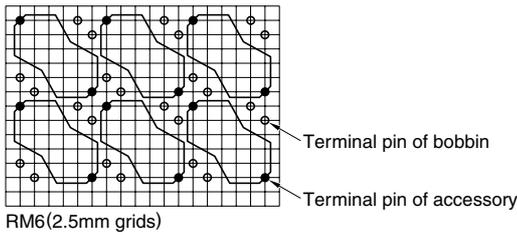


# Ferrite for Telecommunication RM Series

RM cores are popularly used in place of pot cores where high-density mounting is required. RM cores follow the recommendations of IEC publication 60431.

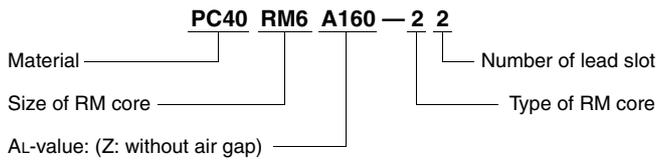
As shown in figure, the RM core effectively utilizes the mounting area on the PC-board. The bobbin is designed for convenient PC-board mounting.

## MOUNTING ALIGNMENT OF RM6 CORES ON A PC-BOARD

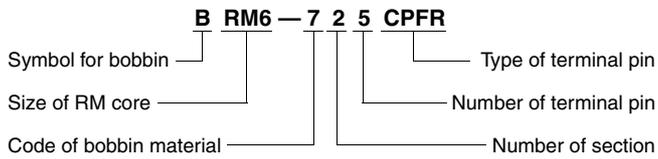


## ORDERING CODE SYSTEMS

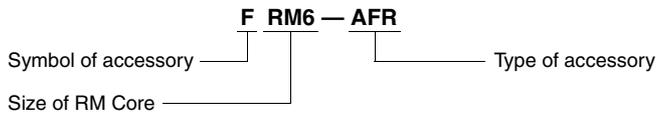
### 1. Cores



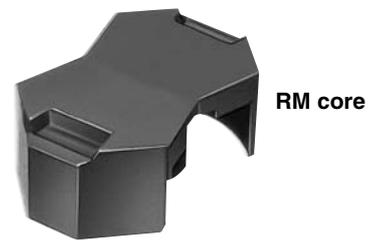
### 2. Bobbins



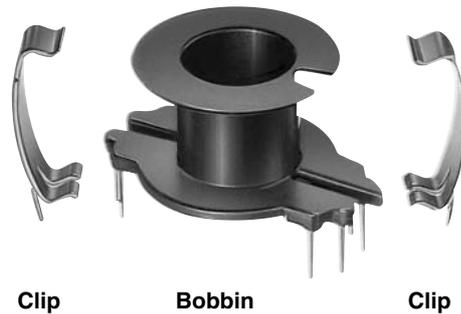
### 3. Accessories



## METHOD OF ASSEMBLING



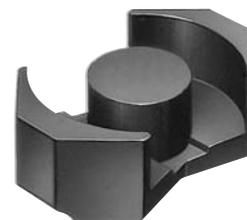
RM core



Clip

Bobbin

Clip

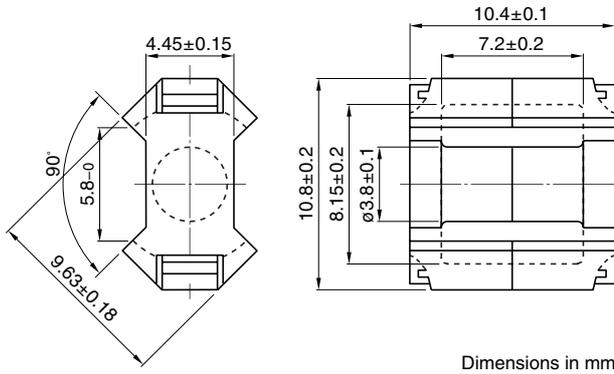


RM core

## RM4 CORES

### CORES

Based on IEC Publication 60431, DIN 41980 and JIS C 2516.



