TDK

March 2014

Mn-Zn

Ferrite Cores for Telecommunication

RM series

⚠ 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.
When using the products for specific purposes, please first make confirmations in areas such as safety, reliability, and quality.
Please understand that we are not in a position to be held responsible for any damage or the like caused by any use exceeding the range or conditions of this specification sheet or by any use in the specific applications.

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

When using this product in general-purpose standard applications, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc to ensure higher 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

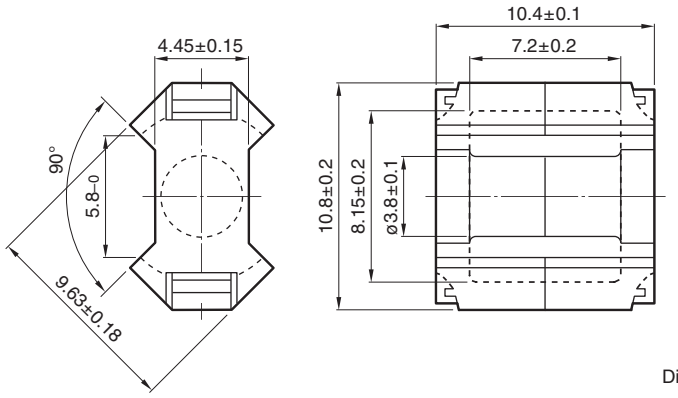
Temperature range	
Operating temperature (°C)	**Storage temperature (°C)**
–30 to +105	–30 to +85

○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.

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

SHAPES AND DIMENSIONS



Dimensions in mm

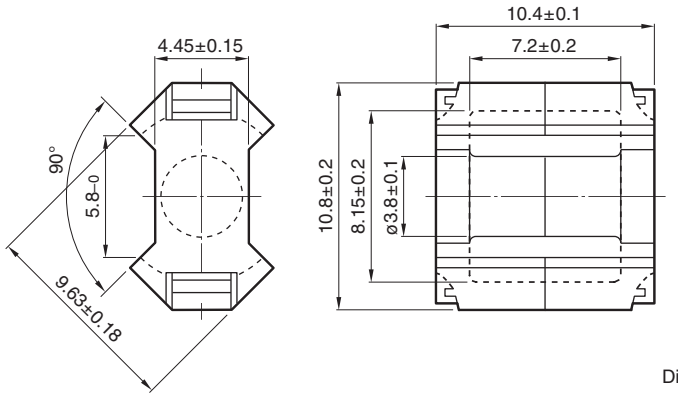
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C_1	Effective magnetic path length ℓe	Effective cross-sectional area Ae	Effective core volume Ve	Cross-sectional center pole area Acp	Minimum cross-sectional area Acp min.	Cross-sectional winding area of core Acw	Weigh	A_L-value	Effective permeability
(mm^{-1})	(mm)	(mm^2)	(mm^3)	(mm^2)	(mm^2)	(mm^2)	(g/set)	(nH/N²)	(μe)
1.62	22.7	14.0	318	11.3	10.7	15.6	1.7	1240±25%	1599

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

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

SHAPES AND DIMENSIONS



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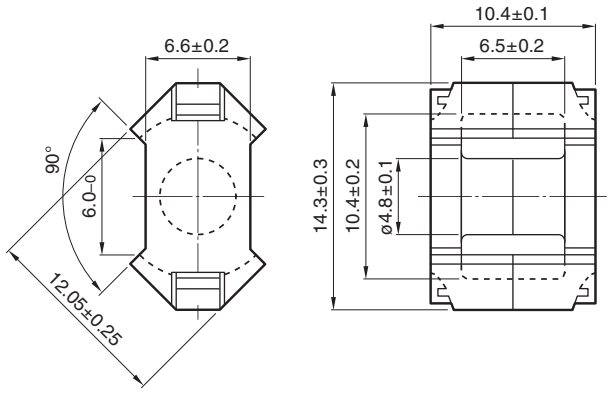
Effective parameter								Electrical characteristics	
Core factor C_1	Effective magnetic path length ℓe	Effective cross-sectional area Ae	Effective core volume Ve	Cross-sectional center pole area Acp	Minimum cross-sectional area Acp min.	Cross-sectional winding area of core Acw	Weigh	A_L-value	Effective permeability
(mm^{-1})	(mm)	(mm^2)	(mm^3)	(mm^2)	(mm^2)	(mm^2)	(g/set)	(nH/N^2)	(μe)
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

