



## RM Cores

**Series/Type:** RM 5

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B65805C0000R026	B65805C0000R048	2002-08-02	2002-12-31	2003-03-31
B65805J0000Y042	B65805J0000Y066	2002-08-02	2002-12-31	2003-03-31
B65806K1004D002	B65806K1006D002	2003-08-08	2004-02-29	2004-08-31
B65539C1003X101	B65539C1003X001	2004-01-23		
B65806A50000000		2004-10-18	2005-03-31	2005-09-30
B65806A3002X022	B65806C3001X022	2003-08-08	2004-02-29	2004-08-31
B65539C1002X101	B65539C1003X001	2003-08-08	2004-02-29	2004-08-31

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**RM 5**
**Core**
**B65805**

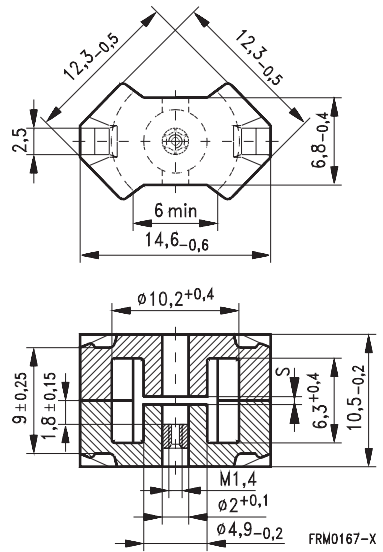
- In accordance with IEC 60431
- Core without center hole for transformer applications
- RM cores are supplied in sets

**Magnetic characteristics** (per set)

	with center hole	without center hole	
$\Sigma l/A$	1,0	0,93	mm <sup>-1</sup>
$l_e$	20,8	22,1	mm
$A_e$	20,8	23,8	mm <sup>2</sup>
$A_{min}$	—	18	mm <sup>2</sup>
$V_e$	430	526	mm <sup>3</sup>

**Approx. weight** (per set)

$m$	2,9	3,0	g


**Gapped**

Material	$A_L$ value	$s$ approx. mm	$\mu_e$	Ordering code <sup>1)</sup>
	nH			-C with center hole -N with threaded sleeve
K1	25 ± 3 %	1,0	19,9	B65805-+25-A1
	40 ± 3 %	0,40	31,8	B65805-+40-A1
M33	63 ± 3 %	0,4	50,2	B65805-+63-A33
	100 ± 3 %	0,2	79,6	B65805-+100-A33
N48	160 ± 3 %	0,12	128	B65805-+160-A48
	250 ± 3 %	0,06	200	B65805-+250-A48
	315 ± 3 %	0,03	255	B65805-+315-A48

1) Replace the + by the code letter "C" or "N" for the required version.

**Ungapped**

Material	$A_L$ value nH	$\mu_e$	$A_{L1min}$ nH	$P_V$ W/set	Ordering code -C with center hole -J w/o center hole
N26	1800 + 30/- 20 %	1430			B65805-C-R26
T57 <sup>1)</sup>	2600 + 30/- 20 %	1920			B65805-J-R57
N30	3500 + 30/- 20 %	2590			B65805-J-R30
T38	6700 + 40/- 30 %	4960			B65805-J-Y38
T42	9600 + 40/- 30 %	7090			B65805-J-Y42
N49	1300 + 30/- 20 %	960	810	< 0,06 (50 mT, 500 kHz, 100 °C)	B65805-J-R49
N87	2000 + 30/- 20 %	1470	1200	< 0,32 (200 mT, 100 kHz, 100 °C)	B65805-J-R87
N97 <sup>1)</sup>	2000 + 30/- 20 %	1470	1200	< 0,24 (200 mT, 100 kHz, 100 °C)	B65805-J-R97
N41	2600 + 30/- 20 %	1920	1200	< 0,10 (200 mT, 100 kHz, 100 °C)	B65805-J-R41

