### **FERROXCUBE**

## DATA SHEET

# RM5 RM, RM/I, RM/ILP cores and accessories

Supersedes data of September 2004

2008 Sep 01

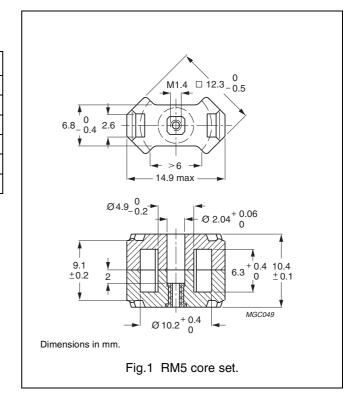


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#### **CORE SETS**

#### Effective core parameters

SYMBOL	PARAMETER	VALUE	UNIT
$\Sigma(I/A)$	core factor (C1)	1.01	mm <sup>-1</sup>
V <sub>e</sub>	effective volume	450	mm <sup>3</sup>
l <sub>e</sub>	effective length	21.4	mm
A <sub>e</sub>	effective area	21.2	mm <sup>2</sup>
A <sub>min</sub>	minimum area	14.8	mm <sup>2</sup>
m	mass of set	≈ 3.1	g



#### Core sets for filter applications

Clamping force for  $A_L$  measurements, 25  $\pm 10$  N.

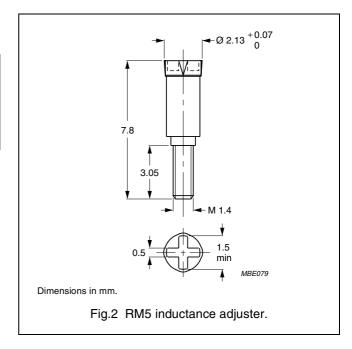
GRADE	A <sub>L</sub> (nH)	$\mu_{\mathbf{e}}$	TOTAL AIR GAP (μm)	TYPE NUMBER (WITH NUT)	TYPE NUMBER (WITHOUT NUT)
3D3 sup	40 ±3%	≈32	≈990	RM5-3D3-E40/N	RM5-3D3-E40
	63 ±3%	≈51	≈540	RM5-3D3-E63/N	RM5-3D3-E63
	100 ±3%	≈80	≈300	RM5-3D3-E100/N	RM5-3D3-E100
	800 ±25%	≈640	≈0	_	RM5-3D3
3H3 sup	160 ±3%	≈129	≈180	RM5-3H3-A160/N	RM5-3H3-A160
	250 ±3%	≈201	≈110	RM5-3H3-A250/N	RM5-3H3-A250
	315 ±3%	≈253	≈80	RM5-3H3-A315/N	RM5-3H3-A315
	400 ±5%	≈321	≈60	RM5-3H3-A400/N	RM5-3H3-A400
	1650 ±25%	≈1310	≈0	_	RM5-3H3

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#### **INDUCTANCE ADJUSTERS**

#### General data

PARAMETER	SPECIFICATION
Material of head and thread	polypropylene (PP), glass fibre reinforced
Maximum operating temperature	125 °C



#### Inductance adjuster selection chart [sup] (applies to all types)

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GRADE	A <sub>L</sub> (nH)	TYPES FOR LOW ADJUSTMENT	Δ <b>L/L</b> % <sup>(1)</sup>	TYPES FOR MEDIUM ADJUSTMENT	Δ <b>L/L</b> % <sup>(1)</sup>	TYPES FOR HIGH ADJUSTMENT	Δ <b>L/L</b> % <sup>(1)</sup>
3H3	63	_	_	-	_	ADJ-RM4/RM5-RED	23
	100	_	_	ADJ-RM4/RM5-RED	15	ADJ-RM4/RM5-BROWN	24
	160	ADJ-RM4/RM5-RED	11	ADJ-RM4/RM5-BROWN	15	ADJ-RM4/RM5-GREY	28
	250	ADJ-RM4/RM5-RED	6	ADJ-RM4/RM5-BROWN	10	ADJ-RM4/RM5-GREY	17
	315	ADJ-RM4/RM5-BROWN	7	ADJ-RM4/RM5-GREY	13	_	_
	400	ADJ-RM4/RM5-BROWN	5	ADJ-RM4/RM5-BLACK	14	_	_
3D3	40	_	_	ADJ-RM4/RM5-GREEN	15	ADJ-RM4/RM5-RED	30
	63	_	_	_	_	ADJ-RM4/RM5-RED	20
	100	_	_	ADJ-RM4/RM5-RED	14	_	_

#### Note

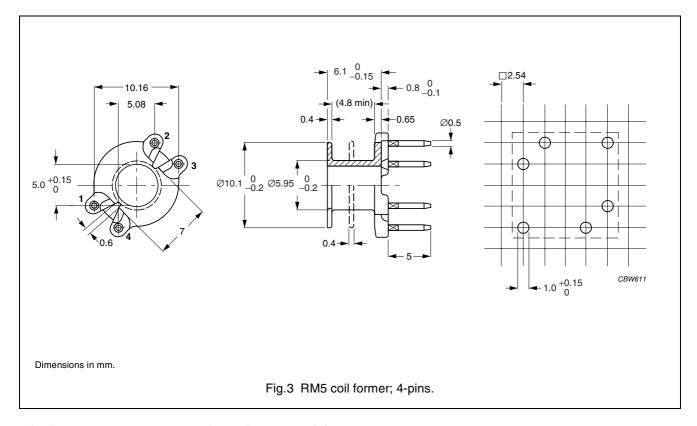
1. Maximum adjustment range.

