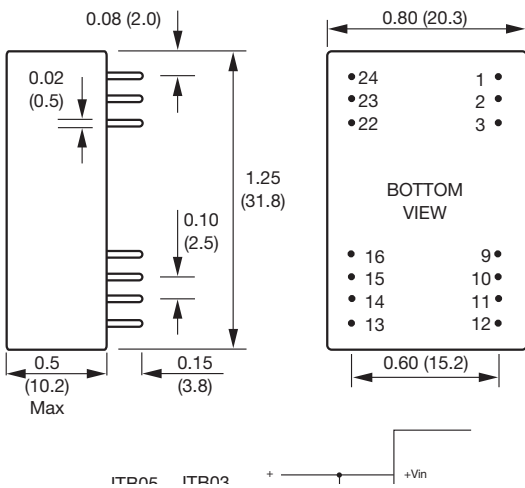
**Notes**

- Nominal input voltage 12, 24 or 48 VDC.
- For optional 4:1 input range: 9-36 VDC: Add suffix ' A' to WT2xx model number, 18-72 VDC: Add suffix ' A' to WT3xx model number.
- For 3000 VDC isolation add suffix ' X' to model number.
- For UL1950 approval, add suffix ' XU' to model number. UL approved product is only available with 3000 VDC isolation and option ' X' pinout.
- ' X' or ' XU' versions are not available with optional 4:1 input range.
- Input current is at nominal input voltage.

**Mechanical Details**

All dimensions are in inches (mm)

Weight: 0.06 lbs (25 g) approx.



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' / ' XU' PIN CONNEC-		
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

**Derating Curve**

