RM Cores

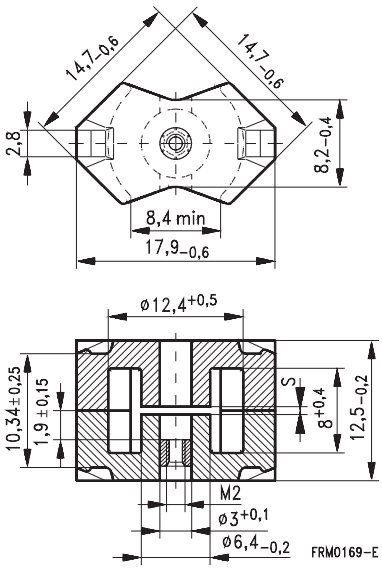
Series/Type: **RM 6**

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B65808N1005D002	B65808N1006D002	2003-08-08	2004-02-29	2004-08-31
B65659F0001X101	B65659F0001X023	2004-01-23		
B65821C1008T002	B65821C1008T001	2003-08-08	2004-02-29	2004-08-31
B65807C0000R026	B65807C0000R048	2002-08-02	2002-12-31	2003-03-31
B65807J0000Y042	B65807J0000Y066	2002-08-02	2002-12-31	2003-03-31
B65808K1006D002	B65808N1006D002	2003-08-08	2004-02-29	2004-08-31

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

- 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	
$\Sigma l/A$	0,86	0,78	mm^{-1}
l_e	26,9	28,6	mm
A_e	31,3	36,6	mm^2
A_{min}	—	31	mm^2
V_e	840	1 050	mm^3

Approx. weight (per set)

m	4,9	5,3	g

Gapped

Material	A_L value nH	s approx. mm	μ_e	Ordering code[1] -J without center hole -N with threaded sleeve -C with center hole
K1	40 ± 3 %	0,80	27,4	B65807-+40-A1
M33	63 ± 3 %	0,60	43,2	B65807-+63-A33
	100 ± 3 %	0,38	68,5	B65807-+100-A33
N48	160 ± 3 %	0,22	110	B65807-+160-A48
	250 ± 3 %	0,12	171	B65807-+250-A48
	315 ± 3 %	0,08	216	B65807-+315-A48
	400 ± 3 %	0,05	274	B65807-+400-A48
N41	250 ± 3 %	0,17	155	B65807-J250-A41

1) Replace the + by the code letter “C” or “N” for the required version. Standard version is “C”.

Ungapped

Material	A_L value nH	μ_e	A_{L1min} nH	P_V W/set	Ordering code -C with center hole -J w/o center hole
N26	2200 + 30/– 20 %	1500			B65807-C-R26
N30	4300 + 30/– 20 %	2670			B65807-J-R30
T57[1)]	3500 + 30/– 20 %	2180			B65807-J-R57
T38	8600 + 40/– 30 %	5340			B65807-J-Y38
T42	12300 + 40/– 30 %	7630			B65807-J-Y42
N49	1700 + 30/– 20 %	1060	960	< 0,15 (50 mT, 500 kHz, 100 °C)	B65807-J-R49
N87	2400 + 30/– 20 %	1490	1450	< 0,51 (200 mT, 100 kHz, 100 °C)	B65807-J-R87
N97[1)]	2400 + 30/– 20 %	1490	1450	< 0,39 (200 mT, 100 kHz, 100 °C)	B65807-J-R97
N41	3100 + 30/– 20 %	1920	1450	< 0,16 (200 mT, 25 kHz, 100 °C)	B65807-J-R41

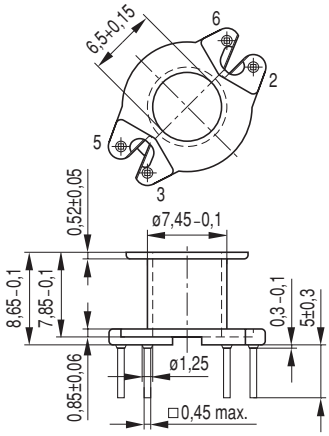
1) Preliminary data

Coil former, squared pins

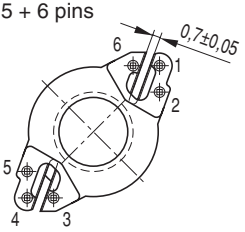
Material: GFR thermosetting plastic (UL 94 V-0, insulation class to IEC 60085: H ≙ max. operating temperature 180 °C), color code black
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s
Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s
Winding: see *"Processing Notes"*, page 153
For matching clamp and insulating washers see page 210.

