# Type CJN Series

**Key Features**

**Up to 2000W power rating**

**Aluminium enclosure**

**Vibration resistant**

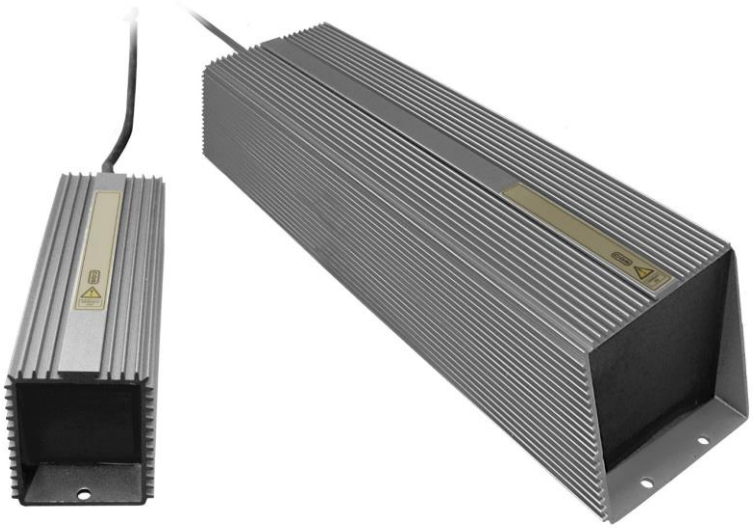
**Applications**

**Power supplies**

**Inverters**

**Servo systems**

**Electrical systems in difficult environments**



The CJN Series of resistors are advantageous to conventional ceramic resistors in the terms of weather proofing, oscillation-resistance and safety. They are widely applied to a range of electrical circuits including power supplies, inverters and servo systems. With easy airtight fitting and the ability to fit a heatsink the resistor is highly suited to challenging environmental conditions.

## Characteristics – Electrical

| Type | CJN60 | CJN80 | CJN100 | CJN120 | CJN150 | CJN200 | CJN300 |
|---|---|---|---|---|---|---|---|
| Rated Power (free air) W | 60 | 80 | 100 | 120 | 150 | 200 | 300 |
| Ohmic Value (Min.) Ω | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Ohmic Value (Max.) Ω | 2.5K | 3.0K | 4.0K | 5.0K | 6.0K | 7.0K | 8.0K |
| Tolerance | 5% | | | | | | |
| Temperature Coefficient of Resistance (TCR) | ±350PPM/°C | | | | | | |
| Limiting element voltage | 1kV | | | | | | |
| Dielectric Strength | 2500VAC | | | | | | |
| Insulation resistance | 100MΩ min. | | | | | | |
| Max. Surface temp at rated power (free air) | 206°C | 221°C | 254°C | 267°C | 286°C | 306°C | 334°C |
| Weight | 150g | 185g | 240g | 280g | 300g | 445g | 600g |

Operating Voltage=$\sqrt{}$(P*R) or Max. operating voltage listed above, whichever is lower.

Overload Voltage=2.5*$\sqrt{}$(P*R) or Max. overload voltage listed above, whichever is lower



Dimensions in millimetres unless otherwise specified

Dimensions Shown for reference purposes only. Specifications subject to change

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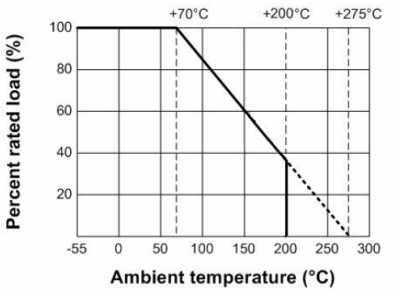
## Characteristics – Electrical (continued)

| Type | CJN400 | CJN500 | CJN800 | CJN1000 | CJN1200 | CJN1500 | CJN2000 |
|---|---|---|---|---|---|---|---|
| Rated Power (free air) W | 400 | 500 | 800 | 1000 | 1200 | 1500 | 2000 |
| Ohmic Value (Min.) Ω | 0.5 | 0.5 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Ohmic Value (Max.) Ω | 10K | 12K | 12K | 15K | 15K | 15K | 15K |
| Tolerance | 5% | | | | | | |
| Temperature Coefficient of Resistance (TCR) | ±350PPM/°C | | | | | | |
| Limiting element voltage | 1kV | | | | | | |
| Dielectric Strength | 2500VAC | | | | | | |
| Insulation resistance | 100MΩ min. | | | | | | |
| Max. Surface temp at rated power (free air) | 370°C | 358°C | 311°C | 372°C | 406°C | 419°C | 453°C |
| Weight | 765g | 965g | 1.18kg | 3.46kg | 3.885kg | 4.31kg | 4.86kg |

