

DATASHEET

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

Part Name **VWN 30W $\pm 5\%$ Series**

Part No. **VWN030J0***B00**

File No. **DIP-SP-120**

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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:

2.1 1st~4th codes: Product type. E.g.: VWN0=Oval-shaped Ceramic-core, Fixed

2.2 5th~6th digits:

2.2.1 This is to indicate the wattage or power rating. To dieting the size and the numbers, The following codes are used; and please refer to the following chart for detail: W=Normal Size;

Wattage	30
Normal Size	30W

2.3 The 7th digit is to denote the Resistance Tolerance. The following letter code is to be used for indicating the standard Resistance Tolerance.
J= $\pm 5\%$

2.4 The 8th to 11th digits is to denote the Resistance Value.

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

2.4.3 The following number s and the letter codes are to be used to indicate the number of zeros in the 11th digit:

0=10⁰ 1=10¹ 2=10² 3=10³ 4=10⁴ 5=10⁵ 6=10⁶ J=10⁻¹ K=10⁻² L=10⁻³ M=10⁻⁴

2.5 The 12th, 13th & 14th digits.

2.5.1 The 12th digit is to denote the Packaging Type with the following codes: B=Bulk/Box

2.5.2 The 13th digit is normally to indicate the Packing Quantity of Tape/Reel packaging types. The following letter code is to be used for some packing quantities:

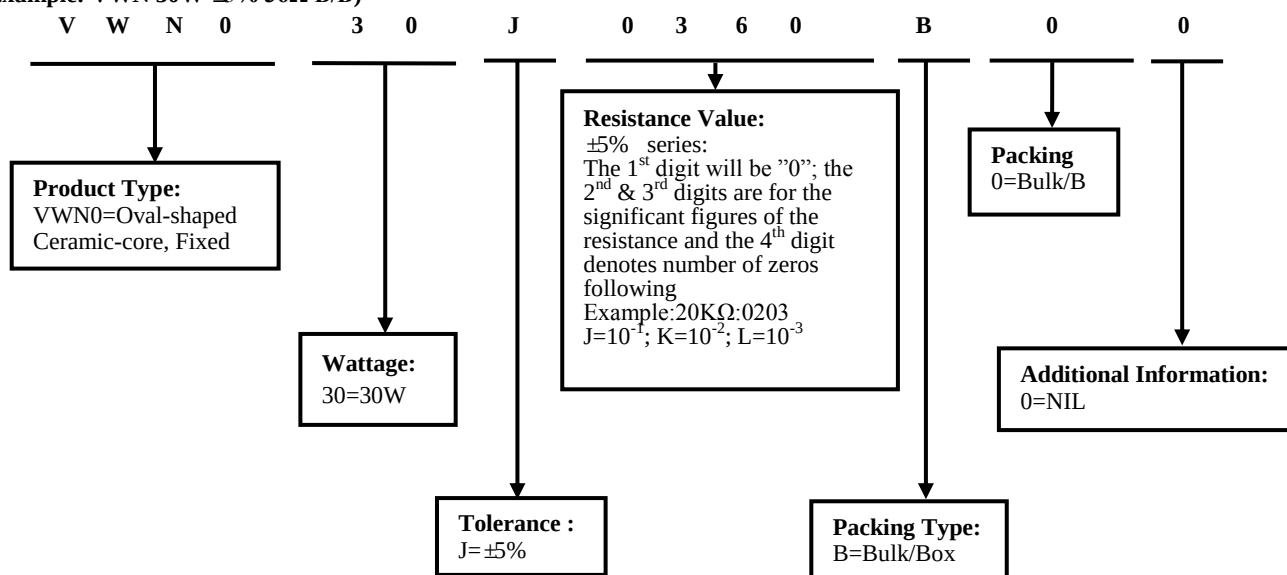
0=Bulk/Box

2.5.3 For some items, the 14th digit alone can use to denote special features of additional information with the following codes:

