

Aexit modle

Aexit 5W 5.6 Ohm Ceramic Cement Resistors User Manual

Model: modle

1. PRODUCT OVERVIEW

These Aexit 5W 5.6 Ohm Ceramic Cement Resistors are designed for applications requiring good heat resistance, low temperature coefficient, and high load power. They offer high insulating capacity and feature solderable axial leads for easy mounting. Widely utilized in various electronic equipment such as computers, TV sets, apparatus, meters, and sound systems.

Key Features:

- Product Name: Cement Resistor
- Body Material: Ceramic, Cement
- Power Rating: 5W
- Resistance: 5.6Ω
- Tolerance: ±5% (J)
- Body Size (Approx.): 22 x 9 x 9mm (0.86" x 0.35" x 0.35") (L * W * H)
- Lead Diameter (Approx.): 0.8mm (0.031")
- Color: White
- Weight: 48g (for 10 pieces)
- Package Content: 10 x Cement Resistors



Figure 1: A pair of Aexit 5W 5.6 Ohm Ceramic Cement Resistors. These components are characterized by their white ceramic body and metallic axial leads, designed for through-hole mounting in electronic circuits. The marking "5W5R6J" indicates their power rating, resistance value, and tolerance.

2. SETUP AND INSTALLATION

Cement resistors are passive electronic components designed for through-hole mounting. Proper installation is crucial for optimal performance and safety.

Installation Steps:

1. **Identify Correct Value:** Before installation, verify that the resistor's value (5.6 Ohm) and power rating (5W) match the requirements of your circuit design. The value is typically printed on the resistor body.
2. **Prepare Leads:** The axial leads are solderable. If necessary, gently bend the leads to fit the spacing of the holes on your printed circuit board (PCB) or breadboard. Avoid sharp bends near the resistor body to prevent damage.
3. **Insert into Circuit:** Insert the resistor leads into the designated holes on the PCB. Ensure the resistor body is not touching other components that generate significant heat, as this can affect its performance or cause damage.
4. **Solder Connections:** Secure the leads by soldering them to the copper pads on the PCB. Use appropriate soldering techniques to ensure strong, reliable electrical and mechanical connections. Trim any excess lead length after soldering.
5. **Verify Installation:** After soldering, visually inspect the connections for cold solder joints, bridges, or other defects.

Note: Resistors are non-polarized components, meaning they can be installed in either direction in a DC circuit. However, for AC circuits or specific circuit layouts, always refer to your circuit diagram.

3. OPERATING PRINCIPLES

A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit element. In electronic circuits, resistors are used to reduce current flow, adjust signal levels, divide voltages, bias active elements, and terminate transmission lines, among other uses.

These 5W 5.6 Ohm cement resistors are designed to dissipate up to 5 watts of power. When current flows through the resistor, electrical energy is converted into heat. The ceramic cement body is specifically designed to handle this heat dissipation effectively, making them suitable for applications where higher power handling is required compared to standard carbon film or metal film resistors.

The resistance value of 5.6 Ohms determines the relationship between voltage and current according to Ohm's Law ($V = I * R$), where V is voltage in volts, I is current in amperes, and R is resistance in ohms. The tolerance of $\pm 5\%$ indicates that the actual resistance value will be within 5% of 5.6 Ohms (i.e., between 5.32 Ohms and 5.88 Ohms).

4. MAINTENANCE

Cement resistors are generally robust and require minimal maintenance. However, proper handling and environmental conditions are important for their longevity and reliable operation.

- **Storage:** Store resistors in a dry, cool environment, away from direct sunlight and excessive humidity.
- **Handling:** Avoid excessive mechanical stress on the leads or the body of the resistor, especially during installation.
- **Cleaning:** If necessary, clean the resistor body with a dry, soft cloth. Avoid using harsh chemicals or abrasive materials.
- **Thermal Management:** Ensure adequate ventilation around the resistors in your circuit, especially if they are operating at or near their maximum power rating, to prevent overheating of surrounding components.

5. TROUBLESHOOTING

While resistors are highly reliable, issues can arise from improper installation or circuit design. Here are some common troubleshooting scenarios:

- **Incorrect Resistance Reading:**
 - **Cause:** Damaged resistor, incorrect component used, or poor solder joint.
 - **Solution:** Desolder the resistor and measure its resistance value with a multimeter. If it's significantly off the specified 5.6 Ohms (considering the $\pm 5\%$ tolerance), replace it. Check solder joints for continuity.
- **Overheating/Burning Smell:**
 - **Cause:** Resistor dissipating more power than its 5W rating, short circuit in the circuit, or incorrect resistance value.
 - **Solution:** Immediately disconnect power. Calculate the expected power dissipation ($P = V^2/R$ or $P = I^2R$) in your circuit. If it exceeds 5W, a higher wattage resistor or multiple resistors in parallel/series might be needed. Check for short circuits.
- **No Current Flow/Open Circuit:**
 - **Cause:** Resistor has failed open (infinite resistance), or a broken lead/poor solder joint.
 - **Solution:** Check continuity across the resistor with a multimeter. Inspect leads and solder joints for breaks or poor connections. Replace if the resistor shows infinite resistance.

6. SPECIFICATIONS

Attribute	Value
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Attribute	Value
Brand Name	Aexit
Product Name	Cement Resistor
Power Rating	5W
Resistance	5.6Ω
Tolerance	±5% (J)
Body Material	Ceramic, Cement
Body Size (Approx.)	22 x 9 x 9mm (0.86" x 0.35" x 0.35") (L * W * H)
Lead Diameter (Approx.)	0.8mm (0.031")
Color	White
Item Weight (for 10 pcs)	48g (1.76 ounces)
Package Dimensions	4.33 x 3.39 x 0.91 inches
Model Number	modle
ASIN	B07CRDD5PX
Date First Available	April 22, 2018

7. SAFETY INFORMATION

When working with electronic components, always observe the following safety precautions:

- Always disconnect power from the circuit before installing, removing, or inspecting components.
- Use appropriate personal protective equipment (PPE), such as safety glasses, to protect against solder splashes or component fragments.
- Be aware of hot components. Resistors can become very hot during operation, especially when dissipating significant power. Allow components to cool before handling.
- Ensure proper ventilation when soldering to avoid inhaling fumes.
- Do not exceed the specified power rating (5W) for these resistors, as this can lead to overheating, component failure, or fire hazards.
- If you are unsure about any aspect of circuit design or component installation, consult a qualified electronics professional.

8. WARRANTY AND SUPPORT

Specific warranty details for this product are not provided in the available product information. For any support inquiries, technical assistance, or warranty claims, please refer to the seller or manufacturer directly through the platform where the product was purchased.

Manufacturer: Aexit

Model: modle

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question