



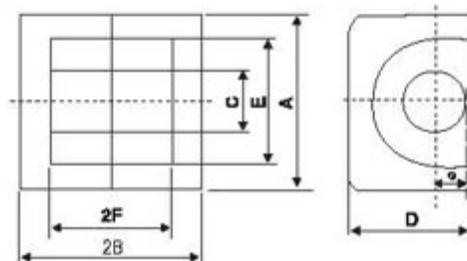
YUXIANG

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China Professional Ferrite Core Supplier

 print version

EP CORES



Description of EP Cores

The EP core, widely used in power inductor core, choke coil core, EMI filter core, etc., design combines the self-shielding feature of a pot core with the coil lead accessibility of "E" cores in a small package. The core wraps around the coil on the top, bottom, and three sides of the coil; but leaves one side of the coil open to bring out wires. Although the one side is open, the coil is completely recessed into the core. Because of the one open side, the amount of self-shielding of the EP core (by itself) is less than that of the pot core. However, the self-shielding improves when a ground plane is placed over the open side. EP cores are usually mounted on a printed circuit board with the open side against the printed circuit board. If good shielding is required, a grounded section of copper is provided on the printed circuit board under the EP core and coil. Mounted in this way, the "EP" shielding comes very close to that of a "Pot" core. Once mounted the coils becomes completely enclosed. Consequently, heat dissipation is poor. The EP core has a round center leg to minimize winding losses.

Features of EP Cores

EP Cores are round center-post cubical shapes, which enclose the coil completely. This particular shape minimizes the effect of air gaps formed at mating surfaces in the magnetic path and provides a larger volume ratio to total space used. Shielding is excellent. The EP Cores series are widely including EP7 core, EP10 core, EP13 core, EP17 core, EP20 core, can be used as EMI filter core, choke coil core, power inductor core, etc.

Special advantages of EP Core assemblies:

1. wide core selection like EP10 cores, EP13 cores, EP17 cores, EP20 cores, EP30 cores;
2. high packaging density on PCBs;
3. choice of linear or flat temperature characteristics;
4. consistency and uniformity.

Application of EP Cores

EP cores are used for compact transformer designs with high inductance and high economy of space. EP core applications: wide-band transformers and various types of inductors, choke coil core, EMI filter core, power inductor core.

| Type | Dimensions(mm) | | | | | | |
|-------|----------------|----------------------------|------------|------------|----------|-----------|----------|
| | A | B | C | Dmin | E | F | G |
| EP7A | 9.2±0.2 | 3.7±0.05 | 3.3±0.1 | 6.35±0.15 | 7.4±0.2 | 2.6±0.1 | 1.8 |
| EP10A | 11.5±0.3 | 5.1±0.1 | 3.3±0.15 | 7.65±0.2 | 9.4±0.2 | 3.7±0.1 | 1.85±0.1 |
| EP13A | 12.5±0.4 | 6.5 ⁺⁰ -0.15 | 4.35±0.15 | 8.8±0.2 | 10.0±0.3 | 4.7±0.1 | 2.4 |
| EP17A | 18.0±0.5 | 8.5±0.2 | 5.65±0.2 | 11.0±0.25 | 12.0±0.4 | 5.65±0.15 | 3.25 |
| EP20A | 24±0.5 | 10.7±0.1 | 8.75±0.25 | 14.95±0.35 | 16.5±0.4 | 7.15±0.15 | 4.4 |
| EP30 | 31.0±0.5 | 15.0 ⁺⁰ -0.15 | 14.75±0.25 | 23.1±0.5 | 24.0±0.4 | 11.7±0.25 | 7.6±0.25 |

| Type | Core parameter | | | | weight (g/pr.) | Ai(nH/N ²) ±30% | | PC(W) (max) | |
|-------|------------------------|-----------------------|---------|-----------------------|-----------------|-----------------------------|---------|-------------|------|
| | C1 (mm ⁻¹) | Ae (mm ²) | Ie (mm) | Ve (mm ³) | | F2BD | F2B1 | F2BD | F2B1 |
| EP7A | 1.52 | 10.3 | 15.7 | 163 | 1.4 | 880 | 830min | 0.025 | 0.09 |
| EP10A | 1.7 | 11.3 | 19.2 | 217 | 2.8 | 850 | 800min | 0.03 | 0.11 |
| EP13A | 1.24 | 19.5 | 24.2 | 472 | 5.1 | 1250 | 1170min | 0.06 | 0.24 |
| EP17A | 0.84 | 33.9 | 28.5 | 966 | 12 | 1950 | 1840min | 0.11 | 0.49 |
| EP20A | 0.508 | 78 | 39.8 | 3120 | 28 | 3450 | 3200min | 0.4 | 1.56 |
| EP30 | 0.351 | 179 | 11200 | 11200 | 75 | 5450 | 5200min | 1.7 | 5.6 |

Ai : 1kHz,0.5mA,100Ts

Pc: 25kHz,200mT,100 (F2BD)

100kHz,100mT,100 (F2B1)

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