Dimensions in mm

### TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N <sup>2</sup> )	Effective permeability ( $\mu$ e)
<b>Without air gap</b>		
<b>H5ARM4Z-12</b>	$1240 \pm 25\%$	1599
<b>H5C2RM4Z-12</b>	$4950 \pm 30\%$	6381[at 32.4mT]
<b>PC40RM4Z-12</b>	$3000 + 40 / - 30\%$	3870*[at 0.5mT]
<b>PC40RM4Z-12</b>	680 min.	877 min.
<b>PC50RM4Z-12</b>	$960 \pm 25\%$	1238
<b>With air gap</b>		
<b>PC40RM4A63-22</b>	$63 \pm 3\%$	81
<b>PC40RM4A100-22</b>	$100 \pm 3\%$	129
<b>PC40RM4A160-22</b>	$160 \pm 3\%$	206
<b>PC50RM4A63-22</b>	$63 \pm 3\%$	81
<b>PC50RM4A100-22</b>	$100 \pm 3\%$	129
<b>PC50RM4A160-22</b>	$160 \pm 3\%$	206

\* Reference specification when 0.5mT is applied to cores.

Measuring conditions:

Coil  $\phi 0.18$ mm, 2UEW, 100Ts

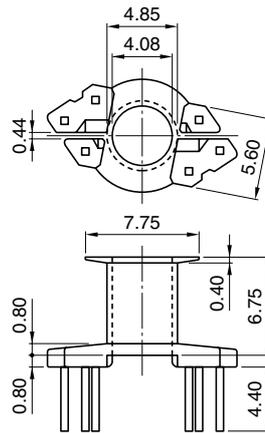
Frequency 1kHz

Current level 0.5mA

### Parameter

Core factor	C <sub>1</sub>	mm <sup>-1</sup>	1.62
Effective magnetic path length	$\ell_e$	mm	22.7
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	14.0
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	318
Cross-sectional center pole area	A <sub>cp</sub>	mm <sup>2</sup>	11.3
Minimum cross-sectional area	A <sub>cp min.</sub>	mm <sup>2</sup>	10.8
Cross-sectional winding area of core	A <sub>cw</sub>	mm <sup>2</sup>	15.7
Weight (approx.)		g	1.7

### BOBBINS

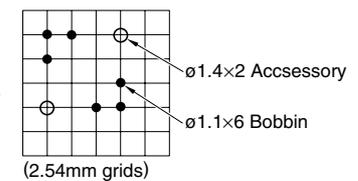


$\square 0.45$  Phosphor bronze(solder plated)

Dimensions in mm

### CONNECTING PIN PATTERNS

(Top view)



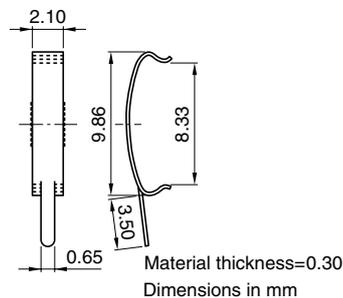
Part No.	Number of sections	Number of terminal pins	Material (Heat deflection temperature)	Available winding cross section (mm <sup>2</sup> )	Average length of turns (mm)	Weight approx. (g)
<b>BRM4-716SDFR</b>	1	6	FR phenol (235°C)*	8.05	19.8	0.23

\* 18.6kg/cm<sup>2</sup> force.

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

### ACCESSORIES

#### CLIP



Material thickness=0.30

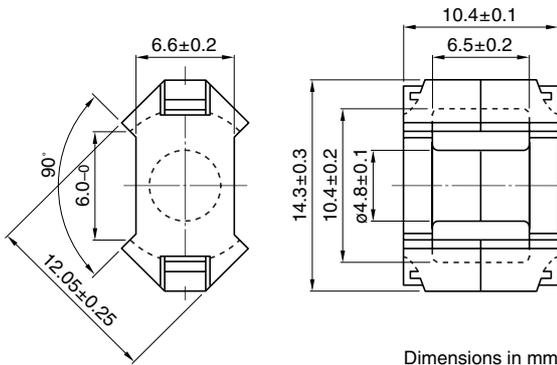
Dimensions in mm

Part No.	Parts	Material	Plating	Weight (g)
<b>FRM4-AFR</b>	Clip	Stainless steel	Solder	0.16

## RM5 CORES

### CORES

Based on IEC Publication 60431, DIN 41980 and JIS C 2516.



### TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N <sup>2</sup> )	Effective permeability ( $\mu$ e)
<b>Without air gap</b>		
H5ARM5Z-12	2220±25%	1661
H5C3RM5Z-12	7700 min.*	5760 min.*
PC40RM5Z-12	1250 min.	935 min.
PC50RM5Z-12	1340±25%	1002
<b>With air gap</b>		
PC40RM5A63-22	63±3%	47
PC40RM5A100-22	100±3%	75
PC40RM5A160-22	160±3%	120
PC50RM5A63-22	63±3%	47
PC50RM5A100-22	100±3%	75
PC50RM5A160-22	160±3%	120

Measuring conditions:

Coil  $\phi$ 0.20mm, 2UEW, 100Ts

Frequency 1kHz

Current level 0.5mA

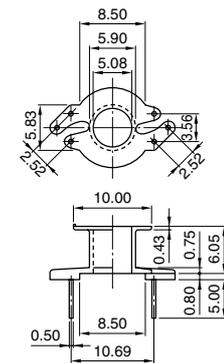
\* 100Ts, 10kHz, 10mV (for H5C3 only)

### Parameter

Core factor	C <sub>1</sub>	mm <sup>-1</sup>	0.94
Effective magnetic path length	$\ell_e$	mm	22.4
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	23.7
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	530
Cross-sectional center pole area	A <sub>cp</sub>	mm <sup>2</sup>	18.1
Minimum cross-sectional area	A <sub>cp min.</sub>	mm <sup>2</sup>	17.3
Cross-sectional winding area of core	A <sub>cw</sub>	mm <sup>2</sup>	18.2
Weight (approx.)		g	3.0

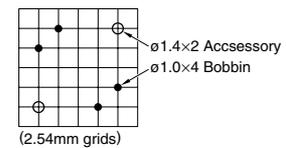
### BOBBINS

#### BRM5-714CPFR

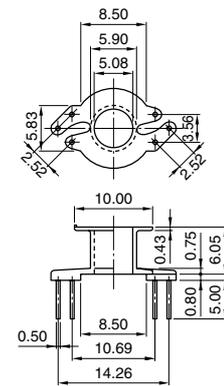


#### CONNECTING PIN PATTERNS

##### (Top view)

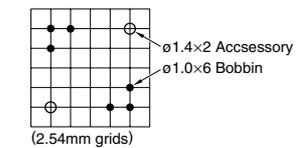


#### BRM5-716CPFR



#### CONNECTING PIN PATTERNS

##### (Top view)



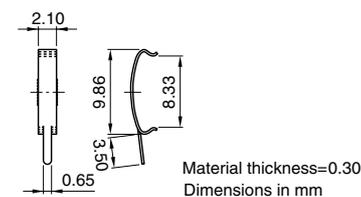
Part No.	Number of sections	Number of terminal pins	Material (Heat deflection temperature)	Available winding cross section per section (mm <sup>2</sup> )	Average length of turns approx. (mm)	Weight (g) approx.
BRM5-714CPFR	1	4	FR phenol (235°C)*	10.1	25	0.24
BRM5-716CPFR	1	6	FR phenol (235°C)*	10.1	25	0.26

\* 18.6kg/cm<sup>2</sup> force.

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

### ACCESSORIES

#### CLIP

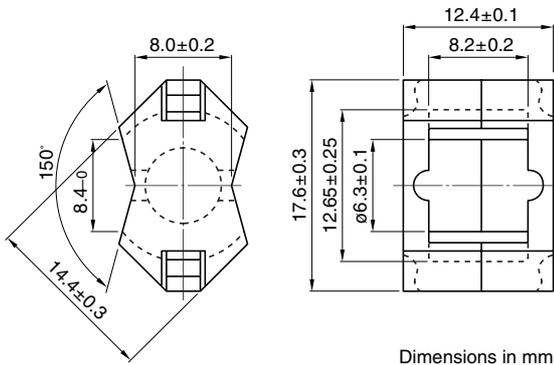


Part No.	Parts	Material	Plating	Weight (g)
FRM5-AFR	Clip	Stainless steel	Solder	0.16

## RM6 CORES

### CORES

Based on IEC Publication 60431, DIN 41980 and JIS C 2516.



