



Mn-Zn

Ferrite Cores for Telecommunication

RM series

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 **Caution**

**The products in this catalog are not recommended  
for new design.**

Please refer to our Web site about replacement information.

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 **REMINDERS FOR USING THESE PRODUCTS**

Please be sure to read this manual thoroughly before using the products.

The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.

The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet.

If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- |                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| (1) Aerospace/aviation equipment                                  | (9) Military equipment                                                       |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (10) Electric heating apparatus, burning equipment                           |
| (3) Medical equipment                                             | (11) Disaster prevention/crime prevention equipment                          |
| (4) Power-generation control equipment                            | (12) Safety equipment                                                        |
| (5) Atomic energy-related equipment                               | (13) Other applications that are not considered general-purpose applications |
| (6) Seabed equipment                                              |                                                                              |
| (7) Transportation control equipment                              |                                                                              |
| (8) Public information-processing equipment                       |                                                                              |

When using these products in general purposes and standard use, it is recommended that protection circuits are used, devices are secured, and backup circuits are kept for increased safety.

# Ferrite Cores for Telecommunication

Product compatible with RoHS directive  
Halogen-free

## Overview of the RM Series

### FEATURES

The RM Cores have a shape that is suited to high density mounting, it possesses good shielding qualities, being laid out so that the lead groove does not create an obstruction, and enables the creation of small, high performance transformers and coils.

### APPLICATION

Transformers and coils for communication devices

### PART NUMBER CONSTRUCTION

H5A	RM6	Z	-	5	2
Material	Size of RM core	AL-value (Z: without air gap)		Type of Pot core	Number of lead slot
H5A	RM4				
H5C2	RM5				
	RM6				
	RM8				
	RM10				

### RANGE OF USE AND STORAGE TEMPERATURE

Temperature range	
Operating temperature (°C)	Storage temperature (°C)
-30 to +105	-30 to +85

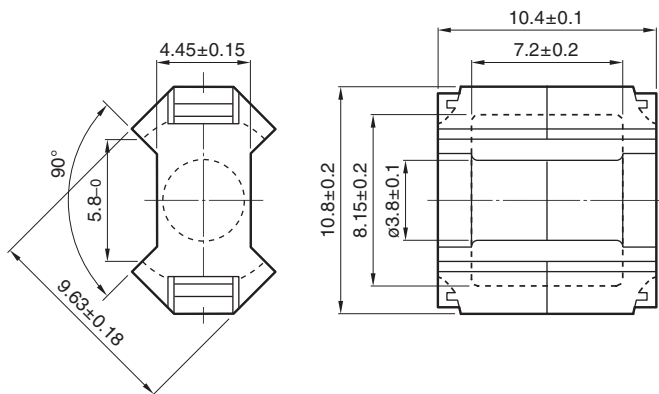
○ RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://www.tdk.co.jp/rohs/>

○ Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.  
Please note that the contents may change without any prior notice due to reasons such as upgrading.

# Mn-Zn RM series Part No.: H5ARM4Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weight	AL-value	Effective permeability
$C_1$	$l_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
1.62	22.7	14.0	318	11.3	10.7	15.6	1.7	1240±25%	1599

Measuring conditions

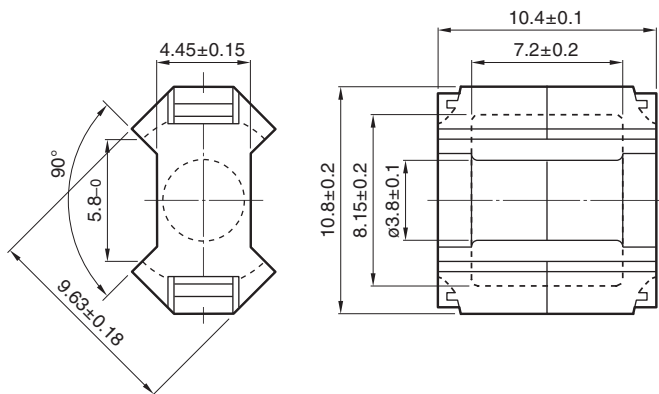
Coil :  $\phi 0.18$ mm, 2UEW, 100Ts

Frequency : 1kHz

Current level : 0.5mA

# Mn-Zn RM series Part No.: H5C2RM4Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weigh	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
1.62	22.7	14.0	318	11.3	10.7	15.6	1.7	4950±30%	6381[at 32.4mT]
								3000+40/-30%	3870*[at 0.5mT]

