Ferrite for Telecommunication
EP Series

ORDERING CODE SYSTEMS

1. Cores

H5A EP10 — Z

- H5A: Material
- EP10: Size of EP core
- Z: AL-value (Z: without air gap)

2. Bobbins

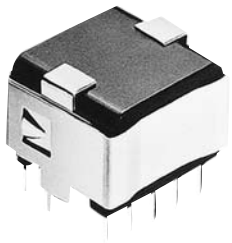
B EP10 — 3 1 8 DFR

- B: Symbol of bobbin
- EP10: Size of EP core
- 3: Code of bobbin material
- 1: Number of section
- 8: Number of terminal pin
- DFR: Type of terminal pin

3. Accessories

F EP-10 — C

- F: Symbol of accessory
- EP-10: Size of EP core
- C: Type of accessory



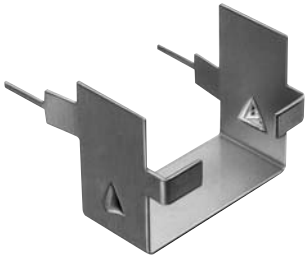
METHOD OF ASSEMBLING

Spring

EP core

Bobbin with terminal pins

EP core

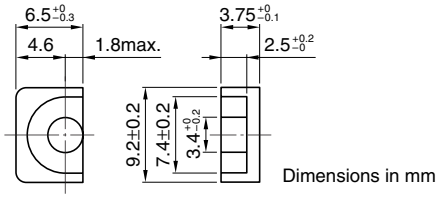


Yoke

EP7 CORES

CORES

Based on JIS C 2516.



Dimensions in mm

TYPICAL CHARACTERISTICS

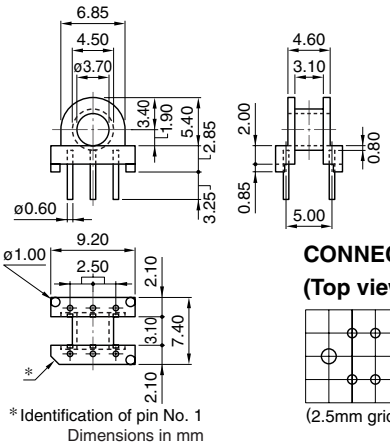
Part No.	AL-value (nH/N2) min.	Effective permeability (μe)
Without air gap		
H5AEP7-Z	1100	1331
H5C3EP7-Z	4200*	5080*
PC40EP7-Z	830	1004
With air gap		
PC40EP7A63	63±3%	76
PC40EP7A100	100±4%	121

Measuring conditions:
Coil ø0.13mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA
* 100Ts, 10kHz, 10mV (for H5C3 only)

Parameter

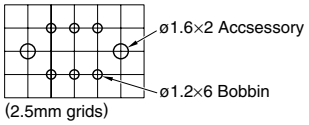
Core factor	C1	mm−1	1.52
Effective magnetic path length	ℓe	mm	15.7
Effective cross-sectional area	Ae	mm2	10.3
Effective core volume	Ve	mm3	162
Cross-sectional center pole area	Acp	mm2	8.55
Minimum cross-sectional area	Acp min.	mm2	8.04
Cross-sectional winding area of core	Acw	mm2	10.7
Weight (approx.)		g	1.4

BOBBINS



*Identification of pin No. 1
Dimensions in mm

CONNECTING PIN PATTERNS (Top view)



(2.5mm grids)

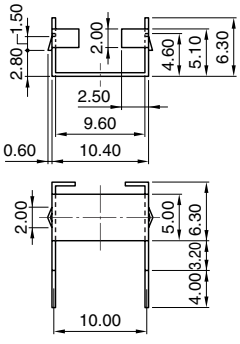
Part No.	Number of sections	Material: Bobbin (Heat deflection temperature)	Material: Pin	Available winding cross section (mm2)	Average length of turns (mm)	Weight (g) approx.
BEP7-316DFR	1	FR phenol (235°C)*	Solder plated Phosphor bronze	3.85	18.1	0.3

* 18.6kg/cm2 force.