Sections	A_N mm²	l_N mm	A_R value μΩ	Pins	Ordering code
1	15	30	69	4	B65808-N1004-D1
				5	B65808-N1005-D1
				6	B65808-N1006-D1
				6	B65808-W1006-D1
2	14	30	73	5	B65808-N1005-D2
				6	B65808-N1006-D2

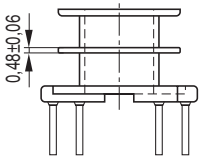
4 pins



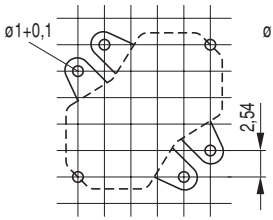
5 + 6 pins



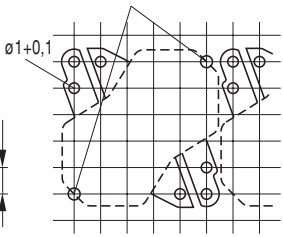
Pin 4 is omitted in 5-pin version

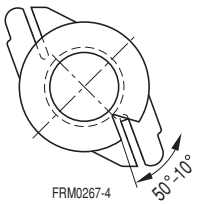


Hole arrangement
View in mounting direction



Ground Ø 1,3+0,1

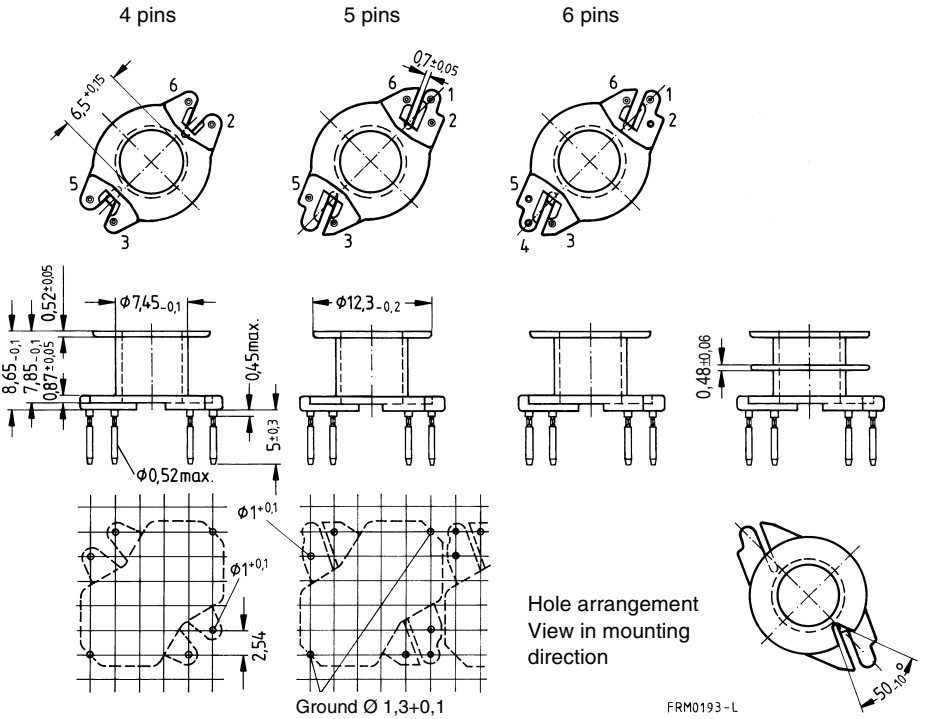




Coil former, pins squared in the start-of-winding area

Material: GFR thermosetting plastic (UL 94 V-0, insulation class to IEC 60085: H ≙ 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
For matching clamp and insulating washers see page 210.

Sections	A_N mm²	l_N mm	A_R value μΩ	Pins	Ordering code
1	15	30	69	4 5 6	B65808-K1004-D1 B65808-K1005-D1 B65808-K1006-D1
2	14	30	73	4 6	B65808-K1004-D2 B65808-K1006-D2



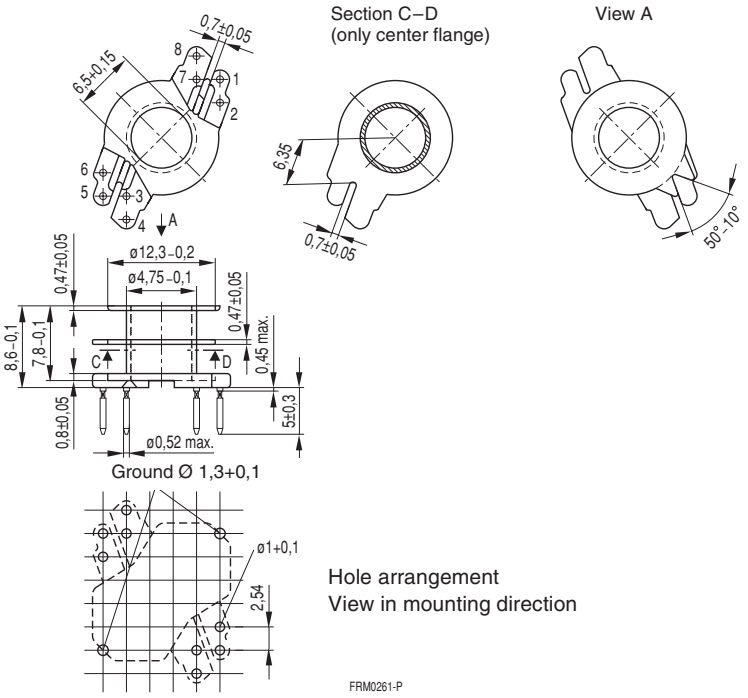
Coil former for SMPS transformers with line isolation