Measuring conditions

Coil : ø0.18mm, 2UEW, 100Ts

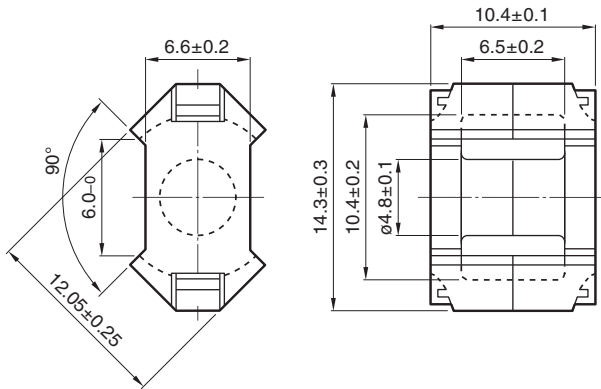
Frequency : 1kHz

Current level : 0.5mA

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

# Mn-Zn RM series Part No.: H5ARM5Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weight	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu_e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
0.940	22.4	23.7	530	18.1	17.3	18.2	3.0	2220±25%	1661

Measuring conditions

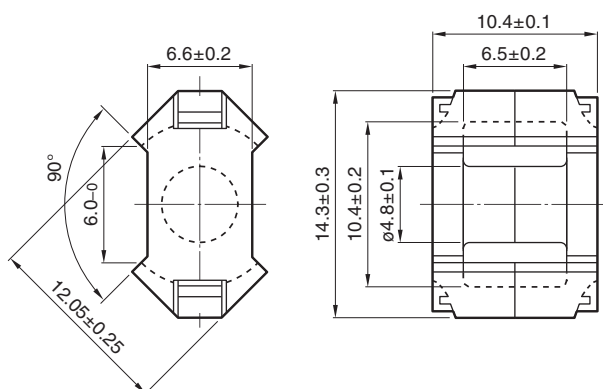
Coil :  $\phi$ 0.20mm, 2UEW, 100Ts

Frequency : 1kHz

Current level : 0.5mA

# Mn-Zn RM series Part No.: H5C3RM5Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weight	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu_e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
0.940	22.4	23.7	530	18.1	17.3	18.2	3.0	7700 min.*	5760 min.*

Measuring conditions

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

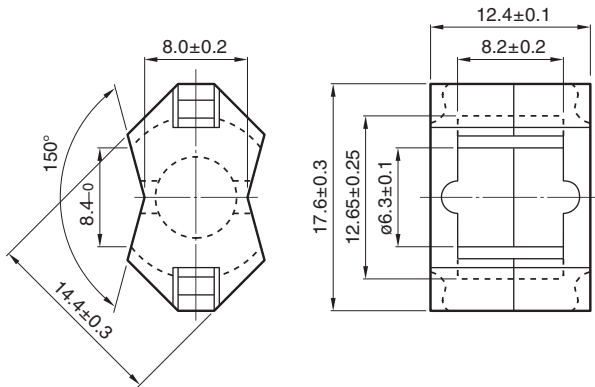
Frequency : 10kHz

Current level : 0.5mA

Voltage: 10mV

# Mn-Zn RM series Part No.: H5ARM6Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weight	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu_e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
0.781	28.6	36.6	1050	31.2	30.2	26.0	5.5	3300±25%	2258

Measuring conditions

Coil : ø0.26mm, 2UEW, 100Ts

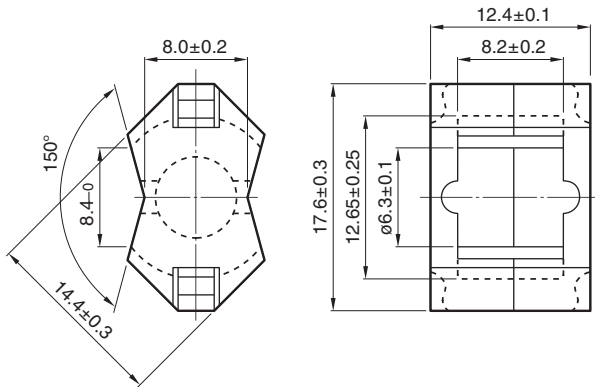
Frequency : 1kHz

Current level : 0.5mA



# Mn-Zn RM series Part No.: H5C3RM6Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weight	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu_e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
0.781	28.6	36.6	1050	31.2	30.2	26.0	5.5	9100 min.*	5648 min.*

Measuring conditions

Coil : ø0.26mm, 2UEW, 100Ts

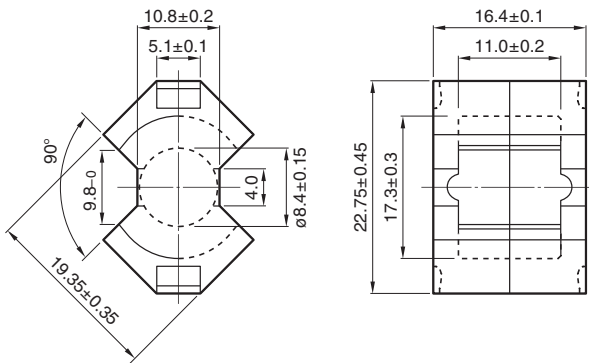
Frequency : 10kHz

Current level : 0.5mA

Voltage: 10mV

# Mn-Zn RM series Part No.: H5ARM8Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weigh	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu_e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
0.594	38.0	64.0	2430	55.4	53.3	48.9	13	4300±25%	2019