- Maximum number of turns N that can be wound on bobbins, see section of “Maximum number of Turns on Bobbins”.

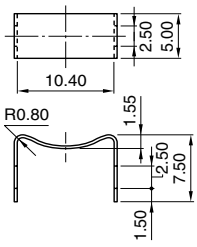
ACCESSORIES

YOKE



Material thickness=0.40
Dimensions in mm

SPRING



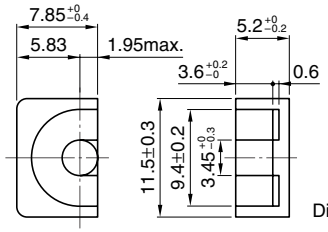
Material thickness=0.32
Dimensions in mm

Part No.	Parts	Material	Weight (g) approx.
FEP-7-C	Yoke	Nickel silver	0.8
	Spring	Nickel silver	0.8

EP10 CORES

CORES

Based on JIS C 2516.



Dimensions in mm

TYPICAL CHARACTERISTICS

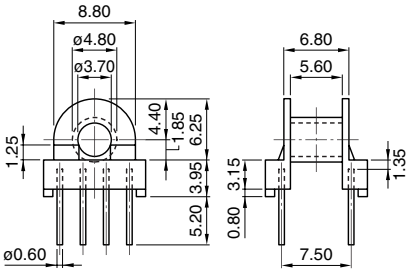
Part No.	AL-value (nH/N2) min.	Effective permeability (μe)
Without air gap		
H5AEP10-Z	1080	1461
H5C3EP10-Z	3850*	5208*
PC40EP10-Z	800	1082
PC50EP10-Z	800±25%	1082
With air gap		
PC40EP10A63	63±3%	85
PC40EP10A100	100±4%	135
PC50EP10A63	63±3%	85
PC50EP10A100	100±4%	135

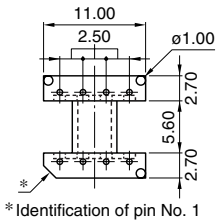
Measuring conditions:
Coil ø0.2mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA
* 100Ts, 10kHz, 10mV (for H5C3 only)

Parameter

Core factor	C1	mm−1	1.7
Effective magnetic path length	ℓe	mm	19.2
Effective cross-sectional area	Ae	mm2	11.3
Effective core volume	Ve	mm3	217
Cross-sectional center pole area	Acp	mm2	8.55
Minimum cross-sectional area	Acp min.	mm2	7.79
Cross-sectional winding area of core	Acw	mm2	22.6
Weight (approx.)		g	2.8

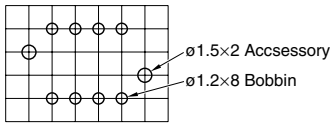
BOBBINS





*Identification of pin No. 1

CONNECTING PIN PATTERNS (Top view)



(2.5mm grids)

Dimensions in mm

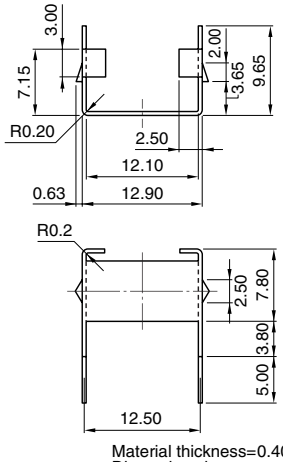
Part No.	Number of sections	Material: Bobbin (Heat deflection temperature)	Material: Pin	Available winding cross section per section (mm2)	Average length of turns (mm)	Weight (g) approx.
BEP10-318DFR	1	FR phenol (235°C)	Solder plated Phosphor bronze	11.7	21.7	0.65

* 18.6kg/cm2 force.

- Maximum number of turns N that can be wound on bobbins, see section of “Maximum number of Turns on Bobbins”.