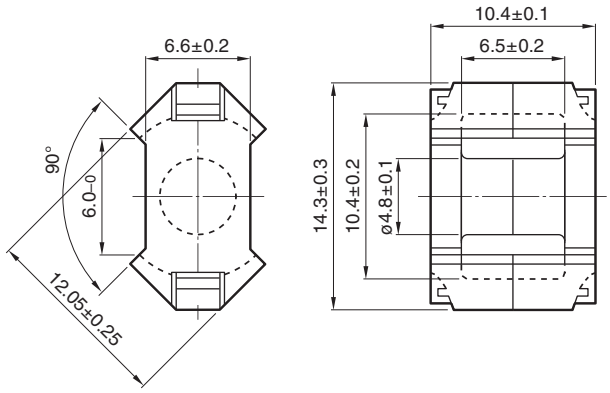
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C1 (mm−1)	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm2)	Effective core volume Ve (mm3)	Cross-sectional center pole area Acp (mm2)	Minimum cross-sectional area Acp min. (mm2)	Cross-sectional winding area of core Acw (mm2)	Weigh (g/set)	AL-value (nH/N2)	Effective permeability (μe)
0.940	22.4	23.7	530	18.1	17.3	18.2	3.0	2220±25%	1661

Measuring conditions
Coil：ø0.20mm, 2UEW, 100Ts
Frequency：1kHz
Current level：0.5mA

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

SHAPES AND DIMENSIONS



Dimensions in mm

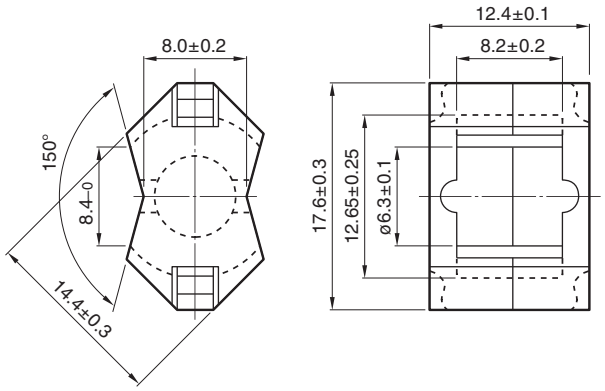
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C1 (mm−1)	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm2)	Effective core volume Ve (mm3)	Cross-sectional center pole area Acp (mm2)	Minimum cross-sectional area Acp min. (mm2)	Cross-sectional winding area of core Acw (mm2)	Weigh (g/set)	AL-value (nH/N2)	Effective permeability (μe)
0.940	22.4	23.7	530	18.1	17.3	18.2	3.0	7700 min.*	5760 min.*

Measuring conditions
Coil：ø0.20mm, 2UEW, 100Ts
Frequency：10kHz
Current level：0.5mA
Voltage: 10mV

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

SHAPES AND DIMENSIONS



Dimensions in mm

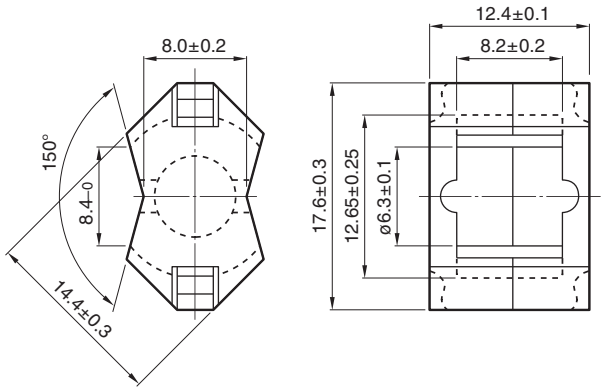
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C_1 (mm^{-1})	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm^2)	Effective core volume Ve (mm^3)	Cross-sectional center pole area Acp (mm^2)	Minimum cross-sectional area Acp min. (mm^2)	Cross-sectional winding area of core Acw (mm^2)	Weigh (g/set)	A_L-value (nH/N²)	Effective permeability (μe)
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

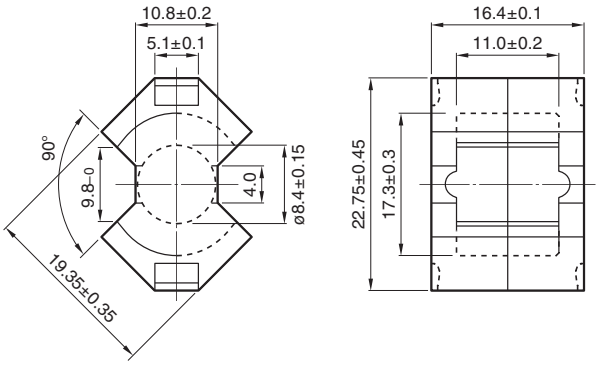
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C1 (mm⁻¹)	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm²)	Effective core volume Ve (mm³)	Cross-sectional center pole area Acp (mm²)	Minimum cross-sectional area Acp min. (mm²)	Cross-sectional winding area of core Acw (mm²)	Weigh (g/set)	AL-value (nH/N²)	Effective permeability (μe)
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