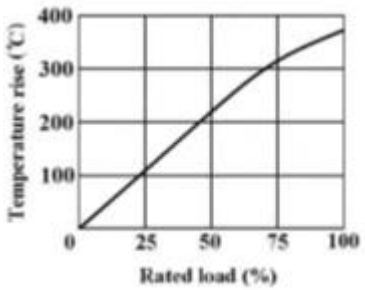
Operating Voltage=√(P*R) or Max. operating voltage listed above, whichever is lower.

Overload Voltage=2.5*√(P*R) or Max. overload voltage listed above, whichever is lower

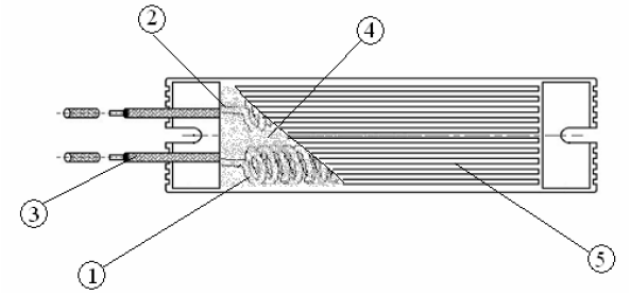
## Derating Curve




## Temperature rise chart




## Construction

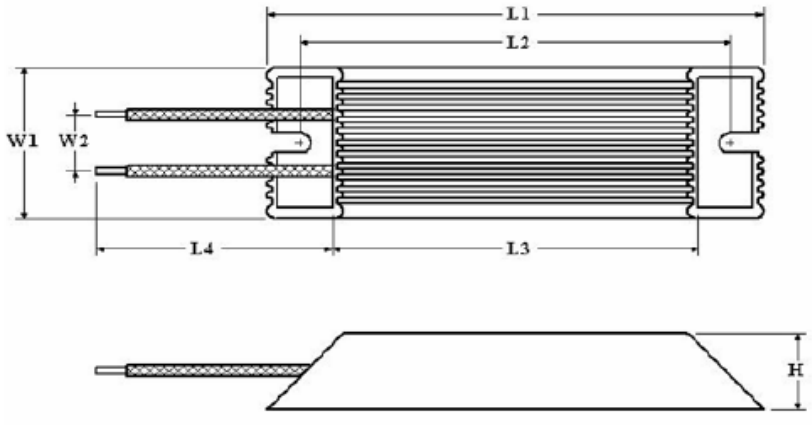



| No. | Subpart Name | Material |
|---|---|---|
| 1 | Resistance wire | NiCr or FeCr |
| 2 | Crimp | Brass |
| 3 | Cable Wire | Single core cable with silicon rubber insulation |
| 4 | Cement Filling | Quartz mixed sand |
| 5 | Aluminium Case | Aluminium casting |