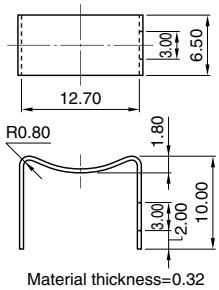
ACCESSORIES

YOKE



Material thickness=0.40
Dimensions in mm

SPRING



Material thickness=0.32
Dimensions in mm

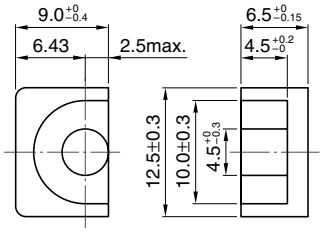
Part No.	Parts	Material	Weight (g) approx.
FEP-10-C	Yoke	Nickel silver	1.43
	Spring	Nickel silver	1.43

- All specifications are subject to change without notice.

EP13 CORES

CORES

Based on JIS C 2516.



Dimensions in mm

TYPICAL CHARACTERISTICS

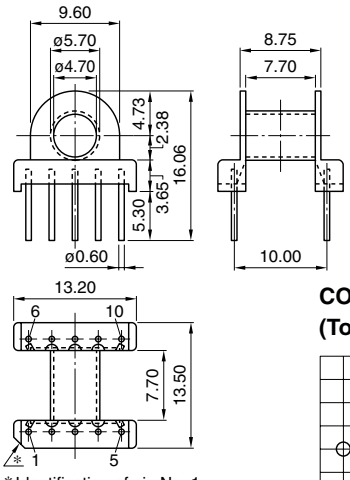
Part No.	AL-value (nH/N2) min.	Effective permeability (μe)
Without air gap		
H5AEP13-Z	1700	1677
H5C3EP13-Z	5600*	5526*
PC40EP13-Z	1170	1155
PC50EP13-Z	1100±25%	1085
With air gap		
PC40EP13A100	100±3%	99
PC40EP13A160	160±3%	158
PC50EP13A100	100±3%	99
PC50EP13A160	160±3%	158

Measuring conditions:
Coil ø0.2mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA
* 100Ts, 10kHz, 10mV (for H5C3 only)

Parameter

Core factor	C1	mm−1	1.24
Effective magnetic path length	ℓe	mm	24.2
Effective cross-sectional area	Ae	mm2	19.5
Effective core volume	Ve	mm3	472
Cross-sectional center pole area	Acp	mm2	14.9
Minimum cross-sectional area	Acp min.	mm2	13.9
Cross-sectional winding area of core	Acw	mm2	13
Weight (approx.)		g	5.1

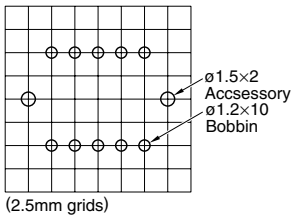
BOBBINS



*Identification of pin No. 1

Dimensions in mm

CONNECTING PIN PATTERNS (Top view)



(2.5mm grids)

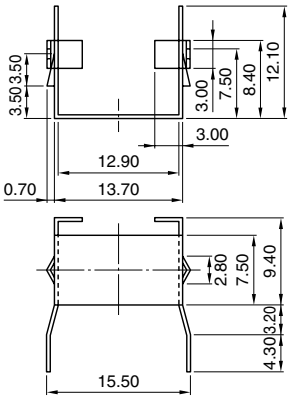
Part No.	Number of sections	Material: Bobbin (Heat deflection temperature)	Material: Pin	Available winding cross section per section (mm2)	Average length of turns (mm)	Weight (g) approx.
BEP13-3110DFR	1	FR phenol (235°C)*	Solder plated Phosphor bronze	16.6	23.9	0.74

* 18.6kg/cm2 force.

- Maximum number of turns N that can be wound on bobbins, see section of “Maximum number of Turns on Bobbins”.

