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XYWHPGV EI40 6-Pin Transformer Coil PC40 Ferrite Core Instruction Manual

Model: E464B719FADF2C761F8CF8AA17CE63

1. INTRODUCTION

This manual provides essential information for the proper handling, setup, and application of the XYWHPGV EI40 6-Pin Transformer Coil PC40 Ferrite Core. Please read these instructions carefully before use to ensure optimal performance and longevity of the product.

2. PRODUCT OVERVIEW

The EI40 Ferrite Core with 6+6 pin transformer coil is a passive electronic component designed for various high-frequency applications. It consists of two ferrite halves and a bobbin (coil body) with 6+6 pins for winding. This product is supplied as a set, typically including two complete units.

2.1 Key Features

- **Type:** EI40 Ferrite Core
- **Pin Configuration:** 6+6 pins for transformer coil
- **Material:** PC40 Ferrite
- **Applications:** Switching power supply transformers, chokes, high-frequency transformers, filters, inductors.

2.2 Components Included

Each set typically includes:

- 4 x Ferrite Halves (forming two EI40 cores)
- 2 x Bobbins (Coil Bodies) with 6+6 pins

2 SET = 4 ferrite halves + 2 bobbin

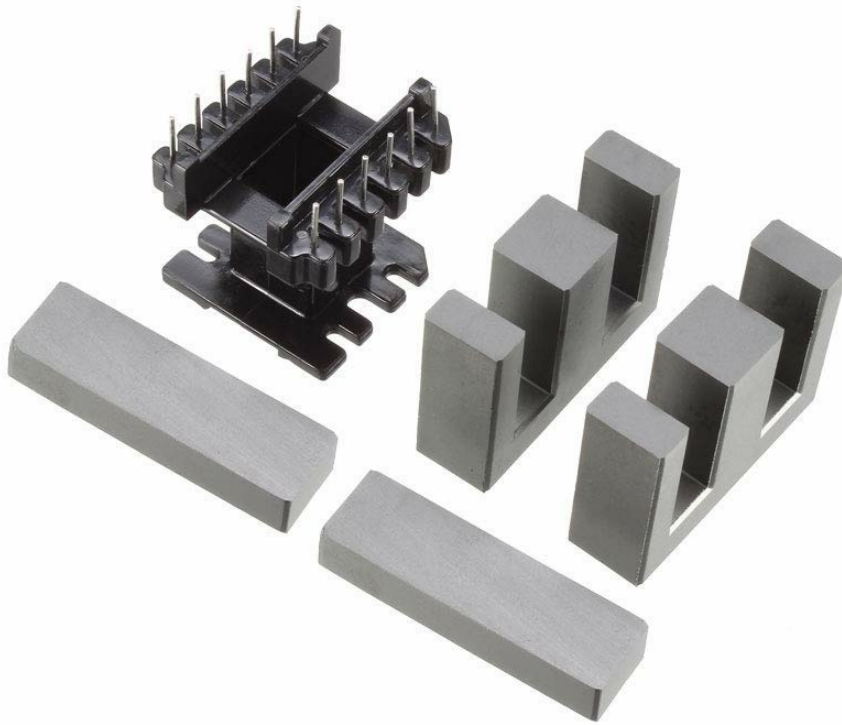


Figure 1: Components of the EI40 Ferrite Core Set. This image displays the individual parts: two E-shaped ferrite halves, two I-shaped ferrite halves, and two bobbin coil bodies.

3. SETUP AND ASSEMBLY

The EI40 ferrite core and bobbin are designed for assembly into a complete transformer or inductor. Follow these general steps for assembly:

1. **Winding the Coil:** Before assembling the ferrite core, wind the required number of turns of magnet wire onto the bobbin. Ensure proper insulation and wire gauge according to your circuit design. The bobbin features 6+6 pins for primary and secondary windings.
2. **Core Assembly:** Carefully insert the wound bobbin between the two E-shaped ferrite halves. Then, place the I-shaped ferrite halves to complete the magnetic circuit. Ensure the ferrite pieces fit snugly without excessive force to avoid chipping.
3. **Securing the Core:** Depending on the application, the assembled core may need to be secured using clips, adhesive, or tape to maintain mechanical stability and consistent magnetic properties.