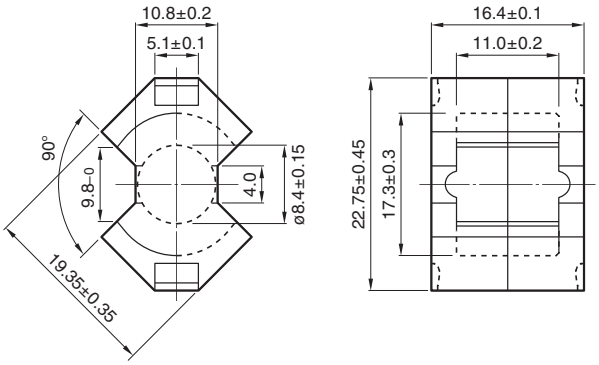
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C_1 (mm^{-1})	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm^2)	Effective core volume Ve (mm^3)	Cross-sectional center pole area Acp (mm^2)	Minimum cross-sectional area Acp min. (mm^2)	Cross-sectional winding area of core Acw (mm^2)	Weigh (g/set)	A_L-value (nH/N²)	Effective permeability (μe)
0.594	38.0	64.0	2430	55.4	53.3	48.9	13	4300±25%	2019

Measuring conditions
Coil：ø0.40mm, 2UEW, 100Ts
Frequency：1kHz
Current level：0.5mA

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

SHAPES AND DIMENSIONS



Dimensions in mm

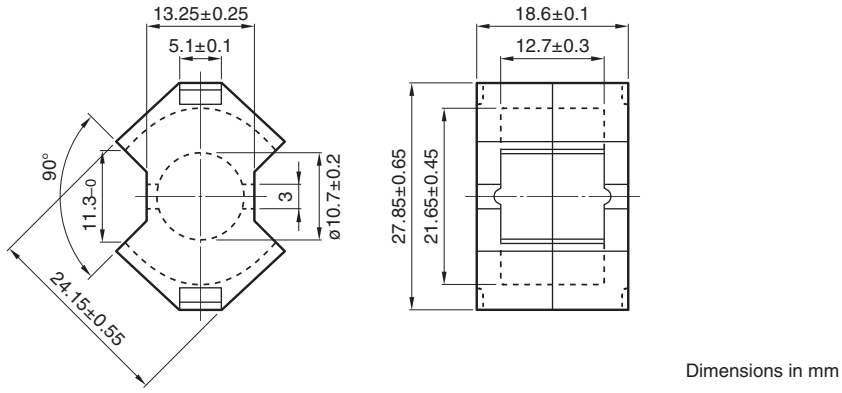
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C1 (mm⁻¹)	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm²)	Effective core volume Ve (mm³)	Cross-sectional center pole area Acp (mm²)	Minimum cross-sectional area Acp min. (mm²)	Cross-sectional winding area of core Acw (mm²)	Weigh (g/set)	AL-value (nH/N²)	Effective permeability (μe)
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 : ø0.40mm, 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

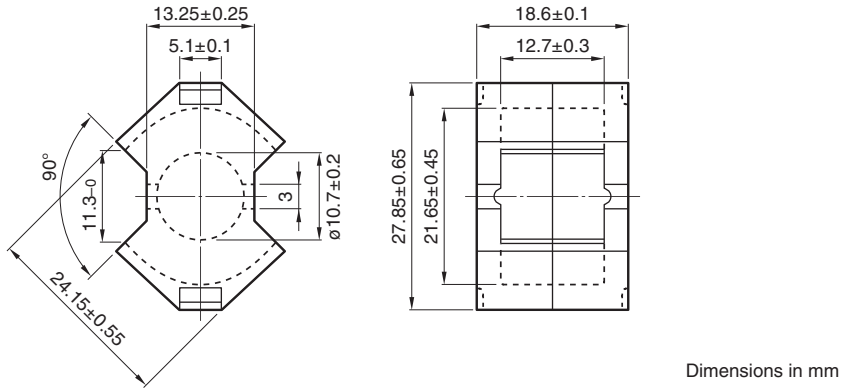
Base on IEC Publication 60431, DIN 41980 and JIS C 2516.

Effective parameter								Electrical characteristics	
Core factor C_1 (mm^{-1})	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm^2)	Effective core volume Ve (mm^3)	Cross-sectional center pole area Acp (mm^2)	Minimum cross-sectional area Acp min. (mm^2)	Cross-sectional winding area of core Acw (mm^2)	Weigh (g/set)	A_L-value (nH/N^2)	Effective permeability (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

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Effective parameter								Electrical characteristics	
Core factor C1 (mm⁻¹)	Effective magnetic path length ℓe (mm)	Effective cross-sectional area Ae (mm²)	Effective core volume Ve (mm³)	Cross-sectional center pole area Acp (mm²)	Minimum cross-sectional area Acp min. (mm²)	Cross-sectional winding area of core Acw (mm²)	Weigh (g/set)	AL-value (nH/N²)	Effective permeability (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.