BOJACK BJ-50

BOJACK 50 Values 1350 Pcs Resistor Kit User Manual

Model: BJ-50

Introduction

This manual provides essential information for the proper use and maintenance of your BOJACK 50 Values 1350 Pcs Resistor Kit. This kit is designed for electronic enthusiasts, students, and professionals, offering a wide range of 1/4W metal film resistors with 1% tolerance for various circuit applications.

Product Overview

The BOJACK Resistor Kit (Model BJ-50) includes 1350 pieces of 1/4W metal film resistors, categorized into 50 distinct resistance values ranging from 0 Ohm to 5.6M Ohm. Each resistor features a 1% tolerance, ensuring precision in your electronic projects. The kit is organized for easy identification and access to specific values.

Image: The BOJACK Resistor Kit, showcasing the organized compartments with various resistor values.

Kit Contents:

- **Quantity:** 1350 pieces
- **Values:** 50 distinct resistance values
- **Resistance Range:** 0 Ohm to 5.6M Ohm
- **Tolerance:** ±1%
- **Power Rating:** 1/4W
- **Type:** Metal Film Resistors

Included Resistor Values (25 pieces each, unless specified):

- 0Ω, 1Ω, 2.2Ω, 4.7Ω, 7.5Ω, 10Ω, 15Ω, 22Ω, 33Ω, 39Ω
- 47Ω, 56Ω, 68Ω, 100Ω (50 pcs), 120Ω, 150Ω, 220Ω (50 pcs), 330Ω, 390Ω, 470Ω
- 510Ω, 680Ω, 1KΩ (50 pcs), 1.5KΩ, 2KΩ, 2.2KΩ, 3KΩ, 4.7KΩ, 5.1KΩ, 5.6KΩ, 7.5KΩ
- 8.2KΩ, 10KΩ (50 pcs), 15KΩ, 22KΩ, 33KΩ, 47KΩ, 56KΩ, 68KΩ, 75KΩ, 100KΩ