2 Sets



Figure 2: Assembled EI40 Ferrite Core Transformer Coils. This image shows two complete units, each comprising ferrite halves and a bobbin.

4. OPERATING PRINCIPLES AND APPLICATIONS

The EI40 ferrite core and coil assembly function as a transformer or inductor, crucial for energy conversion and filtering in electronic circuits. Ferrite cores are chosen for their high magnetic permeability and low core losses at high frequencies.

4.1 Common Applications

- **Switching Power Supplies:** Used in flyback, forward, and other converter topologies for efficient power conversion.
- **High-Frequency Transformers:** For isolation and voltage transformation in high-frequency circuits.
- **Filters and Chokes:** To suppress electromagnetic interference (EMI) and smooth DC currents.
- **Inductors:** For energy storage and impedance matching.

These components are widely integrated into devices such as color TVs, monitors, electric vehicle chargers, DVDs, DC-DC converters, household appliances, industrial automation systems, instrumentation, and energy-saving lighting.

5. MAINTENANCE

Ferrite cores and transformer coils are generally maintenance-free components. However, proper handling and environmental conditions are important for their longevity:

- **Handling:** Ferrite material is brittle. Avoid dropping or subjecting the cores to mechanical shock, which can cause chipping or breakage.
- **Environmental Conditions:** Store and operate the components within specified temperature and humidity ranges to prevent degradation of materials.
- **Cleaning:** If necessary, gently clean the exterior surfaces with a dry, soft cloth. Avoid using solvents or abrasive cleaners.

6. TROUBLESHOOTING

As passive components, ferrite cores and bobbins typically do not "fail" in the same way active components do. Most issues arise from improper assembly, winding, or circuit design.

- **Poor Performance (e.g., excessive heat, low efficiency):**
 - *Check Winding:* Ensure the correct number of turns, wire gauge, and winding technique were used. Improper winding can lead to increased resistance and leakage inductance.
 - *Core Gap:* Verify that the ferrite halves are properly seated and that any intended air gap is correctly implemented. An incorrect gap can significantly alter inductance.
 - *Material Suitability:* Confirm that the PC40 ferrite material is appropriate for the operating frequency and power levels of your application.
- **Physical Damage (e.g., chipped core):**
 - *Replacement:* A physically damaged ferrite core should be replaced as its magnetic properties will be compromised.
 - *Careful Handling:* Always handle ferrite components with care to prevent mechanical stress.

For complex issues, consult relevant electronics design resources or a qualified engineer.

7. SPECIFICATIONS

Parameter	Value
Product Name	EI40 Vertical Ferrite Core Transformer Coil 6+6pin
Type	EI40
Pin Spacing	4.5 mm / 0.2 inches
Ferrite Core Size (E-half)	40 x 11.5 x 27.5 mm / 1.6 x 0.4 x 1 inches (D)
Ferrite Core Size (I-half)	40 x 11.5 x 7.5 mm / 1.6 x 0.4 x 0.3 inches (D)
Spool Size (Overall)	31.5 x 28 x 33 mm / 1.2 x 1.1 x 1.2 inches (H)
Winding Frame Size (Internal)	17.5 x 14 x 14 mm / 0.6 x 0.5 x 0.5 inches (D)
Manufacturer	XYZOOM
Model Number	E464B719FADF2C761F8CF8AA17CE63

