

# DATASHEET

**Product Name**    **Vitreous Enamel Power Wire-wound Resistors**

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**Part Name**    **VWT2 90W~375W  $\pm 5\%$ 、 $\pm 10\%$  Series**

**Part No.**    **VWT2\*\*\*\*\***

**File No.**    **DIP-SP-122**

## **Uniroyal Electronics Global Co., Ltd.**

88#, Longteng Road, Economic & Technical Development Zone, Kunshan, Jiangsu, China

Tel    +86 512 5763 1411 / 22 /33

Email    [marketing@uni-royal.cn](mailto:marketing@uni-royal.cn)

Manufacture Plant    Uniroyal Electronics Industry Co., Ltd.

Aeon Technology Corporation

Royal Electronic Factory (Thailand) Co., Ltd.

Royal Technology (Thailand) Co., Ltd.

## 1. Scope

- 1.1 This datasheet is the characteristics of Vitreous Enamel Power Wire-wound Resistors manufactured by UNI-ROYAL.
- 1.2 It is moisture-resistant, has high insulation, strong overload capacity, good thermal stability and long service life.
- 1.3 Good thermal stability and reliability.
- 1.4 Strong resistance to corrosion and harsh environment.
- 1.5 It is applicable to power supply testing, circuit load, frequency converter, lifting, braking, power, shipbuilding, industrial automation and other electromechanical equipment.

## 2. Part No. System

The standard Part No. includes 14 digits with the following explanation:

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2.1 1<sup>st</sup>~4<sup>th</sup> codes: Product type. E.g.: VWT2=Tubular Ceramic, Fixed, 2 High Bracket;

2.2 The 5<sup>th</sup> digits:

The 5<sup>th</sup> digit indicates the type of bracket

Example: C=C Slotted type bracket ; L=Elongated type bracket

2.2 The 6<sup>th</sup> digits: Special features.

Example: 0=Standard ; S=Special

2.3 The 7<sup>th</sup> digit is to denote the Resistance Tolerance. The following letter code is to be used for indicating the standard Resistance Tolerance.

J=±5% K=±10%

2.4 The 8<sup>th</sup> to 11<sup>th</sup> digits is to denote the Resistance Value.

2.4.1 If value belongs to standard value of E-24 series 5%&10%, the 8<sup>th</sup> code is zero, 9<sup>th</sup>~10<sup>th</sup> codes are the significant figures of resistance value, and the 11<sup>th</sup> code is the power of ten.

2.4.3 The following numbers and the letter codes are to be used to indicate the number of zeros in the 11<sup>th</sup> digit:

0=10<sup>0</sup> 1=10<sup>1</sup> 2=10<sup>2</sup> 3=10<sup>3</sup> 4=10<sup>4</sup> 5=10<sup>5</sup> 6=10<sup>6</sup> J=10<sup>-1</sup> K=10<sup>-2</sup> L=10<sup>-3</sup> M=10<sup>-4</sup>