- 150KΩ, 220KΩ, 330KΩ, 470KΩ, 680KΩ, 1MΩ, 2MΩ, 4.7MΩ, 5.6MΩ

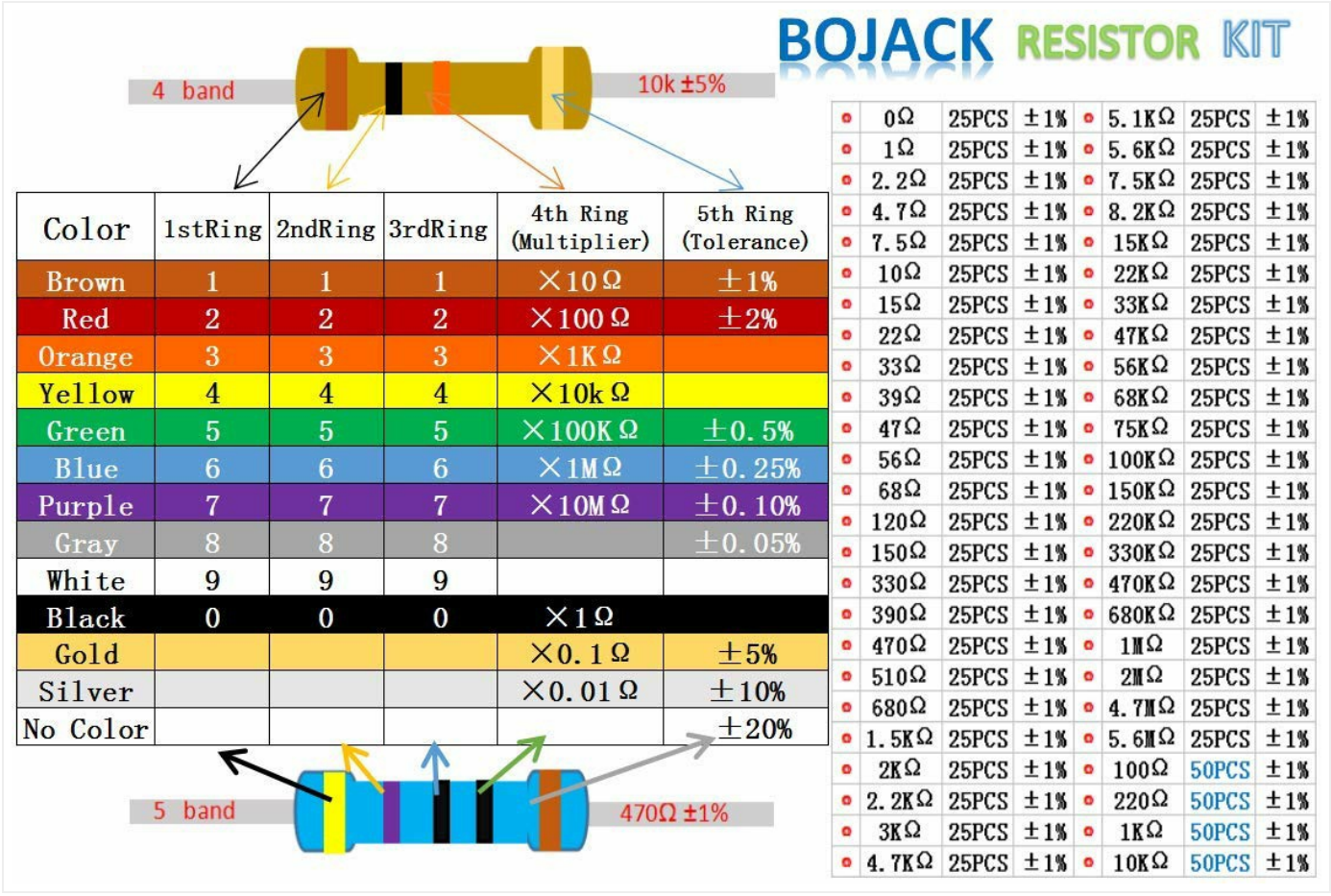
Note: Some frequently used values (100Ω, 220Ω, 1KΩ, 10KΩ) are provided in quantities of 50 pieces for convenience.

Setup and Identification

Upon receiving your resistor kit, ensure all packages are intact. The resistors are pre-sorted into individual bags, each labeled with its resistance value. For long-term organization, it is recommended to keep them in their designated compartments or transfer them to a suitable storage solution.

Reading Resistor Color Codes:

Each resistor is marked with color bands that indicate its resistance value and tolerance. This kit primarily uses 4-band and 5-band color codes. Refer to the included color code guide for accurate identification.



Color	1stRing	2ndRing	3rdRing	4th Ring (Multiplier)	5th Ring (Tolerance)
Brown	1	1	1	×10Ω	±1%
Red	2	2	2	×100Ω	±2%
Orange	3	3	3	×1KΩ	
Yellow	4	4	4	×10kΩ	
Green	5	5	5	×100KΩ	±0.5%
Blue	6	6	6	×1MΩ	±0.25%
Purple	7	7	7	×10MΩ	±0.10%
Gray	8	8	8		±0.05%
White	9	9	9		
Black	0	0	0	×1Ω	
Gold				×0.1Ω	±5%
Silver				×0.01Ω	±10%
No Color					±20%

