# E/ELP Cores

**Series/Type:** **E 13/7/4**

The following products presented in this data sheet are being withdrawn.

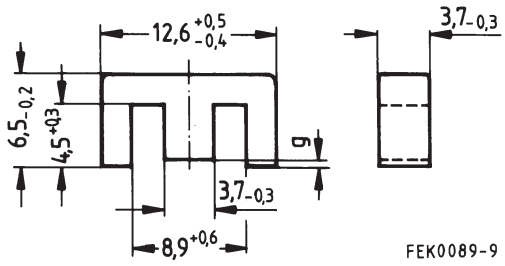
| Ordering Code | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|---|---|---|---|---|
| B66305F0000X142 | B66305F0000X066 | 2002-08-02 | 2002-12-31 | 2003-03-31 |

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

## E 13/7/4 (EF 12,6)

## Core B66305

- In accordance with IEC 61246
- For miniature transformers
- Available with SMD coil former
- E cores with high permeability for common-mode chokes and broadband applications
- E cores are supplied as single units




**Magnetic characteristics** (per set)

$\Sigma l/A$ = 2,39 $mm^{-1}$
$l_e$ = 29,6 mm
$A_e$ = 12,4 $mm^2$
$A_{min}$ = 12,2 $mm^2$
$V_e$ = 367 $mm^3$

**Approx. weight** 2 g/set

### Ungapped

| Material | $A_L$ value nH | $\mu_e$ | $A_{L1min}$ nH | $P_V$ W/set | Ordering code |
|---|---|---|---|---|---|
| N30 | 1000 + 30/– 20 % | 1900 | | | B66305-G-X130 |
| N27 | 800 + 30/– 20 % | 1510 | 530 | < 0,40 (200 mT, 100 kHz, 100 °C) | B66305-G-X127 |
| N87 | 850 + 30/– 20 % | 1620 | 530 | < 0,20 (200 mT, 100 kHz, 100 °C) | B66305-G-X187 |
| T42 | 3600 ± 30 % | 6830 | | | B66305-F-X142 |

### Gapped

| Material | $g$ mm | $A_L$ value approx. nH | $\mu_e$ | Ordering code |
|---|---|---|---|---|
| N27 | 0,04 ± 0,01 | 250 | 454 | B66305-G40-X127 |

The $A_L$ value in the table applies to a core set comprising one ungapped core (dimension $g = 0$) and one gapped core (dimension $g > 0$).

**Calculation factors** (for formulas, see *"E cores: general information"*, page 382)

| Material | Relationship between air gap – $A_L$ value | | Calculation of saturation current | | | |
|---|---|---|---|---|---|---|
| | *K1* (25 °C) | *K2* (25 °C) | *K3* (25 °C) | *K4* (25 °C) | *K3* (100 °C) | *K4* (100 °C) |
| N27 | 28,4 | – 0,676 | 36,5 | – 0,847 | 33,2 | – 0,865 |
| N87 | 28,4 | – 0,676 | 37,5 | – 0,796 | 32,1 | – 0,873 |

Validity range: *K1*, *K2*: 0,03 mm < *s* < 1,00 mm
*K3*, *K4*: 30 nH < $A_L$ < 260 nH