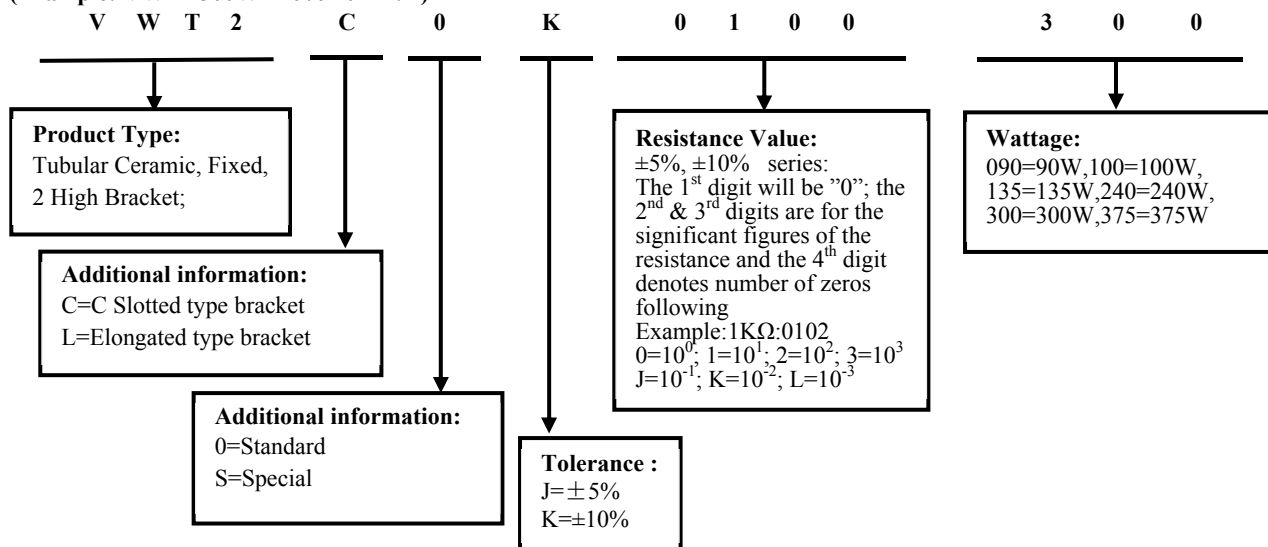
2.5 The 12<sup>th</sup>, 13<sup>th</sup> & 14<sup>th</sup> digits.

2.5.1 The 12<sup>th</sup> to the 14<sup>th</sup> digits are to denote the actual wattage of the products.

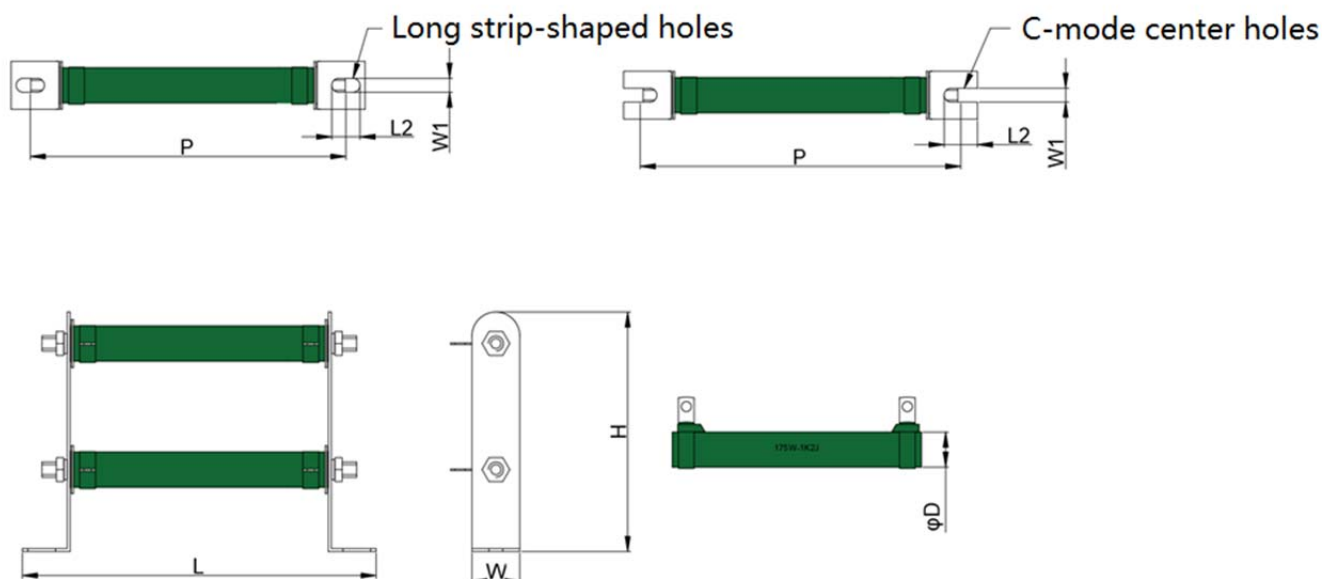
Example: 090 = 90W 100 = 100W 240=240W

## 3. Ordering Procedure

(Example: VWT2 300W ±10% 10Ω B/B)