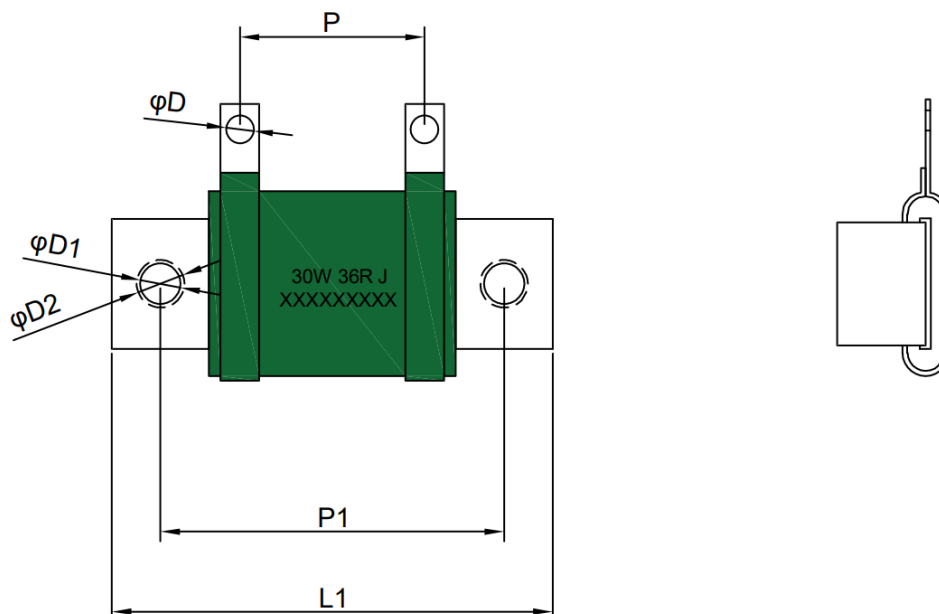
0=NIL

3. Ordering Procedure

(Example: VWN 30W $\pm 5\%$ 36 Ω B/B)



4. Dimension

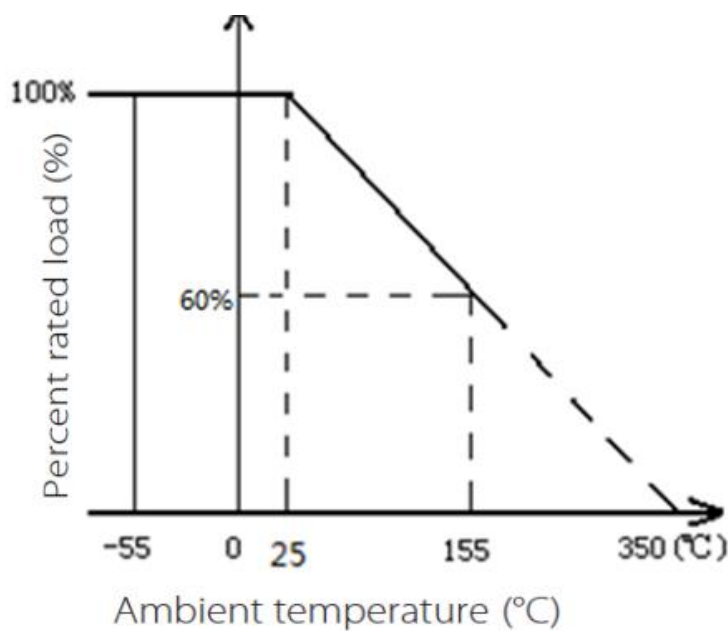


Unit : mm						
Type	$L1 \pm 3$	$P \pm 2$	$P1 \pm 2$	$\Phi D \pm 0.3$	$\Phi D1 + 0.5/-0$ (Top hole)	$\Phi D2 + 0.5/-0$ (Lower hole)
VWN 30W	64	24	51	2.8	5.2	6.2

5. Ratings

Type	Power Rating (25°C)	Resistance Range	Tolerance	Operating Temperature
VWN	30W	$10\Omega \sim 3.3K\Omega$	$\pm 5\%$	$-55^\circ\text{C} \sim +155^\circ\text{C}$

6. Derating Curve



7. Performance Specification

Characteristic	Limits	Test Method (GB/T5729&JIS-C-5201&IEC60115-1)
Short-time overload	$\Delta R/R \leq \pm(5\%+0.05\Omega)$	4.13 Permanent resistance change after the application of a potential of 10 times rate power for 5 seconds.
Vibration	$\Delta R/R \leq \pm(5\%+0.05\Omega)$	Frequency 10~500Hz, 98m/s ²
Crash	$\Delta R/R \leq \pm(5\%+0.05\Omega)$	Pulse width 6ms, 392m/s ; 4000 times
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	$\geq 100M\Omega$	Apply 500VDC, 1Min
Room temperature durability	$\Delta R/R \leq \pm(5\%+0.1\Omega)$	The rated power load is applied for 1000h at room temperature
Humidity (steady state)	$\Delta R/R \leq \pm(5\%+0.1\Omega)$	40 $\pm$ 2℃ , (93 $\pm$ 3) %RH , 240H

8. Note

- 8.1. 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.
- 8.2. Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.
- 8.3. 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 Cl₂, H₂S, NH₃, SO₂, NO₂, Br, etc.

9. Record

Version	Description	Page	Date	Amended by	Checked by
1	First version	1~4	May.20,2025	Haiyan Chen	Yuhua Xu
2	Add the dielectric withstanding voltage test	4	Aug.18,2025	Haiyan Chen	Yuhua Xu