### Coil former (magnetic axis horizontal or vertical)

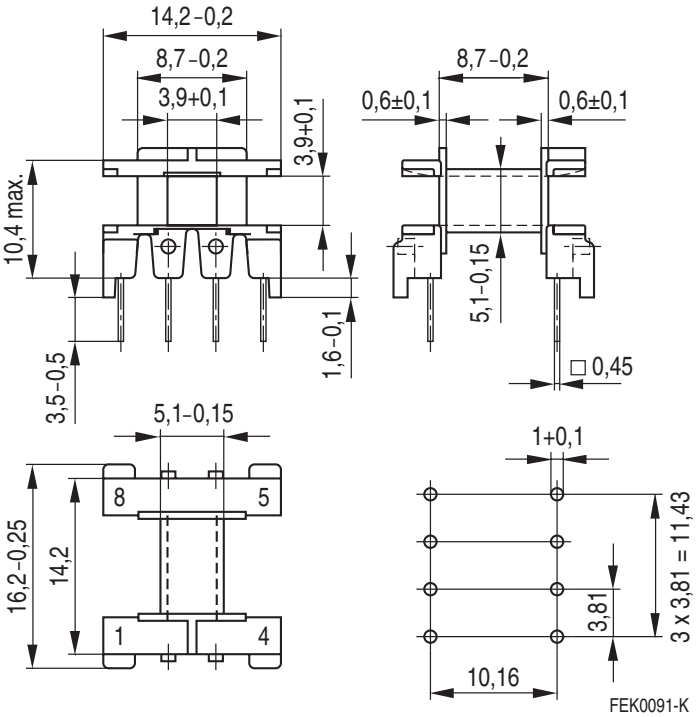
Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085: F ≙ max. operating temperature 155 °C), color code black
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s
Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s
Winding: see *"Processing Notes"*, page 159
Squared pins

### Yoke

Material: Stainless spring steel (0,2 mm)

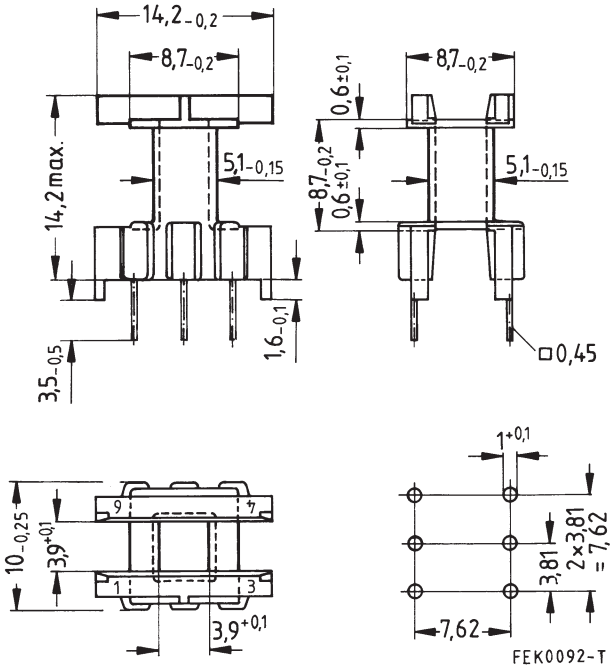
| Coil former | | | | | | Ordering code |
|---|---|---|---|---|---|---|
| Figure | Sections | $A_N$ mm² | $l_N$ mm | $A_R$ value μΩ | Pins | |
| 1 | 1 | 11,6 | 27,2 | 80,6 | 8 | B66202-A1108-T1 |
| 2 | 1 | 11,6 | 27,2 | 80,6 | 6 | B66202-J1106-T1 |
| Yoke (ordering code per piece, 2 are required) | | | | | | B66202-A2010 |