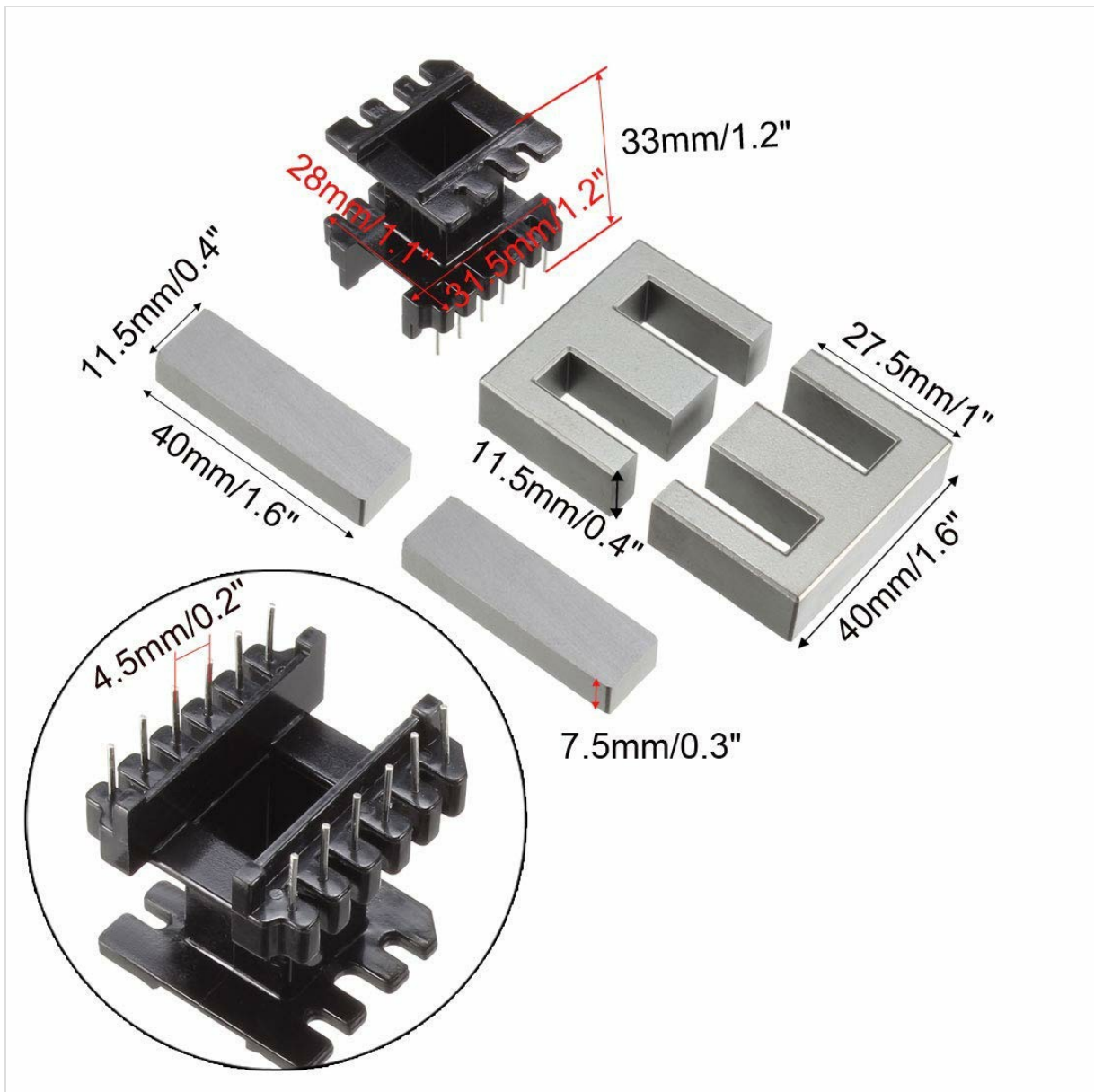


Figure 3: Dimensional Specifications of the EI40 Ferrite Core and Bobbin.

8. WARRANTY AND SUPPORT

This product is a passive electronic component. Specific warranty information is typically provided by the reseller or distributor at the point of purchase. For technical support or inquiries regarding specific applications, please refer to the manufacturer's documentation or consult with an electronics specialist.

Manufacturer: XYZOOM