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#### **COIL FORMER**

#### General data

PARAMETER	SPECIFICATION		
Coil former material	phenolformaldehyde (PF), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E167521(M)		
Pin material	copper-tin alloy (CuSn), tin (Sn) plated		
Maximum operating temperature	180 °C, "IEC 60085", class H		
Resistance to soldering heat	"IEC 60068-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s		
Solderability	"IEC 60068-2-20", Part 2, Test Ta, method 1		



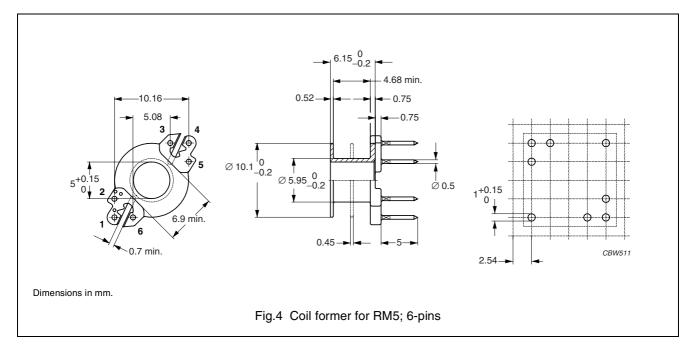
#### Winding data and area product for 4-pins RM5 coil former

NUMBER OF SECTIONS	NUMBER OF PINS	PIN POSITIONS USED	WINDING AREA (mm²)	WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	4	all	9.5	4.8	25	201	CSV-RM5-1S-4P
2	4	all	2 × 4.35	2 × 2.2	25	2 x 92.2	CSV-RM5-2S-4P

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#### General data coil former

PARAMETER	SPECIFICATION
Coil former material	unsaturated polyester (UP), glass-reinforced, flame retardant in accordance with "UL 94V-0"; UL file number E61040 (M)
Solder pad material	copper-tin alloy CuSn), tin (Sn) plated
Maximum operating temperature	180 °C, "IEC 60085", class H
Resistance to soldering heat	"IEC 60068-2-20", Part 2, Test Tb, method 1B, 350 °C, 3.5 s
Solderability	"IEC 60068-2-20", Part 2, Test Ta, method 1



#### Winding data and area product for 6-pins RM5 coil former

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NUMBER OF SECTIONS	NUMBER OF PINS	PIN POSITIONS USED	WINDING AREA (mm²)	WINDING WIDTH (mm)	AVERAGE LENGTH OF TURN (mm)	AREA PRODUCT Ae x Aw (mm <sup>4</sup> )	TYPE NUMBER
1	6	all	9.2	4.68	24.9	195	CSV-RM5-1S-6P-G <sup>(1)</sup>
1	5	1, 2, 3, 5, 6	9.2	4.68	24.9	195	CSV-RM5-1S-5P-G <sup>(1)</sup>
1	4	2, 3, 5, 6	9.2	4.68	24.9	195	CSV-RM5-1S-4P-G <sup>(1)</sup>
2	6	all	2 × 4.15	2×2.06	24.9	2 x 88.0	CSV-RM5-2S-6P-G <sup>(1)</sup>
2	5	1, 2, 3, 5, 6	2 × 4.15	2×2.06	24.9	2 x 88.0	CSV-RM5-2S-5P-G <sup>(1)</sup>

#### Note

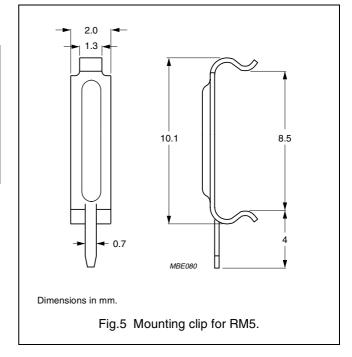
1. Also available with post-inserted pins.

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#### **MOUNTING PARTS**

#### General data

ITEM	SPECIFICATION
Clamping force	≈12 N
Clip material	steel
Clip plating	silver (Ag)
Solderability	"IEC 60 068-2-20",
	Part 2, Test Ta, method 1
Type number	CLI/P-RM4/5



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#### **DATA SHEET STATUS DEFINITIONS**

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS
Preliminary specification	Development	This data sheet contains preliminary data. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Ferroxcube reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

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#### **PRODUCT STATUS DEFINITIONS**

STATUS	INDICATION	DEFINITION
Prototype	prot	These are products that have been made as development samples for the purposes of technical evaluation only. The data for these types is provisional and is subject to change.
Design-in	des	These products are recommended for new designs.
Preferred		These products are recommended for use in current designs and are available via our sales channels.
Support	sup	These products are <b>not</b> recommended for new designs and may not be available through all of our sales channels. Customers are advised to check for availability.