1) Preliminary data

**Coil former**

Material: GFR thermosetting plastic (UL 94 V-0, insulation class to IEC 60085:  
H  $\geq$  max. operating temperature 180 °C), color code blue

Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

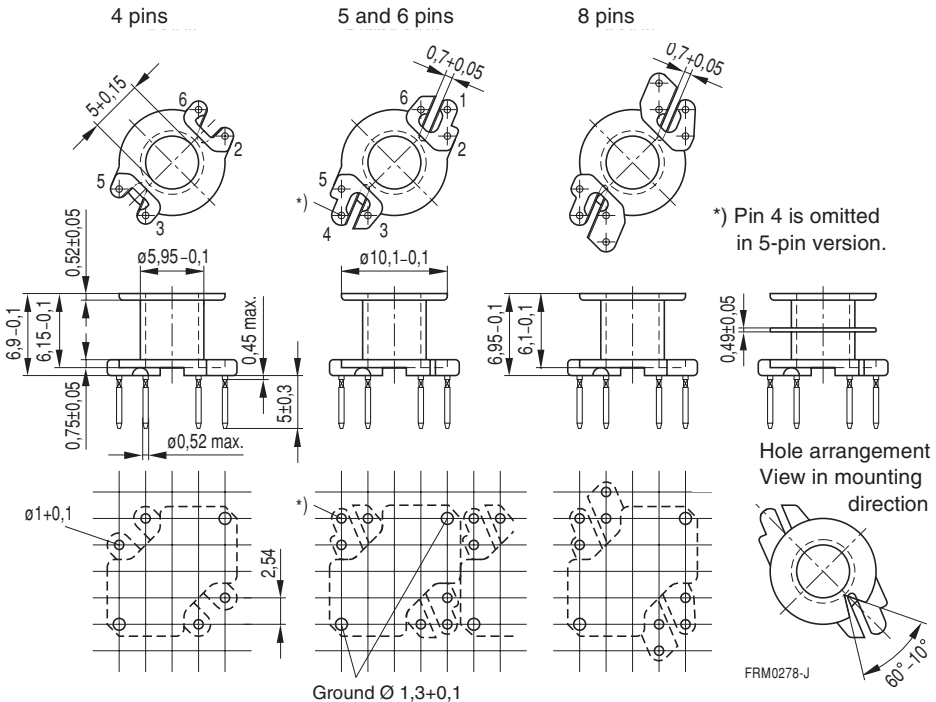
Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s

Winding: see "Processing Notes", page 153

Pins squared in the start-of-winding area

For matching clamps and insulating washers see page 197

Sections	$A_N$ mm <sup>2</sup>	$l_N$ mm	$A_R$ value $\mu\Omega$	Pins	Ordering code
1	9,5	25	90	4	B65806-K1004-D1
				5	B65806-K1005-D1
				6	B65806-K1006-D1
				8	B65806-K1008-D1
2	8,7	25	94	4	B65806-K1004-D2
				5	B65806-K1005-D2
				6	B65806-K1006-D2



**Clamp**

- With ground terminal, made of stainless spring steel (tinned), 0,335 mm thick
- Solderability to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s
- Also available as strip clamp on reels

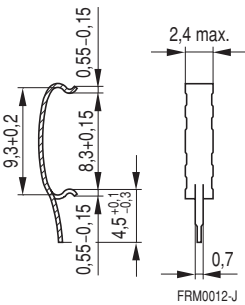
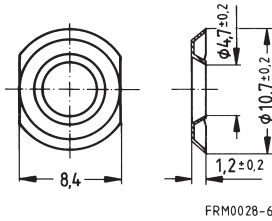
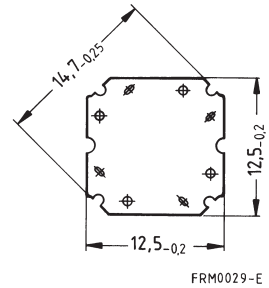
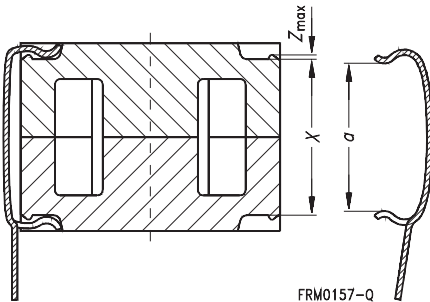
**Insulating washer 1 between core and coil former**

