

Ferrite for Telecommunication

Miniature Pot Cores P Series

TDK produces a miniature pot core series. These tiny pot cores are used in a variety of applications, including inductors for wristwatches, special choke coils, and pulse transformers. Some have even been used in miniature power supplies.

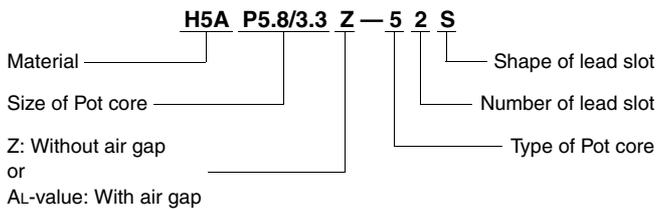
Bobbins are available for P5.8/3.3 and P7/4 cores.

Adhesives are usually employed to joint the two halves of the pot core.

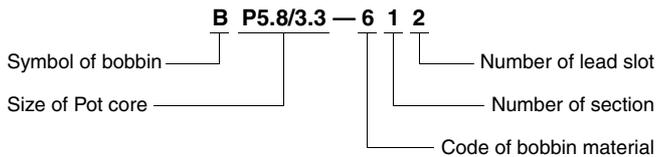


ORDERING CODE SYSTEMS

1. Cores



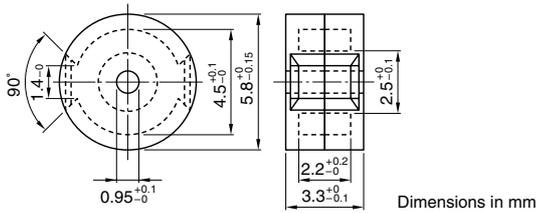
2. Bobbins



P5.8/3.3 POT CORES

CORES

Based on IEC Publication 60133.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μ e)
Without air gap		
H5AP5.8/3.3Z-52S	870±25%	1163
H5C2P5.8/3.3Z-52S	2660 min.	3556

Measuring conditions:

Coil ϕ 0.08mm, 2UEW, 70Ts (for material H5C2), 100Ts(for others)

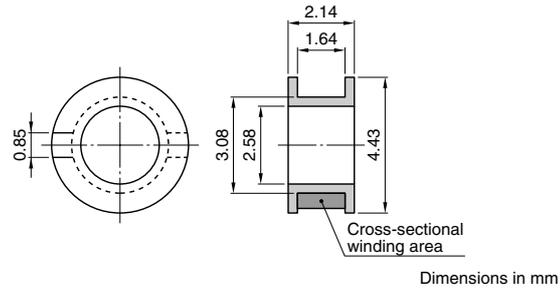
Frequency 1kHz

Current level 0.5mA

Parameter

Core factor	C_1	mm ⁻¹	1.68
Effective magnetic path length	ℓ_e	mm	7.9
Effective cross-sectional area	A_e	mm ²	4.7
Effective core volume	V_e	mm ³	37
Cross-sectional center pole area	A_{cp}	mm ²	4.08
Minimum cross-sectional area	$A_{cp \text{ min.}}$	mm ²	3.66
Cross-sectional winding area of core	A_{cw}	mm ²	2.42
Weight (approx.)		g	0.2

BOBBINS



Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP5.8/3.3-612	1	Polyacetal (110°C)*	0.95	11.7	0.03

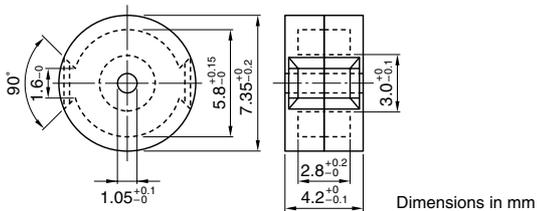
* 4.6kg/cm² force.

• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

P7/4 POT CORES

CORES

Based on IEC Publication 60133.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μ e)
Without air gap		
H5AP7/4Z-52S	1200±25%	1366
H5C2P7/4Z-52S	4970±30%	5656

Measuring conditions:

Coil ϕ 0.1mm, 2UEW, 70Ts (for material H5C2), 100Ts(for others)

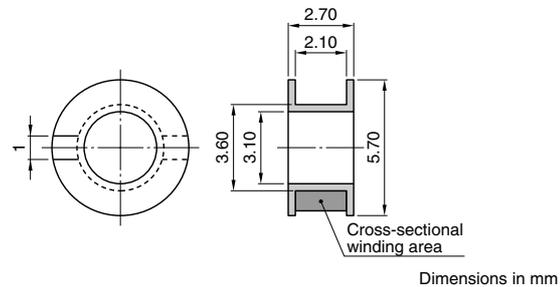
Frequency 1kHz

Current level 0.5mA

Parameter

Core factor	C_1	mm ⁻¹	1.43
Effective magnetic path length	ℓ_e	mm	10
Effective cross-sectional area	A_e	mm ²	7.0
Effective core volume	V_e	mm ³	70
Cross-sectional center pole area	A_{cp}	mm ²	6.05
Minimum cross-sectional area	$A_{cp \text{ min.}}$	mm ²	5.57
Cross-sectional winding area of core	A_{cw}	mm ²	4.31
Weight (approx.)		g	0.5

BOBBINS



Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP7/4-612	1	Polyacetal (110°C)*	2.2	14.6	0.04

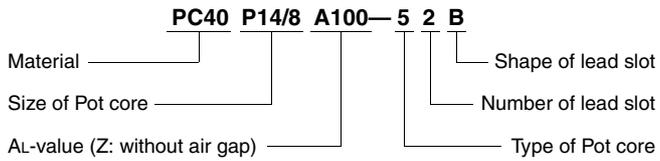
* 4.6kg/cm² force.

• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

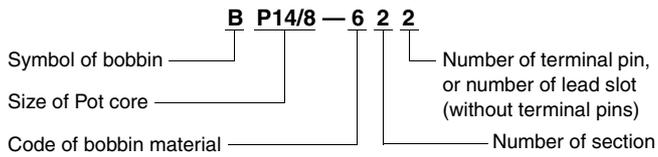
TYPE 5 POT CORES P SERIES

ORDERING CODE SYSTEMS

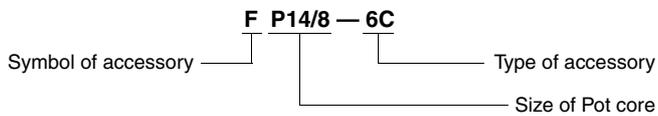
1. Cores



2. Bobbins



3. Accessories



METHOD OF ASSEMBLING



Spring



Pot core



Bobbin



Pot core

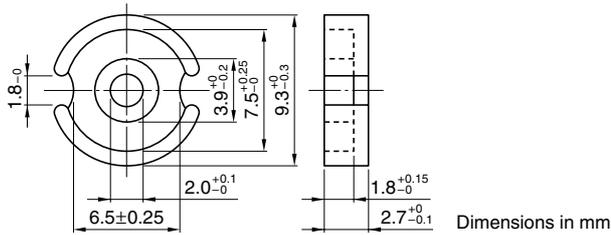


Yoke

P9/5 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μ e)
Without air gap		
H5AP9/5Z-52H	1570±25%	1562
H5C2P9/5Z-52H	6030±30%	5998
PC40P9/5Z-52H	825 min.	821 min.
With air gap		
PC40P9/5A63-52H	63±3%	63
PC40P9/5A100-52H	100±3%	100
PC40P9/5A160-52H	160±5%	160

Measuring conditions:

Coil ϕ 0.1mm, 2UEW, 70Ts (for material H5C2), 100Ts (for others)