Dimensions in mm

### TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N <sup>2</sup> )	Effective permeability ( $\mu$ e)
<b>Without air gap</b>		
H5ARM6Z-12	3300±25%	2258
H5C3RM6Z-12	9100 min.*	5648 min.*
PC40RM6Z-12	1600 min.	1520
PC50RM6Z-12	1700±25%	1055
<b>With air gap</b>		
PC40RM6A100-22	100±3%	62
PC40RM6A160-22	160±3%	99
PC40RM6A250-22	250±3%	155
PC50RM6A100-22	100±3%	62
PC50RM6A160-22	160±3%	99
PC50RM6A250-22	250±3%	155

Measuring conditions:

Coil  $\phi$ 0.26mm, 2UEW, 100Ts

Frequency 1kHz

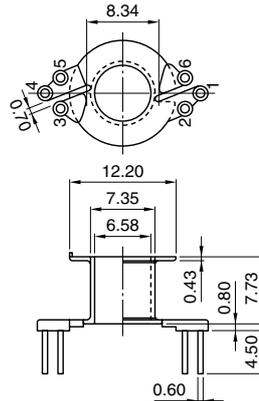
Current level 0.5mA

\* 100Ts, 10kHz, 10mV (for H5C3 only)

### Parameter

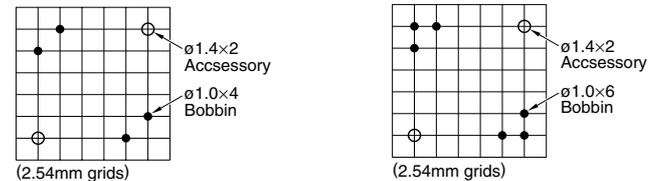
Core factor	C <sub>1</sub>	mm <sup>-1</sup>	0.78
Effective magnetic path length	$\ell_e$	mm	28.6
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	36.6
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	1050
Cross-sectional center pole area	A <sub>cp</sub>	mm <sup>2</sup>	31.2
Minimum cross-sectional area	A <sub>cp min.</sub>	mm <sup>2</sup>	30.2
Cross-sectional winding area of core	A <sub>cw</sub>	mm <sup>2</sup>	26.0
Weight (approx.)		g	5.5

### BOBBINS



Dimensions in mm

### CONNECTING PIN PATTERNS(Top view)



### BRM6-714CPFR

### BRM6-716CPFR

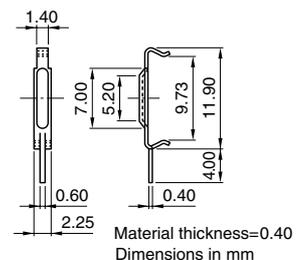
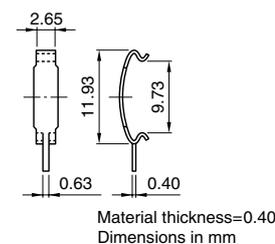
Part No.	Number of sections	Number of terminal pins	Material (Heat deflection temperature)	Available winding cross section per section (mm <sup>2</sup> )	Average length of turns (mm)	Weight approx. (g)
BRM6-714CPFR	1	4	FR phenol (235°C)*	16.8	30	0.3
BRM6-716CPFR	1	6		15.8	30	0.43

\* 18.6kg/cm<sup>2</sup> force.

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

### ACCESSORIES

#### CLIP



### FRM6-AFR

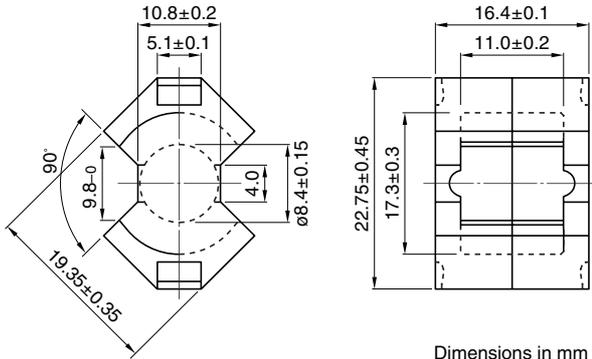
### FRM6-BFR

Part No.	Parts	Material	Plating	Weight (g)
FRM6-AFR	Clip	Stainless steel	Solder	0.19
FRM6-BFR	Clip	Stainless steel	Solder	0.2

## RM8 CORES

### CORES

Based on IEC Publication 60431, DIN 41980 and JIS C 2516.



### TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N <sup>2</sup> )	Effective permeability ( $\mu$ e)
<b>Without air gap</b>		
<b>H5ARM8Z-12</b>	4300±25%	2019
<b>H5C2RM8Z-12</b>	17100±30%	8029[at 20.3mT]
<b>PC40RM8Z-12</b>	15200+40/-30%	7137*[at 0.5mT]
<b>With air gap</b>		
<b>PC40RM8A100-22</b>	1950 min.	916 min.
<b>PC40RM8A160-22</b>	100±3%	47
<b>PC40RM8A160-22</b>	160±3%	75
<b>PC40RM8A250-22</b>	250±3%	117

\* Reference specification when 0.5mT is applied to cores.

Measuring conditions:

Coil  $\phi$ 0.40mm, 2UEW, 100Ts

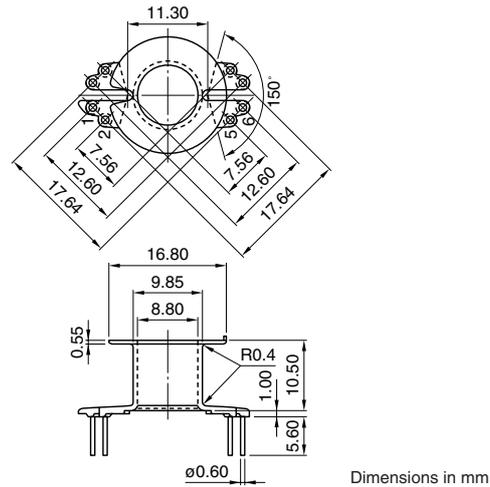
Frequency 1kHz

Current level 0.5mA

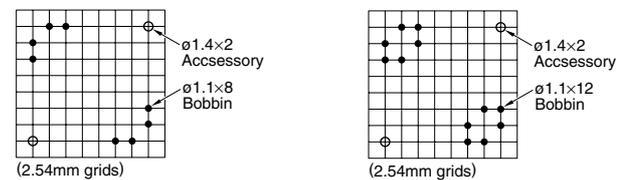
### Parameter

Core factor	C <sub>1</sub>	mm <sup>-1</sup>	0.59
Effective magnetic path length	$\ell_e$	mm	38
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	64
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	2430
Cross-sectional center pole area	A <sub>cp</sub>	mm <sup>2</sup>	55
Minimum cross-sectional area	A <sub>cp min.</sub>	mm <sup>2</sup>	53
Cross-sectional winding area of core	A <sub>cw</sub>	mm <sup>2</sup>	49
Weight (approx.)		g	13

### BOBBINS



### CONNECTING PIN PATTERNS(Top view)



### BRM8-718CPFR

Part No.	Number of sections	Number of terminal pins	Material (Heat deflection temperature)	Available winding cross section per section (mm <sup>2</sup> )	Average length of turns (mm)	Weight (g) approx.
<b>BRM8-718CPFR</b>	1	8	FR phenol (235°C)*	31	42	1.00
<b>BRM8-7112CPFR</b>	1	12	(235°C)*	31	42	0.7

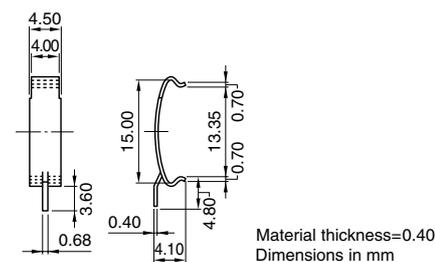
\* 18.6kg/cm<sup>2</sup> force.