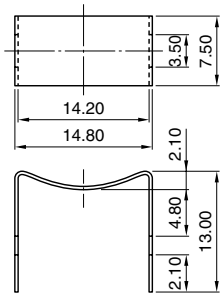
ACCESSORIES

YOKE



Material thickness=0.40 Dimensions in mm

SPRING



Material thickness=0.32
Dimensions in mm

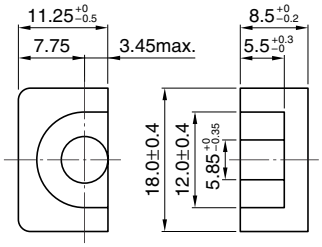
Part No.	Parts	Material	Weight (g) approx.
FEP-13-C	Yoke	Nickel silver	1.93
	Spring	Nickel silver	1.93

- All specifications are subject to change without notice.

EP17 CORES

CORES

Based on JIS C 2516.



Dimensions in mm

TYPICAL CHARACTERISTICS

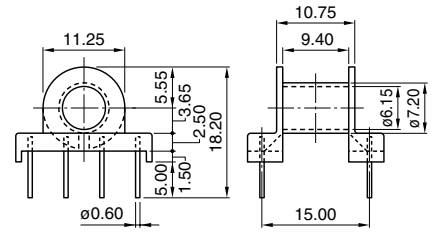
Part No.	AL-value (nH/N²) min.	Effective permeability (μe)
Without air gap		
H5AEP17-Z	2500	1672
H5C2EP17-Z	8000	5350
PC40EP17-Z	1840	1230
With air gap		
PC40EP17A100	100±5%	67
PC40EP17A250	250±7%	167

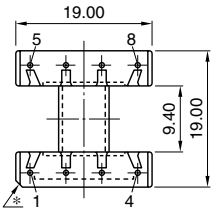
Measuring conditions:
Coil ø0.2mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA

Parameter

Core factor	C1	mm−1	0.84
Effective magnetic path length	ℓe	mm	28.5
Effective cross-sectional area	Ae	mm²	33.9
Effective core volume	Ve	mm³	966
Cross-sectional center pole area	Acp	mm²	25.3
Minimum cross-sectional area	Acp min.	mm²	23.8
Cross-sectional winding area of core	Acw	mm²	33.8
Weight (approx.)		g	11.8

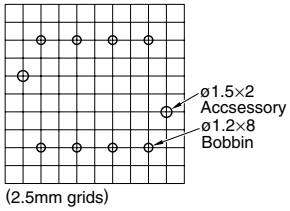
BOBBINS





* Identification of pin No. 1
Dimensions in mm

CONNECTING PIN PATTERNS (Top view)



(2.5mm grids)

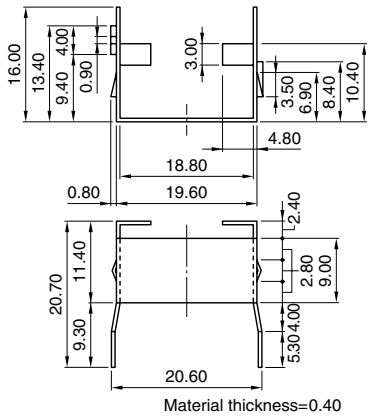
Part No.	Number of sections	Material: Bobbin (Heat deflection temperature)	Material: Pin	Available winding cross section per section (mm²)	Average length of turns (mm)	Weight (g) approx.
BEP17-318DFR	1	FR phenol (235°C)*	Solder plated Phosphor bronze	19	29.1	1.30

* 18.6kg/cm² force.

- Maximum number of turns N that can be wound on bobbins, see section of “Maximum number of Turns on Bobbins”.

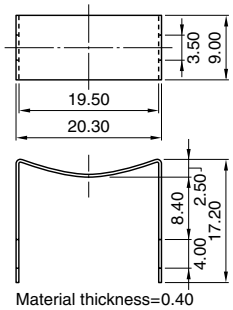
ACCESSORIES

YOKE



Material thickness=0.40
Dimensions in mm

SPRING



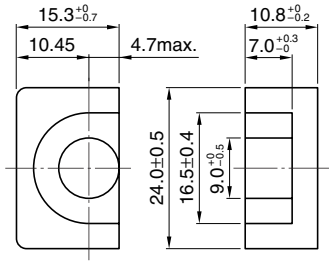
Material thickness=0.40
Dimensions in mm

Part No.	Parts	Material	Weight (g) approx.
FEP-17-C	Yoke	Nickel silver	3.6
	Spring	Nickel silver	3.6

EP20 CORES

CORES

Based on JIS C 2516.