Frequency 1kHz

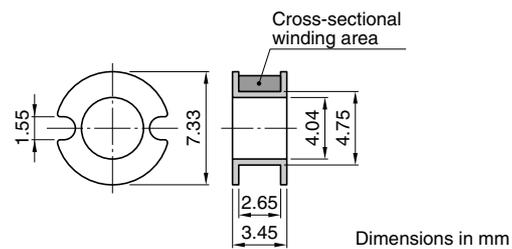
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	1.24
Effective magnetic path length	ℓ_e	mm	12.4
Effective cross-sectional area	A _e	mm ²	10.0
Effective core volume	V _e	mm ³	124
Cross-sectional center pole area	A _{cp}	mm ²	8.04
Minimum cross-sectional area	A _{cp min.}	mm ²	7.29
Cross-sectional winding area of core	A _{cw}	mm ²	7.17
Weight (approx.)		g	0.8

BOBBINS

Based on IEC Publication 133 and JIS C 2516.

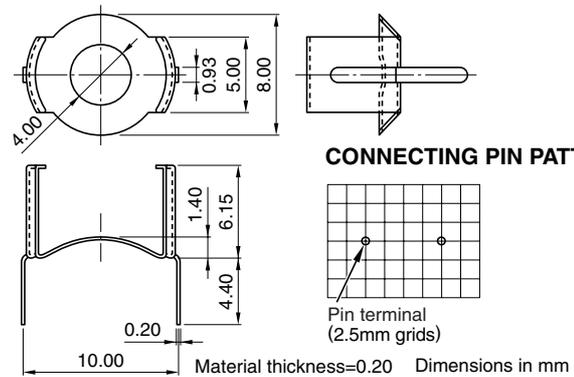


Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP9/5-612	1	Polyacetal (110°C)*	2.8	18.5	0.05

* 4.6kg/cm² force.

• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

ACCESSORIES

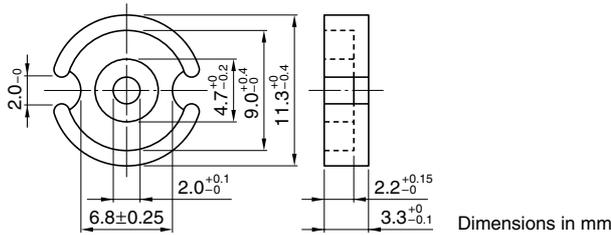


Part No.	Parts	Material	Plating	Weight (g) approx.
FP9/5-6BFR	Spring	Phosphor bronze	Solder	0.4

P11/7 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μe)
Without air gap		
H5AP11/7Z-52H	2320±25%	1765
H5C2P11/7Z-52H	8220±30%	6253
PC40P11/7Z-52H	1250 min.	951 min.
With air gap		
PC40P11/7A63-52H	63±3%	48
PC40P11/7A100-52H	100±3%	75
PC40P11/7A160-52H	160±3%	120

Measuring conditions:

Coil ø0.18mm, 2UEW, 100Ts

Frequency 1kHz

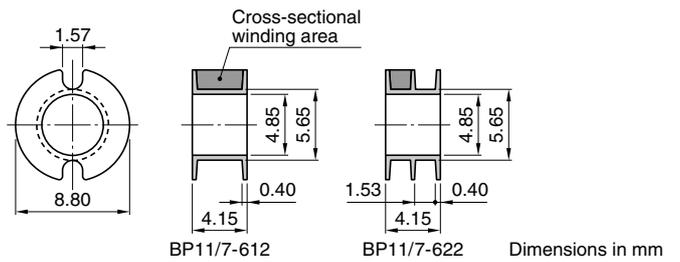
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	0.969
Effective magnetic path length	ℓ _e	mm	15.5
Effective cross-sectional area	A _e	mm ²	16.0
Effective core volume	V _e	mm ³	248
Cross-sectional center pole area	A _{cp}	mm ²	13.3
Minimum cross-sectional area	A _{cp min.}	mm ²	12.4
Cross-sectional winding area of core	A _{cw}	mm ²	10.5
Weight (approx.)		g	1.8

BOBBINS

Based on IEC Publication 133 and JIS C 2516.