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

### BRM8-7112CPFR

### ACCESSORIES

#### CLIP



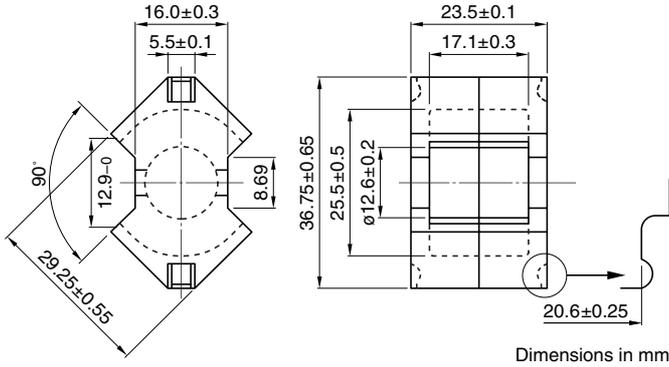
Part No.	Parts	Material	Plating	Weight (g)
<b>FRM8-AFR</b>	Clip	Stainless steel	Solder	0.55



## RM12 CORES

### CORES

Based on IEC Publication 60431 and JIS C 2516.



Dimensions in mm

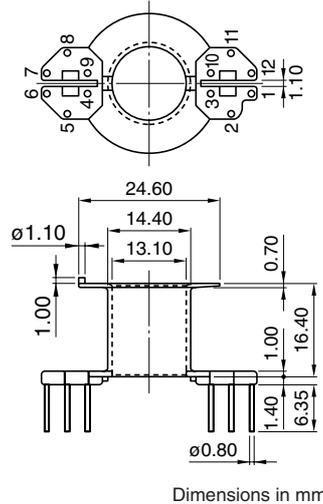
### TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N <sup>2</sup> )	Effective permeability ( $\mu$ e)
<b>Without air gap</b>		
PC40RM12Z-12	4150 min.	1321 min.
<b>With air gap</b>		
PC40RM12A160-22	160±3%	51
PC40RM12A250-22	250±3%	80
PC40RM12A400-22	400±3%	127

### Parameter

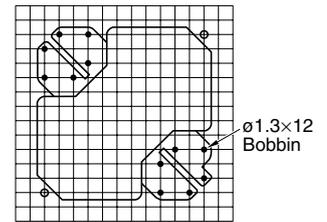
Core factor	C <sub>1</sub>	mm <sup>-1</sup>	0.4
Effective magnetic path length	$\ell_e$	mm	56.9
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	140
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	7960
Cross-sectional center pole area	A <sub>cp</sub>	mm <sup>2</sup>	125
Minimum cross-sectional area	A <sub>cp min.</sub>	mm <sup>2</sup>	121
Cross-sectional winding area of core	A <sub>cw</sub>	mm <sup>2</sup>	109
Weight (approx.)		g	42

### BOBBINS



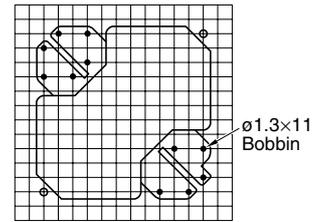
Dimensions in mm

### CONNECTING PIN PATTERNS (Top view)



(2.54mm grids)

### BRM12-7112CPFR



(2.54mm grids)

### BRM12-7111CPFR

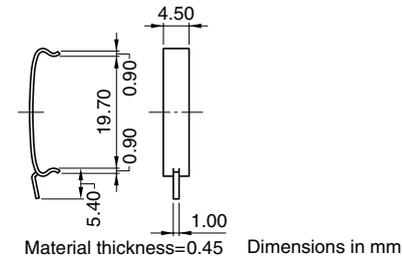
Part No.	Number of sections	Number of terminal pins	Material (Heat deflection temperature)	Available winding cross section (mm <sup>2</sup> )	Average length of turns (mm)	Weight (g) approx.
BRM12-7111CPFR	1	11	FR phenol (235°C)*	75.5	55	2.5
BRM12-7112CPFR	1	12	FR phenol (235°C)*	75.5	55	2.70

\* 18.6kg/cm<sup>2</sup> force.

