



UNI-ROYAL
厚聲集團

DATA SHEET

Product Name Metal Plate Crowbar Resistors

Part Name MPCR 500W $\pm 10\%$ 0.25 Ω

Part No. MPCR00K025K500

File No. DIP-SP-095

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1. Scope

- 1.1 This data sheet for approve relates Metal Plate Crowbar Resistors manufactured by UNI-ROYAL.
- 1.2 Anti-vibration,high stability
- 1.3 Application: All kinds of frequency converters and harsh environments.
- 1.4 Compliant with RoHS directive.
- 1.5 Halogen free requirement.

2. Part No. System

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

2.1 Coated type, the 1st to 4th digits are to indicate the product type and 4th digit is the special feature.

Example: MPCR= Metal Plate Crowbar Resistors

2.2 5th~6th digits:

2.2.1 For power rating of 100W & over, the 5th & 6th digits will be indicated with "00" and the actual wattage being indicated at the last 3 digits (12th ~14th) of the Part No.

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.

Example: K= ±10%

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 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:

$$0=10^0 \quad 1=10^1 \quad 2=10^2 \quad 3=10^3 \quad 4=10^4 \quad 5=10^5 \quad 6=10^6 \quad J=10^{-1} \quad K=10^{-2} \quad L=10^{-3} \quad M=10^{-4}$$

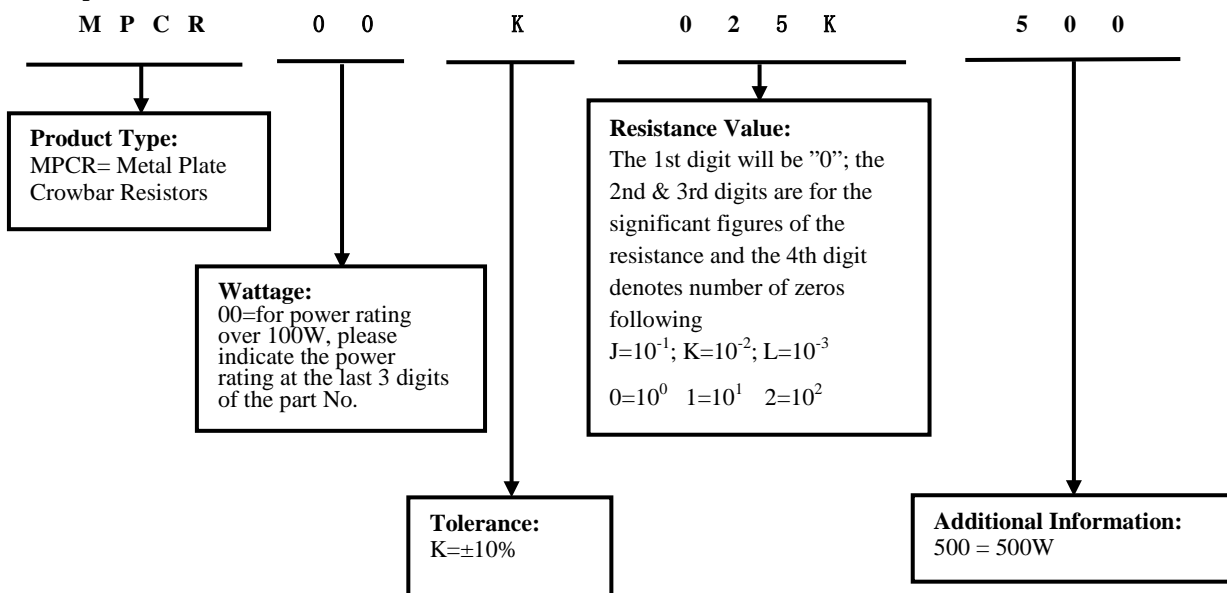
2.5 The 12th ~14th digits.

For power rating over 100watt, the 12th to the 14th digits are to denote the actual wattage of the products.