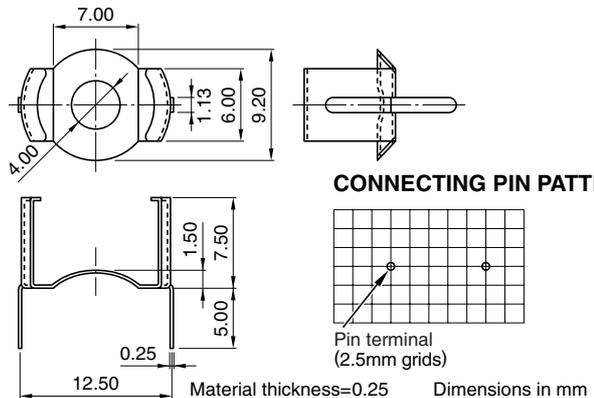


Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP11/7-612	1	Polyacetal (110°C)*	4.2	22	0.1
BP11/7-622	2	Polyacetal (110°C)*	1.9×2	22	0.1

* 4.6kg/cm² force.

• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

ACCESSORIES

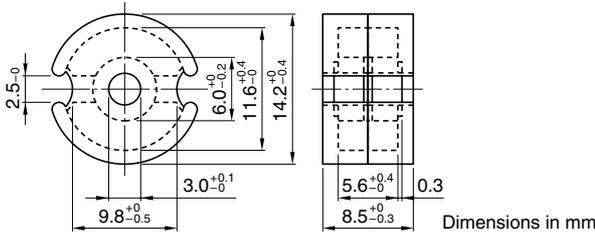


Part No.	Parts	Material	Plating	Weight (g) approx.
FP11/7-6BFR	Spring	Phosphor bronze	Solder	0.6

P14/8 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μe)
Without air gap		
H5AP14/8Z-52B	3000±25%	1884
H5C2P14/8Z-52B	11500±30%	7221
PC40P14/8Z-52B	1610 min.	1011 min.
With air gap		
PC40P14/8A100-52B	100±3%	63
PC40P14/8A160-52B	160±3%	101
PC40P14/8A250-52B	250±3%	157

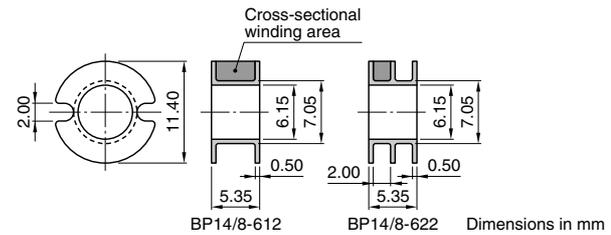
Measuring conditions:
Coil ø0.18mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	0.789
Effective magnetic path length	ℓ _e	mm	19.8
Effective cross-sectional area	A _e	mm ²	25.1
Effective core volume	V _e	mm ³	497
Cross-sectional center pole area	A _{cp}	mm ²	19.8
Minimum cross-sectional area	A _{cp min.}	mm ²	18.4
Cross-sectional winding area of core	A _{cw}	mm ²	17.1
Weight (approx.) per set		g	3.2

BOBBINS

Based on IEC Publication 133 and JIS C 2516 (for Bobbin without pin).



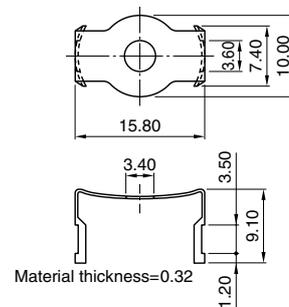
Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section per section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP14/8-612	1	Polyacetal	9.1	29	0.2
BP14/8-622	2	(110°C)*	4.2×2	29	0.3

* 4.6kg/cm² force.