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

### ACCESSORIES

#### CLIP



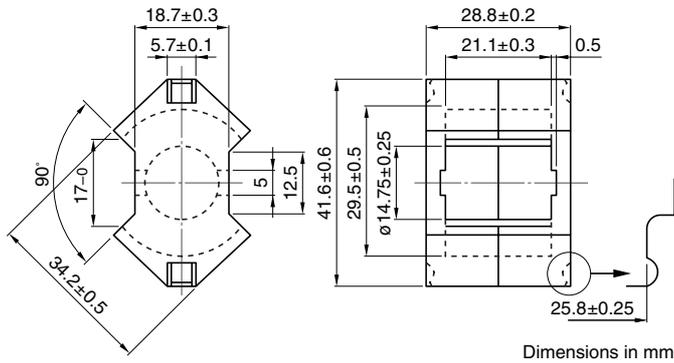
Material thickness=0.45 Dimensions in mm

Part No.	Parts	Material	Plating	Weight (g)
FRM12-AFR	Clip	Stainless steel	Solder	0.8

## RM14 CORES

### CORES

Based on IEC Publication 60431, DIN 41980 and JIS C 2516.



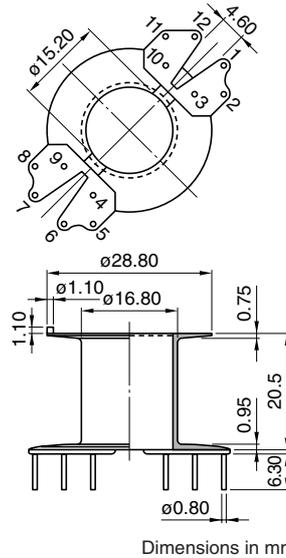
### TYPICAL CHARACTERISTICS

Part No.	AL-value (nH/N <sup>2</sup> )	Effective permeability ( $\mu$ e)
<b>Without air gap</b>		
PC40RM14Z-12	4600 min.	1354 min.
<b>With air gap</b>		
PC40RM14A160-22	160±3%	47
PC40RM14A250-22	250±3%	74
PC40RM14A400-22	400±3%	118

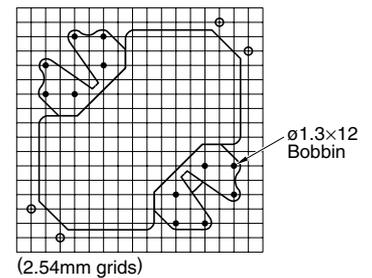
### Parameter

Core factor	C <sub>1</sub>	mm <sup>-1</sup>	0.37
Effective magnetic path length	$\ell_e$	mm	69
Effective cross-sectional area	A <sub>e</sub>	mm <sup>2</sup>	188
Effective core volume	V <sub>e</sub>	mm <sup>3</sup>	13000
Cross-sectional center pole area	A <sub>cp</sub>	mm <sup>2</sup>	171
Minimum cross-sectional area	A <sub>cp min.</sub>	mm <sup>2</sup>	165
Cross-sectional winding area of core	A <sub>cw</sub>	mm <sup>2</sup>	156
Weight (approx.)		g	70

### BOBBINS



### CONNECTING PIN PATTERNS (Top view)



### BRM14-7112CPFR

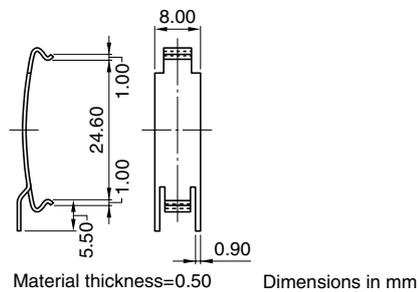
Part No.	Number of sections	Number of terminal pins	Material (Heat deflection temperature)	Available winding cross section (mm <sup>2</sup> )	Average length of turns (mm)	Weight (g) approx.
BRM14-7110CPFR	1	10	FR phenol	113	72	3.5
BRM14-7112CPFR	1	12	(235°C)*	113	72	3.80

\* 18.6kg/cm<sup>2</sup> force.

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

### ACCESSORIES

#### CLIP



Part No.	Parts	Material	Plating	Weight (g)
FRM14-AFR	Clip	Spring steel	Solder	2.2