0Ω	25PCS	±1%	5.1KΩ	25PCS	±1%
1Ω	25PCS	±1%	5.6KΩ	25PCS	±1%
2.2Ω	25PCS	±1%	7.5KΩ	25PCS	±1%
4.7Ω	25PCS	±1%	8.2KΩ	25PCS	±1%
7.5Ω	25PCS	±1%	15KΩ	25PCS	±1%
10Ω	25PCS	±1%	22KΩ	25PCS	±1%
15Ω	25PCS	±1%	33KΩ	25PCS	±1%
22Ω	25PCS	±1%	47KΩ	25PCS	±1%
33Ω	25PCS	±1%	56KΩ	25PCS	±1%
39Ω	25PCS	±1%	68KΩ	25PCS	±1%
47Ω	25PCS	±1%	75KΩ	25PCS	±1%
56Ω	25PCS	±1%	100KΩ	25PCS	±1%
68Ω	25PCS	±1%	150KΩ	25PCS	±1%
120Ω	25PCS	±1%	220KΩ	25PCS	±1%
150Ω	25PCS	±1%	330KΩ	25PCS	±1%
330Ω	25PCS	±1%	470KΩ	25PCS	±1%
390Ω	25PCS	±1%	680KΩ	25PCS	±1%
470Ω	25PCS	±1%	1MΩ	25PCS	±1%
510Ω	25PCS	±1%	2MΩ	25PCS	±1%
680Ω	25PCS	±1%	4.7MΩ	25PCS	±1%
1.5KΩ	25PCS	±1%	5.6MΩ	25PCS	±1%
2KΩ	25PCS	±1%	100Ω	50PCS	±1%
2.2KΩ	25PCS	±1%	220Ω	50PCS	±1%
3KΩ	25PCS	±1%	1KΩ	50PCS	±1%
4.7KΩ	25PCS	±1%	10KΩ	50PCS	±1%

Image: Detailed guide for interpreting 4-band and 5-band resistor color codes, including color values, multipliers, and tolerance percentages.

4-Band Resistors: The first two bands represent the significant digits, the third band is the multiplier, and the fourth band indicates the tolerance.
5-Band Resistors: The first three bands represent the significant digits, the fourth band is the multiplier, and the fifth band indicates the tolerance. The 5-band code is typically used for higher precision resistors, such as the 1% tolerance resistors in this kit.

Operating Instructions

Resistors are fundamental components in electronic circuits, used to limit current, divide voltage, and provide specific impedance. Always select the appropriate resistance value and power rating for your circuit design to ensure optimal performance and prevent component damage.

Application in Circuits:

- **Current Limiting:** Connect a resistor in series with a component (e.g., an LED) to limit the current flowing through it.
- **Voltage Division:** Use two resistors in series to create a voltage divider, providing a fraction of the input voltage.
- **Pull-up/Pull-down Resistors:** Employed in digital circuits to define a default state for an input pin when no other signal is present.
- **RC Circuits:** Combine with capacitors to create timing circuits, filters, and oscillators.