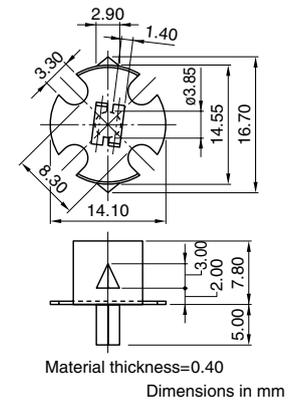
• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

ACCESSORIES

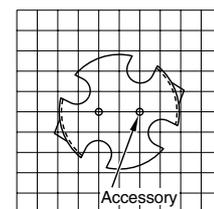
SPRING



YOKE



CONNECTING PIN PATTERNS(Bottom view)



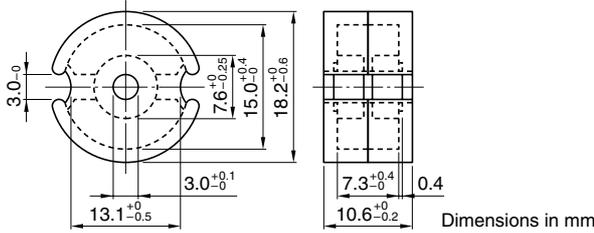
(2.5mm grids, view in opposite direction for mounting side)

Part No.	Parts	Material	Weight (g) approx.
FP14/8-6C	Spring	Nickel silver	1.43
	Yoke	Nickel silver	1.43

P18/11 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μe)
Without air gap		
H5AP18/11Z-52B	4500±25%	2138
H5C2P18/11Z-52B	16000±30%	7601
PC40P18/11Z-52B	2400 min.	1140 min.
With air gap		
PC40P18/11A100-52B	100±3%	48
PC40P18/11A160-52B	160±3%	76
PC40P18/11A250-52B	250±3%	120

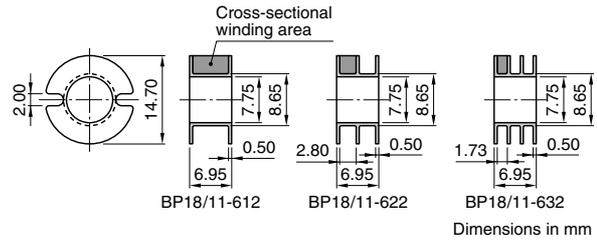
Measuring conditions:
Coil ø0.30mm, 2UEW, 100Ts
Frequency 1kHz
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	0.596
Effective magnetic path length	ℓ _e	mm	25.8
Effective cross-sectional area	A _e	mm ²	43.3
Effective core volume	V _e	mm ³	1117
Cross-sectional center pole area	A _{cp}	mm ²	36.3
Minimum cross-sectional area	A _{cp min.}	mm ²	34.4
Cross-sectional winding area of core	A _{cw}	mm ²	29.0
Weight (approx.)		g	6.7

BOBBINS

Based on IEC Publication 133 and JIS C 2516 (for Bobbin without pin).



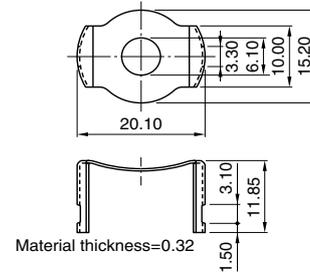
Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section per section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP18/11-612	1	Polyacetal (110°C)*	14.2	37	0.2
BP18/11-622	2		6.8×2	37	0.3
BP18/11-632	3		4.3×3	37	0.4

* 4.6kg/cm² force.