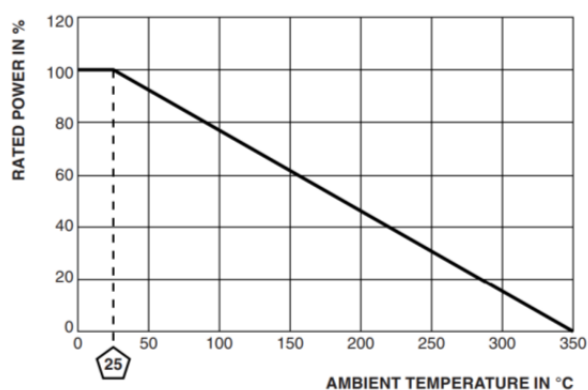
## 4. Dimension& Ratings



Unit: mm

Type	L ±5	L1 ±2	L2 ±1	ΦD ±2	W ±2	W1 ±0.5	H ±2	P ±5	P1 ±5	Φd +0.5/-0	Resistance Range	Remarks	Toleran ce	Operating Temperature
VWT2 90W	148	101	13	14	19	6.0	54	132	82	5	0.1Ω~1.0KΩ	Elongated type bracket	±5% ±10%	-55℃~+350℃
VWT2 100W	130	90	11	19	19	5.5	82	116	70	5	0.1Ω~3.3KΩ			
VWT2 135W	170	127	11	19	19	7.0	82	152	110	5	0.1Ω~3.3KΩ			
VWT2 240W	217	165	19	25	32	7.0	105	196	143	5	1.0Ω~5.0KΩ	C Slotted type bracket		
VWT2 300W	270	216	19	25	32	7.0	105	247	194	5	1.0Ω~10KΩ			
VWT2 375W	316	267	19	25	32	7.0	105	300	246	5	1.0Ω~10KΩ			

## 5. Derating Curve



## 6. Performance Specification

Characteristic	Limits	Test Method (GB/T5729&JIS-C-5201&IEC60115-1)
Short-time overload	$\Delta R \leq \pm(5\%+0.05\Omega)$	Apply 5 times rated power load for 5 seconds
Humidity ( steady state )	$\Delta R \leq \pm(5\%+0.05\Omega)$	40±2℃, (93±3)%RH, 96h
Temperature Cycle	$\Delta R \leq \pm(2\% +0.05\Omega)$	-55℃~200℃, 5 cycles
Dielectric withstanding voltage	No evidence of flashover mechanical damage, arcing or insulation break down	Apply an AC voltage of 1000V for 60 seconds
Insulation resistance	≥1MΩ	Apply 500VDC, 1Min
Load life	$\Delta R \leq \pm(5\%+0.05\Omega)$	Apply rated power load for 1,000 hours at room temperature

## 7. Note

- 7.1. UNI-ROYAL recommend products store in warehouse with temperature between 15 to 35℃ under humidity between 25 to 75%RH.  
Even under storage conditions recommended above, solder ability of products will be degraded stored over 1 year old.
- 7.2. Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.
- 7.3. Storage conditions as below are inappropriate:
  - a. Stored in high electrostatic environment
  - b. Stored in direct sunshine, rain, snow or condensation.
  - c. Exposed to sea wind or corrosive gases, such as Cl<sub>2</sub>, H<sub>2</sub>S, NH<sub>3</sub>, SO<sub>2</sub>, NO<sub>2</sub>, Br, etc.

## 8. Record

Version	Description	Page	Date	Amended by	Checked by
1	First edition	1~4	May.20, 2025	Haiyan Chen	Yuhua Xu
2	Modify the ordering procedure	2	Aug.16,2025	Haiyan Chen	Yuhua Xu
	Modify the dimension	3			
	Modify the derating curve	3			