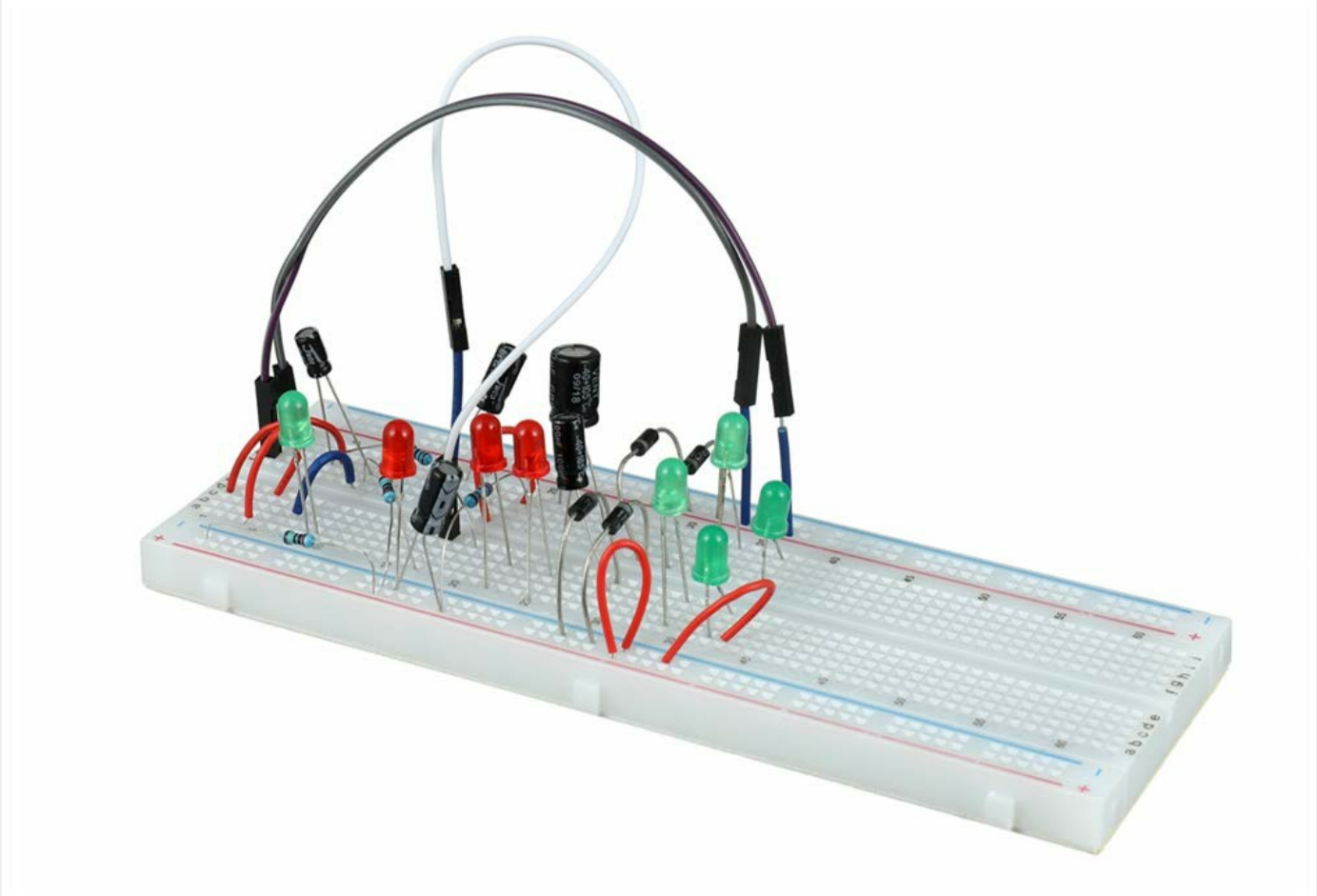


Image: Example of resistors and other electronic components integrated into a circuit on a breadboard, demonstrating practical application.

Always verify the resistance value using a multimeter before soldering or permanently integrating into a circuit, especially for critical applications.

Maintenance and Storage

Proper storage and handling will prolong the life and usability of your resistor kit.

- **Storage:** Keep resistors in their original packaging or a dedicated component organizer to prevent mixing of values. Store in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Avoid bending the leads excessively close to the resistor body, as this can damage the internal element. Handle with clean, dry hands to prevent contamination.
- **Cleaning:** Resistors generally do not require cleaning. If dust accumulates, a soft, dry brush can be used.

Troubleshooting

Most issues with resistors relate to incorrect selection or damage during handling.

- **Incorrect Resistance Value:**

- Double-check the color bands against the color code guide.
- Verify the value with a multimeter before use.
- Ensure you have selected the correct resistor from the kit.

- **Resistor Overheating/Burning:**
  - The power rating (1/4W) is insufficient for the current flowing through it. Calculate the power dissipation ($P = I^2R$ or $P = V^2/R$) and use a resistor with a higher wattage rating if necessary.
  - There might be a short circuit or incorrect wiring in your circuit.
- **Damaged Leads:**
  - If leads are bent too sharply or broken, the resistor may not function correctly. Replace damaged resistors.

Specifications

Feature	Detail
Model Number	BJ-50
Resistor Type	Metal Film
Power Rating	1/4 Watt (0.25W)
Tolerance	±1%
Resistance Range	0 Ohm to 5.6M Ohm
Number of Values	50
Total Quantity	1350 pieces
Compliance	RoHS Compliant, Lead-Free
Package Dimensions	6.14 x 4.25 x 1.81 inches
Item Weight	7.04 ounces

Warranty and Support

For any questions regarding the BOJACK 50 Values 1350 Pcs Resistor Kit, please contact BOJACK customer support. While specific warranty details are not provided in this manual, BOJACK is committed to product quality and customer satisfaction. Please refer to your purchase documentation or the BOJACK website for the most current warranty information and support contacts.
For further assistance, visit the BOJACK brand page on Amazon.