Measuring conditions

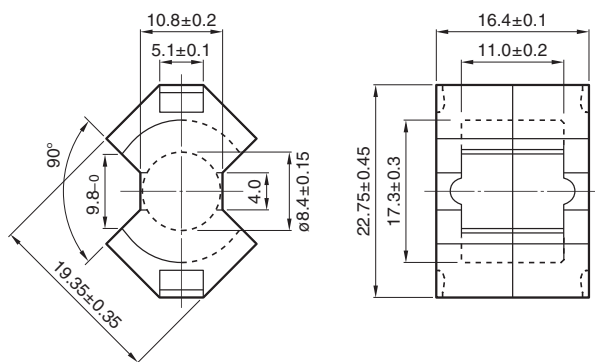
Coil :  $\phi$ 0.40mm, 2UEW, 100Ts

Frequency : 1kHz

Current level : 0.5mA

# Mn-Zn RM series Part No.: H5C2RM8Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length	Effective cross-sectional area	Effective core volume	Cross-sectional center pole area	Minimum cross-sectional area	Cross-sectional winding area of core	Weight	AL-value	Effective permeability
$C_1$	$\ell_e$	$A_e$	$V_e$	$A_{cp}$	$A_{cp \text{ min.}}$	$A_{cw}$	(g/set)	(nH/N <sup>2</sup> )	( $\mu_e$ )
(mm <sup>-1</sup> )	(mm)	(mm <sup>2</sup> )	(mm <sup>3</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )			
0.594	38.0	64.0	2430	55.4	53.3	48.9	13	17100±30%	8029[at 20.3mT]
								15200+40/-30%	7137*[at 0.5mT]

Measuring conditions

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

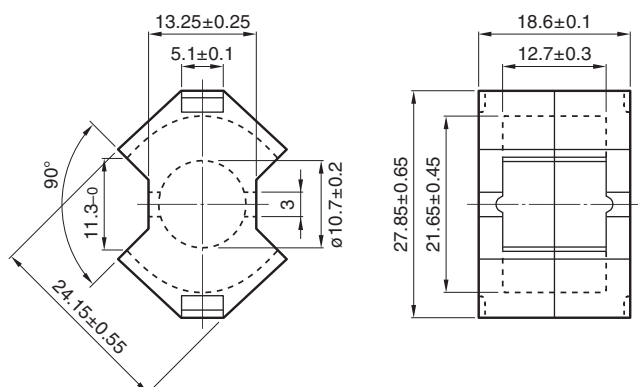
Frequency : 1kHz

Current level : 0.5mA

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

# Mn-Zn RM series Part No.: H5ARM10Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter							Electrical characteristics		
Core factor	Effective magnetic path length	Effective cross-sectional area Ae	Effective core volume	Cross-sectional center pole area Acp	Minimum cross-sectional area Acp min.	Cross-sectional winding area of core Acw	Weigh	AL-value	Effective permeability
C <sub>1</sub>	ℓ <sub>e</sub>	A <sub>e</sub>	V <sub>e</sub>	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> )	(μe)
0.450	44.0	98.0	4310	89.9	86.6	69.5	23	6220±25%	2475

Measuring conditions

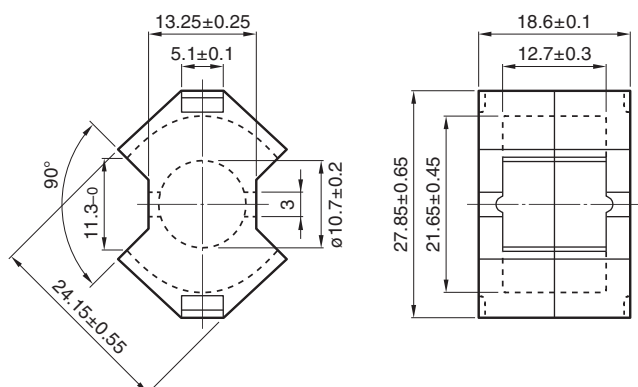
Coil : ø0.40mm, 2UEW, 100Ts

Frequency : 1kHz

Current level : 0.5mA

# Mn-Zn RM series Part No.: H5C2RM10Z-12

## SHAPES AND DIMENSIONS



Dimensions in mm

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

Effective parameter								Electrical characteristics	
Core factor	Effective magnetic path length	Effective cross-sectional area Ae	Effective core volume	Cross-sectional center pole area Acp	Minimum cross-sectional area Acp min.	Cross-sectional winding area of core Acw	Weigh	AL-value	Effective permeability
C <sub>1</sub>	ℓ <sub>e</sub>	A <sub>e</sub>	V <sub>e</sub>	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(mm <sup>2</sup> )	(g/set)	(nH/N <sup>2</sup> )	(μe)
0.450	44.0	98.0	4310	89.9	86.6	69.5	23	20900±30%	8316[at 17.8mT]
								17500+40/-30%	6963*[at 0.5mT]

Measuring conditions

Coil : ø0.40mm, 2UEW, 100Ts

Frequency : 1kHz

Current level : 0.5mA

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