<table>
<tr><th>Characteristics</th><th>Limits</th><th>Test Methods<br>(JIS-C-5201-1)</th></tr>
<tr><td>Insulation Resistance</td><td>Insulation resistance is 100MΩ min.</td><td>Resistors shall be clamped in the trough of a 90° metallic V-block or foil method use a metal foil shall be wrapped closely around the body of the resistor. After that shall be tested at DC potential respectively specified in the above list for 60 +10/-0 secs.<br>(Sub-clause 4.6)</td></tr>
<tr><td>Dielectric Withstand Voltage</td><td>No evidence of flashover, mechanical damage, arcing, or insulation breakdown</td><td>Resistors shall be clamped in the trough of a 90° metallic V-block or foil method use a metal foil shall be wrapped closely around the body of the resistor. After that shall be tested at AC potential respectively specified in the table 1. for 60 +10/-0 secs.<br>(Sub-clause 4.7)</td></tr>
<tr><td>Temperature Coefficient</td><td>±350 PPM/°C Max.</td><td>Natural resistance change per temp. degree centigrade.<br>R2-R1<br>---------- x10⁶ (PPM/°C)<br>R1(t2-t1)<br>R1: Resistance value at room temperature (t1)<br>R2: Resistance value at room temp. plus 100 °C (t2)<br>(Sub-clause 4.8)</td></tr>
<tr><td>Short Time Overload</td><td>Resistance change rate is ± (2% +0.05Ω) Max. with no evidence of mechanical damage</td><td>Permanent resistance change after the application voltage at 5 x Wattage rating for 5 seconds</td></tr>
<tr><td>Temperature cycling</td><td>Resistance change rate is ± (2% +0.05Ω) Max. with no evidence of mechanical damage</td><td>Resistance change after continuous 5 cycles for duty shown below:
<table>
<tr><th>Step</th><th>Temp</th><th>Time</th></tr>
<tr><td>1</td><td>-40°C ±3°C</td><td>30 mins</td></tr>
<tr><td>2</td><td>Room Temp</td><td>10 – 15 mins</td></tr>
<tr><td>3</td><td>+125°C ±2°C</td><td>30 mins</td></tr>
<tr><td>4</td><td>Room Temp</td><td>10 – 15 mins</td></tr>
<tr><td colspan="3">(Sub Clause 4.19</td></tr>
</table></td></tr>
<tr><td>Load Life</td><td>Resistance change rate is ± (5% +0.05Ω) Max. with no evidence of mechanical damage</td><td>Permanent resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours “on”, 0.5 hour “off”) at 70°C ±2°C ambient.<br>(Sub-clause 4.25.1)</td></tr>
</table>

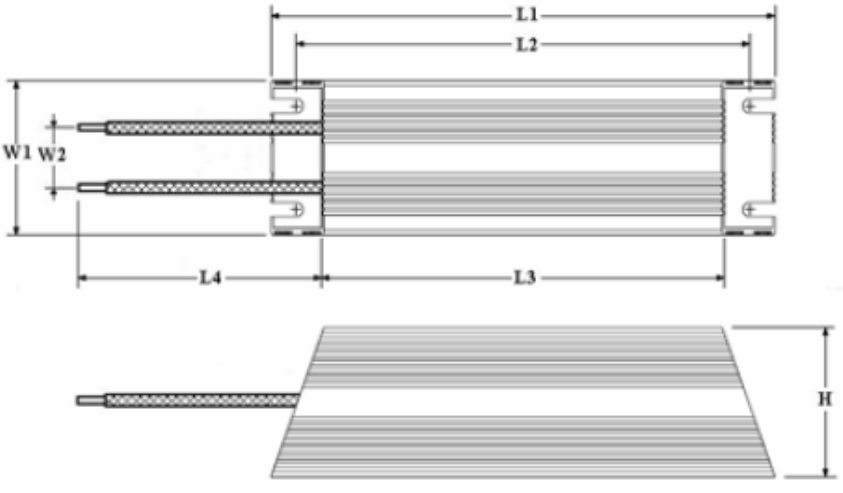
Dimensions: Unit: mm

60W ~ 500W




| Type | L1 ± 2 | L2 ± 2 | L3 ± 2 | L4 ± 10 | W1 ± 2 | W2 ± 5 | H ± 2 |
|---|---|---|---|---|---|---|---|
| CJN60 | 115 | 100 | 80 | 190 | 40 | 15 | 20 |
| CJN80 | 140 | 125 | 105 | 200 | 40 | 15 | 20 |
| CJN100 | 140 | 125 | 100 | 240 | 60 | 25 | 30 |
| CJN120 | 190 | 175 | 150 | 240 | 40 | 15 | 20 |
| CJN150 | 215 | 200 | 175 | 240 | 40 | 15 | 20 |
| CJN200 | 165 | 150 | 125 | 255 | 60 | 25 | 30 |
| CJN300 | 215 | 200 | 175 | 255 | 60 | 25 | 30 |
| CJN400 | 265 | 250 | 225 | 255 | 60 | 25 | 30 |
| CJN500 | 335 | 320 | 295 | 255 | 60 | 25 | 30 |

800W




| Type | L1 ± 2 | L2 ± 2 | L3 ± 2 | L4 ± 10 | W1 ± 2 | W2 ± 5 | H ± 2 |
|---|---|---|---|---|---|---|---|
| CJN800 | 400 | 382 | 358 | 255 | 61 | 25 | 59 |