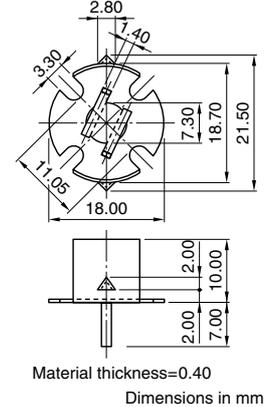
• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

ACCESSORIES

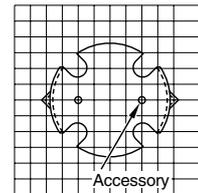
SPRING



YOKE



CONNECTING PIN PATTERNS(Bottom view)



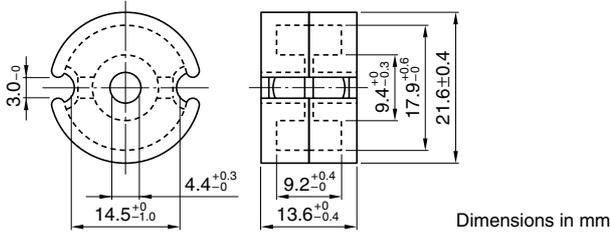
(2.5mm grids, view in opposite direction for mounting side)

Part No.	Parts	Material	Weight (g) approx.
FP18/11-6C	Spring	Nickel silver	2.61
	Yoke	Nickel silver	2.61

P22/13 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μe)
Without air gap		
H5AP22/13Z-52H	5900±25%	2333
H5C2P22/13Z-52H	19500±30%	7700[at 21.7mT]
PC40P22/13Z-52H	16000+40/-30%	6318*[at 0.5mT]
With air gap		
PC40P22/13A100-52H	2990 min.	1182 min.
PC40P22/13A160-52H	100±3%	39.6
PC40P22/13A160-52H	160±3%	63
PC40P22/13A250-52H	250±3%	99

* Reference specification when 0.5mT is applied to cores.

Measuring conditions:

Coil ø0.35mm, 2UEW, 100Ts

Frequency 1kHz

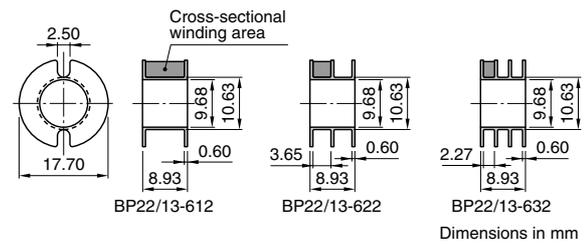
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	0.497
Effective magnetic path length	ℓ _e	mm	31.5
Effective cross-sectional area	A _e	mm ²	63.4
Effective core volume	V _e	mm ³	1997
Cross-sectional center pole area	A _{cp}	mm ²	51.6
Minimum cross-sectional area	A _{cp min.}	mm ²	47.7
Cross-sectional winding area of core	A _{cw}	mm ²	42.1
Weight (approx.)		g	12.7

BOBBINS

Based on IEC Publication 133 and JIS C 2516 (for Bobbin without pin).



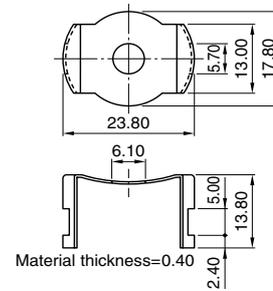
Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section per section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP22/13-612	1	Polyacetal (110°C)*	25.0	44	0.4
BP22/13-622	2		12.0×2	44	0.5
BP22/13-632	3		7.9×3	44	0.6

* 4.6kg/cm² force.

• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

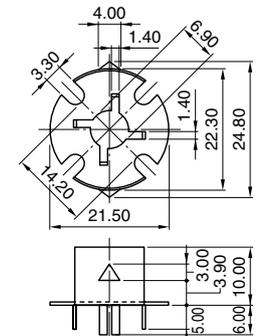
ACCESSORIES

SPRING



Material thickness=0.40

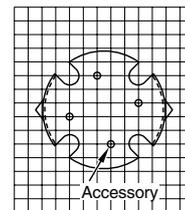
YOKE



Material thickness=0.40

Dimensions in mm

CONNECTING PIN PATTERNS(Bottom view)