Dimensions in mm

TYPICAL CHARACTERISTICS

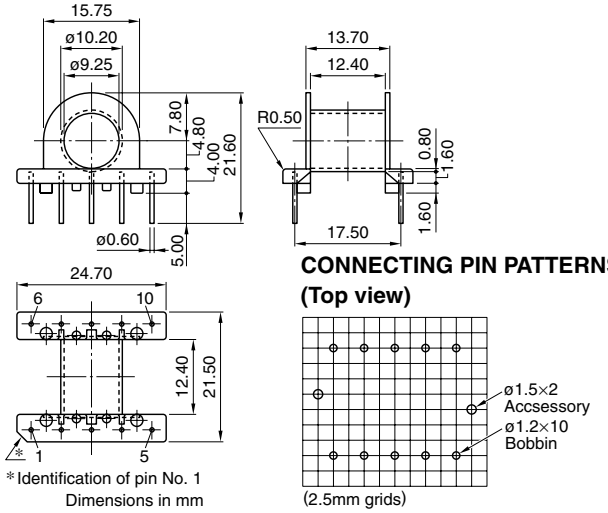
Part No.	AL-value (nH/N2) min.	Effective permeability (μe)
Without air gap		
H5AEP20-Z	4200	1698
H5C2EP20-Z	13500	5457
PC40EP20-Z	3200	1294
With air gap		
PC40EP20A100	100±5%	40
PC40EP20A250	250±7%	101

Measuring conditions:
Coil ø0.35mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA

Parameter

Core factor	C1	mm−1	0.508
Effective magnetic path length	ℓe	mm	39.8
Effective cross-sectional area	Ae	mm2	78
Effective core volume	Ve	mm3	312
Cross-sectional center pole area	Acp	mm2	60.1
Minimum cross-sectional area	Acp min.	mm2	56.7
Cross-sectional winding area of core	Acw	mm2	55.4
Weight (approx.)		g	27.6

BOBBINS



*Identification of pin No. 1
Dimensions in mm

CONNECTING PIN PATTERNS (Top view)

(2.5mm grids)

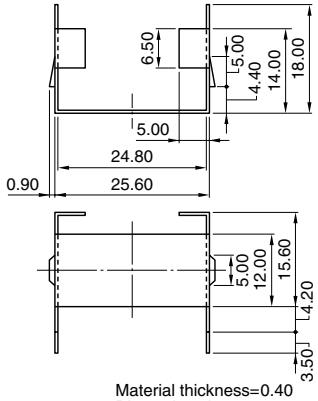
Part No.	Number of sections	Material: Bobbin (Heat deflection temperature)	Material: Pin	Available winding cross section per section (mm2)	Average length of turns (mm)	Weight (g) approx.
BEP20-8110DFR	1	FR phenol (235°C)*	Solder plated Phosphor bronze	33.2	40.8	1.8

* 18.6kg/cm2 force.

- Maximum number of turns N that can be wound on bobbins, see section of “Maximum number of Turns on Bobbins”.

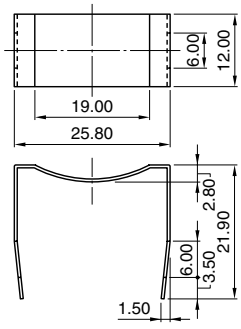
ACCESSORIES

YOKE



Material thickness=0.40
Dimensions in mm

SPRING



Material thickness=0.40
Dimensions in mm

Part No.	Parts	Material	Weight (g) approx.
FEP-20-C	Yoke	Nickel silver	5.68
	Spring	Nickel silver	5.68