### Figure 1, horizontal version



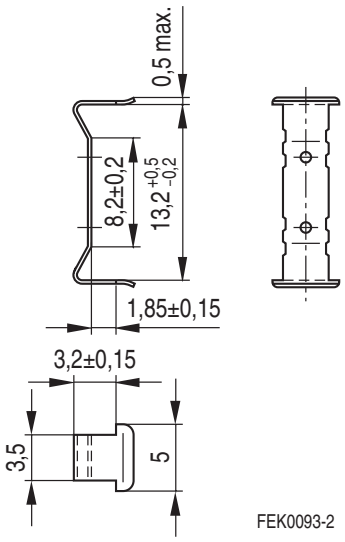

Hole arrangement
View in mounting direction

### Figure 2, vertical version




Hole arrangement
View in mounting direction

### Yoke



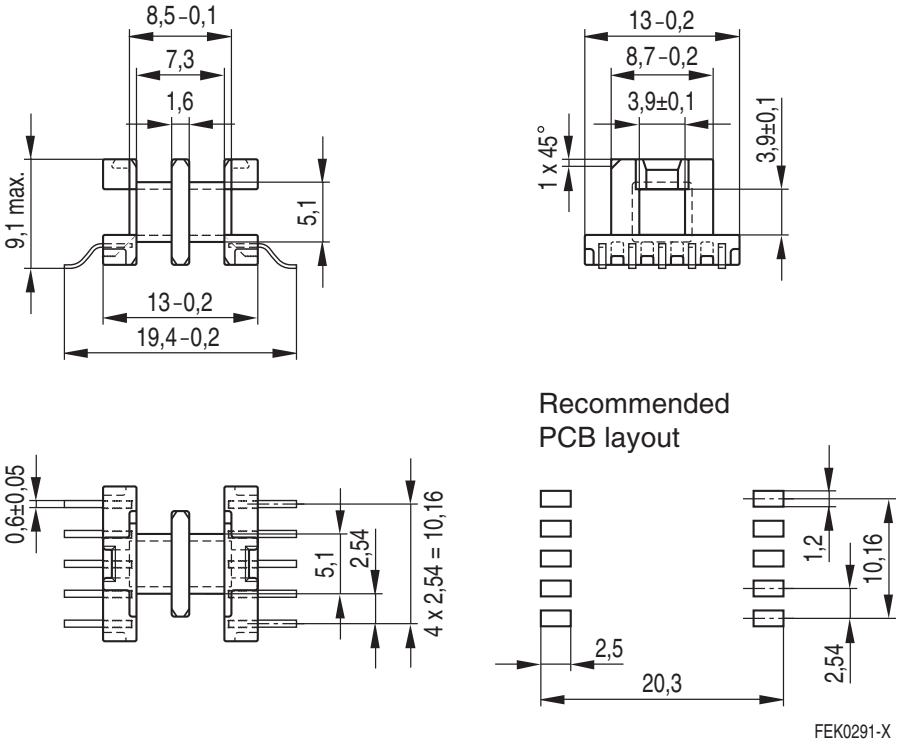
SMD

## SMD coil former with gullwing terminals

Material: GFR liquid crystal polymer (UL 94 V-0, insulation class to IEC 60085: F ≙ max. operating temperature 155 °C), color code black
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 350 °C, 1 s
Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s
permissible soldering temperature for wire-wrap connection on coil former: 400 °C, 1 s
Winding: see *"Processing Notes"*, page 160

| Sections | $A_N$ mm² | $l_N$ mm | $A_R$ value μΩ | Terminals | Ordering code |
|---|---|---|---|---|---|
| 1 | 13,0 | 27 | 71 | 10 | B66306-C1010-T1 |
| 2 | 10,2 | 27 | 91 | 10 | B66306-C1010-T2 |

## Coil former



## Cover plate

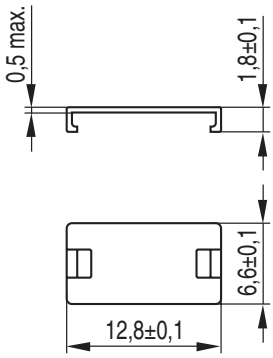
- For stamping and for improved processing on assembly machines
- See under coil former for material and resistance to soldering heat

**Yoke** (on request)

Material: Nickel silver (0,2 mm)

| | Ordering code |
|---|---|
| Cover plate | B66414-A7000 |
| Yoke | B66202-J2001 |

### Cover plate

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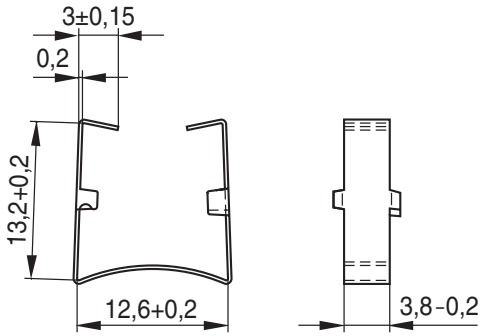
### Yoke

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