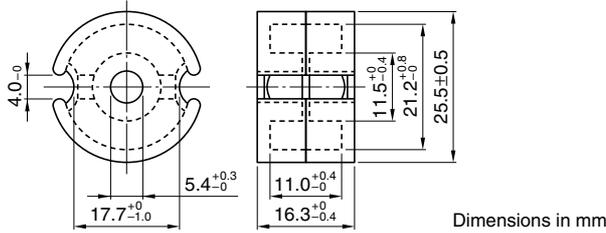
(2.5mm grids, view in opposite direction for mounting side)

Part No.	Parts	Material	Weight (g) approx.
FP22/13-6C	Spring	Nickel silver	4.07
	Yoke	Nickel silver	4.07

P26/16 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μe)
Without air gap		
H5AP26/16Z-52H	7800±25%	2483
H5C2P26/16Z-52H	24500±30%	7800[at 18.4mT]
	20000+40/-30%	6367*[at 0.5mT]
PC40P26/16Z-52H	3810 min.	1213 min.
With air gap		
PC40P26/16A160-52H	160±3%	51
PC40P26/16A250-52H	250±3%	79.7
PC40P26/16A400-52H	400±3%	127.5

* Reference specification when 0.5mT is applied to cores.

Measuring conditions:

Coil ø0.40mm, 2UEW, 100Ts

Frequency 1kHz

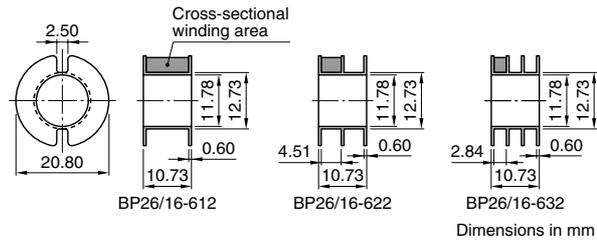
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	0.40
Effective magnetic path length	ℓ _e	mm	37.6
Effective cross-sectional area	A _e	mm ²	94
Effective core volume	V _e	mm ³	3534
Cross-sectional center pole area	A _{cp}	mm ²	76.1
Minimum cross-sectional area	A _{cp min.}	mm ²	71.3
Cross-sectional winding area of core	A _{cw}	mm ²	57.7
Weight (approx.)		g	21.1

BOBBINS

Based on IEC Publication 133 and JIS C 2516 (for Bobbin without pin).



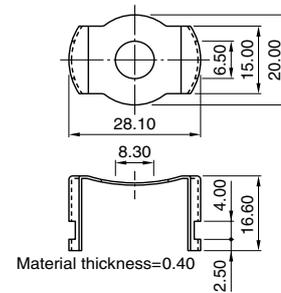
Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section per section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP26/16-612	1	Polyacetal (110°C)*	35.0	54	0.4
BP26/16-622	2		16.8×2	54	0.5
BP26/16-632	3		11.0×3	54	0.6

* 4.6kg/cm² force.

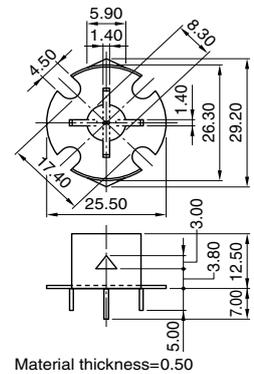
• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

ACCESSORIES

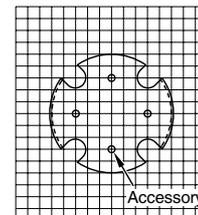
SPRING



YOKE



CONNECTING PIN PATTERNS(Bottom view)



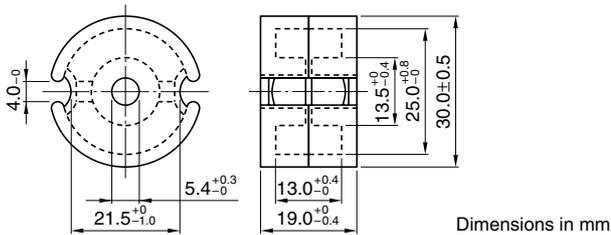
(2.5mm grids, view in opposite direction for mounting side)

Part No.	Parts	Material	Weight (g) approx.
FP26/16-6C	Spring	Nickel silver	6.34
	Yoke	Nickel silver	6.34

P30/19 POT CORES

CORES

Based on IEC Publication 60133 and JIS C 2516.



TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N ²)	Effective permeability (μ e)
Without air gap		
H5AP30/19Z-52H	9800±25%	2573
H5C2P30/19Z-52H	32000±30%	8400[at 16.5mT]
	25000+40/-30%	6563*[at 0.5mT]
PC40P30/19Z-52H	7300±25%	1917 min.
With air gap		
PC40P30/19A250-52H	250±3%	66
PC40P30/19A400-52H	400±3%	105
PC40P30/19A630-52H	630±3%	165

* Reference specification when 0.5mT is applied to cores.

Measuring conditions:

Coil ϕ 0.40mm, 2UEW, 100Ts

Frequency 1kHz

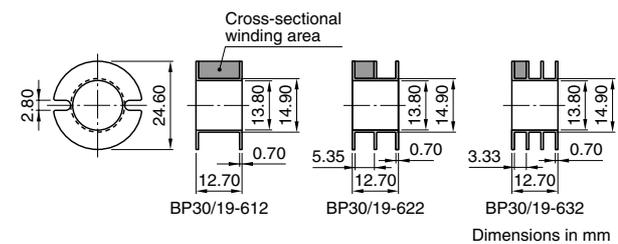
Current level 0.5mA

Parameter

Core factor	C ₁	mm ⁻¹	0.33
Effective magnetic path length	ℓ_e	mm	45.2
Effective cross-sectional area	A _e	mm ²	137
Effective core volume	V _e	mm ³	6192
Cross-sectional center pole area	A _{cp}	mm ²	115
Minimum cross-sectional area	A _{cp min.}	mm ²	109
Cross-sectional winding area of core	A _{cw}	mm ²	79.9
Weight (approx.)		g	35.3

BOBBINS

Based on IEC Publication 133 and JIS C 2516 (for Bobbin without pin).



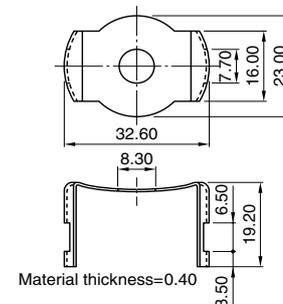
Part No.	Number of sections	Material (Heat deflection temperature)	Available winding cross section per section (mm ²)	Average length of turns (mm)	Weight (g) approx.
BP30/19-612	1	Polyacetal (110°C)*	51.5	62	0.6
BP30/19-622	2		24.9×2	62	0.7
BP30/19-632	3		15.9×3	62	0.8

* 4.6kg/cm² force.

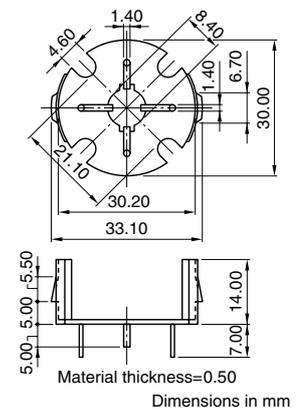
• Maximum number of turns N that can be wound on bobbins, see section of "Maximum number of Turns on Bobbins".

ACCESSORIES

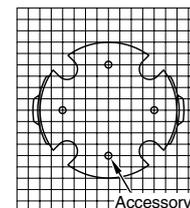
SPRING



YOKE



CONNECTING PIN PATTERNS(Bottom view)



(2.5mm grids, view in opposite direction for mounting side)

Part No.	Parts	Material	Weight (g) approx.
FP30/19-6C	Spring	Nickel silver	7.77
	Yoke	Nickel silver	7.77