Dimensions in millimetres unless otherwise specified

Dimensions Shown for reference purposes only. Specifications subject to change

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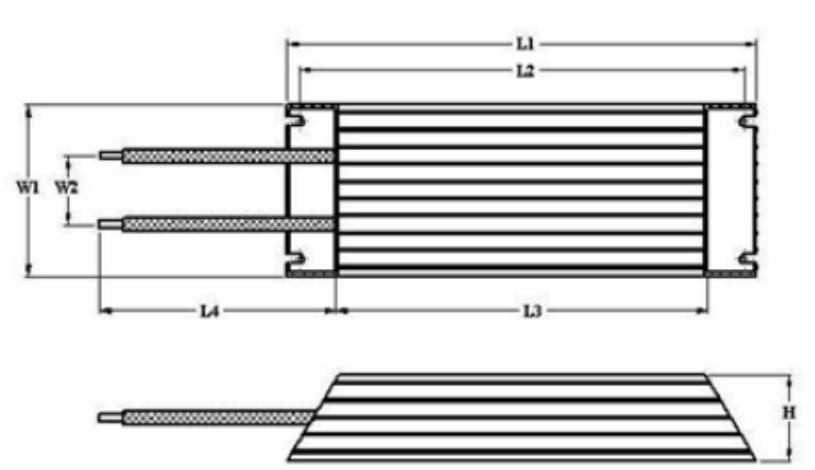
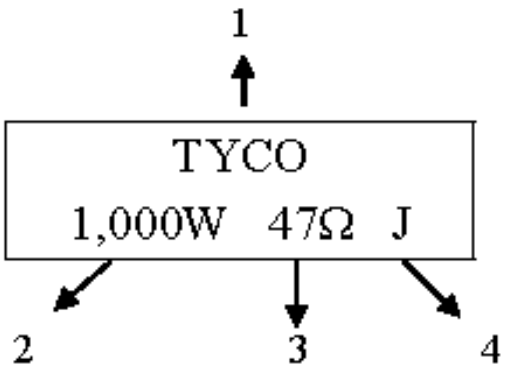
Dimensions (continued) Unit: mm

1,000W, 1,200W, 1,500W, 2,000W




| Type | L1 ± 2 | L2 ± 2 | L3 ± 2 | L4 ± 10 | W1 ± 2 | W2 ± 5 | H ± 2 |
|---|---|---|---|---|---|---|---|
| CJN1000 | 400 | 385 | 340 | 255 | 100 | 25 | 50 |
| CJN1200 | 450 | 434 | 390 | 255 | 100 | 25 | 50 |
| CJN1500 | 485 | 470 | 447 | 255 | 100 | 25 | 50 |
| CJN2000 | 550 | 535 | 512 | 255 | 100 | 25 | 50 |

Marking:




1. Company name or Logo
2. Power Rating (W)
3. Nominal resistance value (Ω)
4. Resistance tolerance – J = 5%

Colour of Marking – Black ink

## Environment Related Substance

This product complies to EU RoHS directive, EU PAHs directive, EU PFOS directive and Halogen free.

Ozone layer depleting substances.

Ozone depleting substances are not used in our manufacturing process of this product.

This product is not manufactured using Chloro fluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), Hydrobromofluorocarbons (HBFCs) or other ozone depleting substances in any phase of the manufacturing process.

## Storage Condition

The performance of these products is guaranteed for a year from the date of arrival at your company, provided that they remain packed as they were when delivered and stored at a temperature of 25°C ± 10°C and a relative humidity of 60%RH ± 10%RH, chemical and dust free atmosphere

Even within the above guarantee periods, do not store these products in the following conditions.

1. In salty air or in air with a high concentration of corrosive gas, such as Cl 2, H2S, NH3, SO2, or NO2

2. In direct sunlight

| CJN | 60 | 1R0 | J | J |
|---|---|---|---|---|
| Common Part | Power Rating | Resistance Value | Tolerance | Connection |
| CJN – Aluminium Housed Power resistor | 60 60W<br>80 80W<br>100 100W<br>Etc. | 1 Ω- 1R0<br>10Ω- 10R<br>100Ω - 100R<br>1000Ω (1KΩ)- 1K0 | J - ±5% | J - Lead |

单击下面可查看定价，库存，交付和生命周期等信息

>>TE Connectivity(泰科)