- For tolerance compensation and for insulation
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E  $\triangleq$  120 °C), 0,06 mm thick

**Insulating washer 2 for double-clad PCBs**

- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E  $\triangleq$  120 °C), 0,3 mm thick

	Ordering code
Clamp (ordering code per piece, 2 are required)	B65806-A2203
Insulating washer 1 (reel packing, PU = 1 reel)	B65806-A5000
Insulating washer 2 (bulk)	B65806-D2005

**Clamp**

**Insulating washer 1**

**Insulating washer 2**

**Clamping forces for RM 5**


$F_{\min}$ : Extension of clamp from  $a$  to  $a_2 = X_{\min}$   
 $F_{\max}$ : Extension of clamp from  $a$  to  $a_1 = X_{\max}$

Clamp opening $a$ (mm)		8,3 + 0,15
Core nose $Z_{\max}$ (mm)		0,15
Height of core pair $X$ (mm)	$X_{\min}$	8,75
	$X_{\max}$	9,25
Clamping force $F$ (N)	$F_{\min}$	5
	$F_{\max}$	40



### SMD coil former with gullwing terminals

Material: GFR liquid crystal polymer (UL 94 V-0, insulation class to IEC 60085:  
F  $\triangleq$  max. operating temperature 155 °C), color code black

Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 350 °C, 1 s

Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s  
permissible soldering temperature for wire-wrap connection on coil former: 400 °C, 1 s

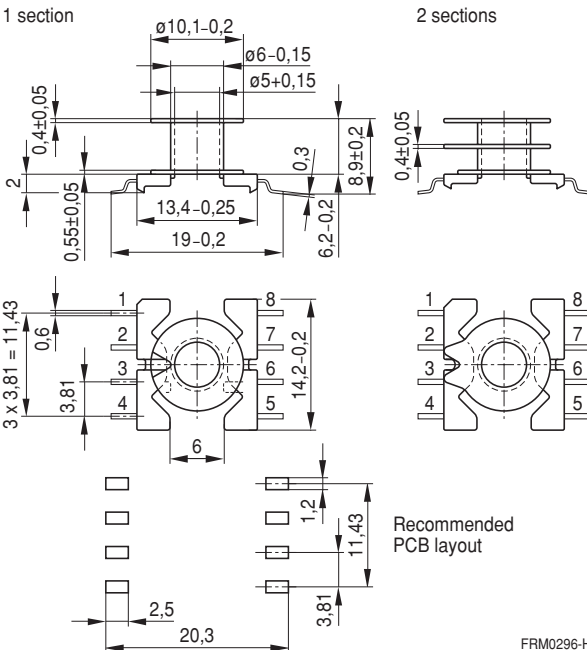
Winding: see "Processing Notes", page 160

### Clamp

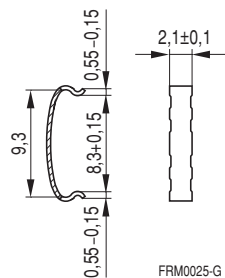
- Without ground terminal, made of stainless spring steel, 0,335 mm thick
- Also available as strip clamp (each carton containing 2 reels) on request

Sections	$A_N$ mm <sup>2</sup>	$l_N$ mm	$A_R$ value $\mu\Omega$	Terminals	Ordering code
1	11,1	25	77	8	B65822-F1008-T1
2	10,2	25	85	8	B65822-F1008-T2
Clamp	(ordering code per piece, 2 are required)				B65806-J2204

### Coil former



### Clamp



FRM0296-H



### SMD coil former with J terminals

Material: GFR liquid crystal polymer (UL 94 V-0, insulation class to IEC 60085:  
F  $\triangleq$  max. operating temperature 155 °C), color code black

Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 350 °C, 1 s

Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s  
permissible soldering temperature for wire-wrap connection on coil former: 400 °C, 1 s

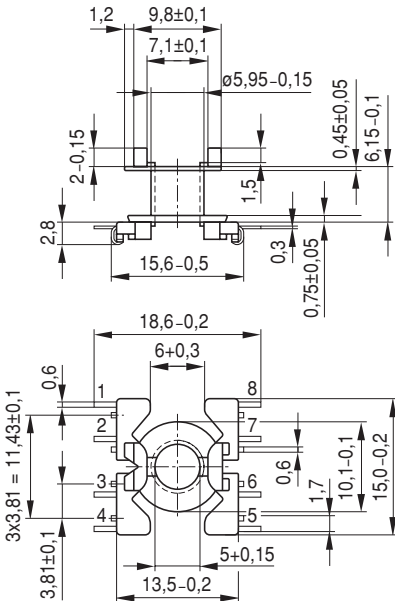
Winding: see "Processing Notes", page 160

### Clamp

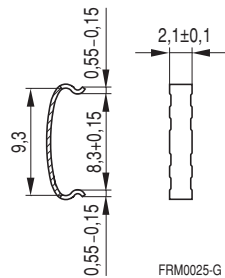
- Without ground terminal, made of stainless spring steel, 0,335 mm thick
- Also available as strip clamp (each carton containing 2 reels) on request

Sections	A <sub>N</sub> mm <sup>2</sup>	l <sub>N</sub> mm	A <sub>R</sub> value μΩ	Terminals	Ordering code
1	11,1	25	73	8	B65822-J1008-T1
Clamp (ordering code per piece, 2 are required)					B65806-J2204

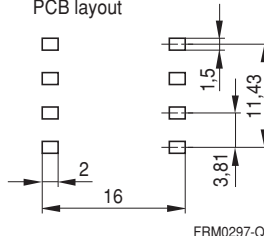
### Coil former



### Clamp



### Recommended PCB layout



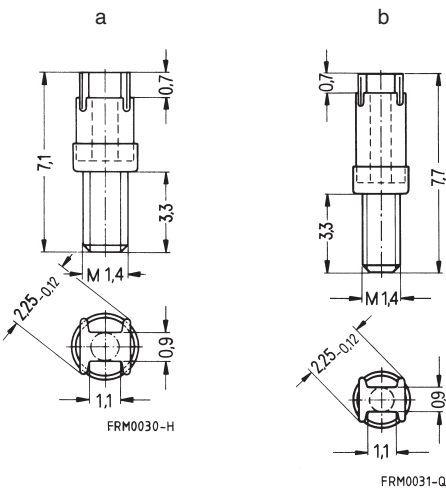
**Adjusting screw**

■ Tube core with thread and core brake made of GFR polyterephthalate

Plastic **adjusting screwdriver** (not shown)

Plastic **handle** for adjusting screwdriver (not shown)

Core RM 5		Adjusting screw				Min. adjusting range %	Ordering code
Material	A <sub>L</sub> value nH	Fig.	Tube core ∅ × length mm	Material	Color code		
K 1	25	a	1,81 × 2,0	Si 1	black	13	B65539-C1003-X101
	40	a	1,81 × 2,0	K 1	yellow	16	B65539-C1003-X1
M 33	63	a	1,81 × 2,7	Si 1	white	11	B65539-C1002-X101
	100	a	1,81 × 2,0	K 1	yellow	14	B65539-C1003-X1
N 48	160	a	1,81 × 2,7	N 22	red	15	B65539-C1002-X22
	250 315	b	1,81 × 3,4	N 22	green	13 9	B65806-C3001-X22
	315	b	1,90 × 3,4	N 22	blue	12	B65806-A3002-X22
<b>Adjusting screwdriver</b>							B63399-B4
<b>Handle</b>							B63399-B5

**Adjusting screws**




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