Example: 500 = 500W

3. Ordering Procedure

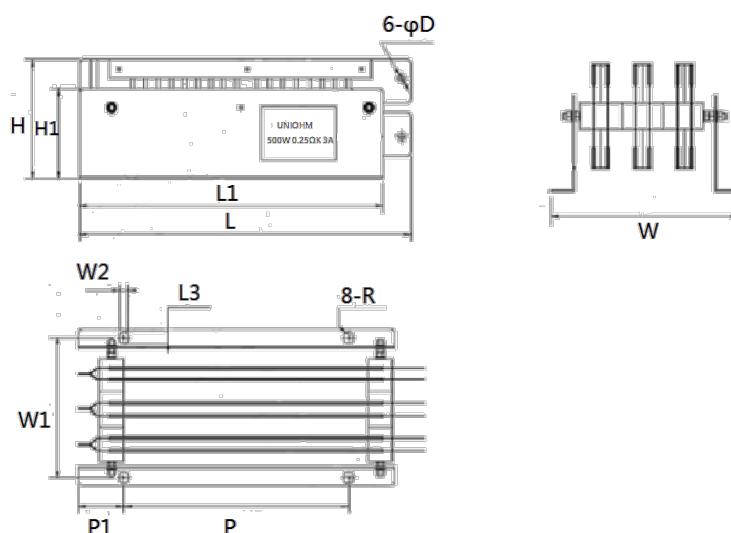
(Example: MPCR 500W ±10% 0.25 Ω B/B)



4. Ratings

| Type | Power Rating | Resistance | Tolerance | Rated Operational Voltage | Dielectric withstanding Voltage | Operating Temperature |
|------|--------------|------------|-----------|---------------------------|---------------------------------|-----------------------|
| MPCR | 500W | 0.25 Ω | ±10% | 11V | 3500V | -40°C~85°C |

5. Dimension (Unit: mm)



| Type | L±3 | L1±2 | L3+0/-1 | W±3 | W1±2 | W2 + 0/ - 1 | H±3 |
|--------------|------|------|---------|-----|------|-------------|----------|
| MPCR 500W | 355 | 325 | 16 | 203 | 181 | 8 | 123 |
| | H1±2 | H2±1 | H3±1 | P±1 | P1±1 | 6- φ D±0.05 | 8-R±0.05 |
| | 93 | 19 | 23 | 230 | 47.5 | 7 | 4 |

6. Performance Specification

| Characteristic | Limits | Test Method |
|---------------------------------|---|---|
| Insulation resistance | ≥100M Ω | Apply DC1000V, 1Min |
| Dielectric withstanding voltage | No evidence of flashover mechanical damage, arcing or insulation break down. | Apply AC3500V, 1Min; Leakage current |
| Terminal strength | $\Delta R \leq \pm(2\% + 0.05 \Omega)$ with no evidence of mechanical damage | Pull: 90N; 10sec |
| Vibration | $\Delta R \leq \pm(3\% + 0.05 \Omega)$ | Take an amplitude of 0.35mm and continuously sweep back and forth within the frequency range of 10-55-10Hz. The test is only conducted in the perpendicular direction to the installation surface, with a logarithmic frequency sweep form, a frequency sweep rate of 1oct/min, and 5 frequency sweep cycles. |
| Humidity (steady state) | $\Delta R \leq \pm(5\% + 0.05 \Omega)$ with no evidence of mechanical damage | 40±2°C; (93±3) %RH ;48h |

| | | |
|-----------------------------|---|---|
| Salt spray test | The surface of the resistor should not have obvious oxidation points, rust, or visible damage adhered to it | Continuous atomization at (35 ± 2) °C for 96 hours concentration of 5% by weight of the salt solution (If the volume of the test chamber is limited, parts of the same material can be used to replace the entire resistor) |
| Rapid change of temperature | $\Delta R/R \leq \pm(2\%+0.05 \Omega)$ with no evidence of mechanical damage | Temperature -55 °C ~ 200 °C |
| Load life | $\Delta R/R \leq \pm(5\%+0.05 \Omega)$ with no evidence of mechanical damage (Allow the resistor to change color) | Rated working voltage at ambient temperature for 96 hours |

7. Note

7.1. UNI-ROYAL recommend products store in warehouse with temperature between 15 to 35°C 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 Cl₂, H₂S, NH₃, SO₂, NO₂, Br, etc.

8. Record

| Version | Description | Page | Date | Amended by | Checked by |
|---------|---------------|------|--------------|-------------|------------|
| 1 | First edition | 1~4 | Jul.27, 2024 | Haiyan Chen | Yuhua Xu |

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