The creepage distances and clearances are designed such that the coil former is suitable for use in SMPS transformers with line isolation.

- Closed center flange with external wire guide
- Pins squared in the start-of-winding area
- Optimized for use with automatic winding machines

Material: GFR thermosetting plastic (UL 94 V-0, insulation class to IEC 60085: F ≙ max. operating temperature 155 °C), color code green
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

Sections	A_N mm²	l_N mm	A_R value μΩ	Pins	Ordering code
2	14	30	73	8	B65808-X1108-D2

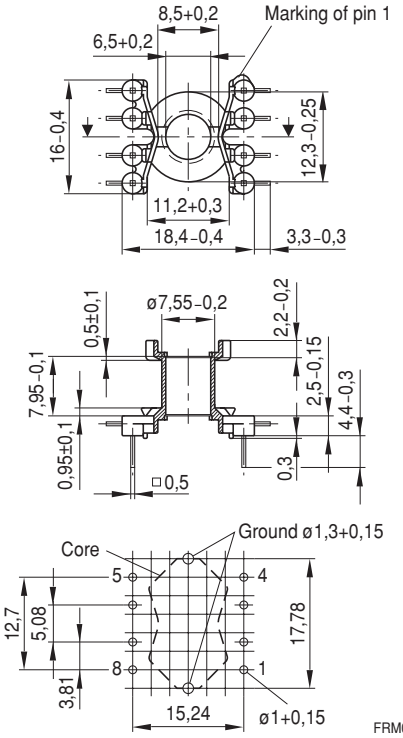


Coil former for power applications with angled pins

Optimized for automatic winding
Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085:
F ≙ max. operating temperature 155 °C), color code black
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

For matching clamp and insulating washer 1 see page 210

Sections	A_N mm²	l_N mm	A_R value μΩ	Pins	Ordering code
1	15	30	69	8	B65808-E1508-T1



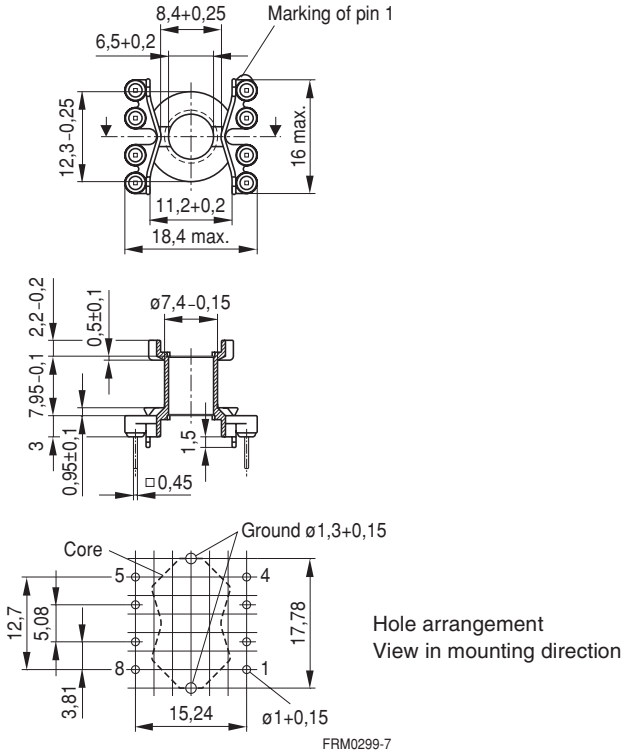
Hole arrangement
View in mounting direction

Coil former for power applications with straight pins

Optimized for automatic winding
Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085:
H ≙ max. operating temperature 180 °C), color code black
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

For matching clamp and insulating washer 1 see page 210

Sections	A_N mm²	l_N mm	A_R value μΩ	Pins	Ordering code
1	15	30	69	8	B65808-W1508-T1



Hole arrangement
View in mounting direction

Clamp

- With ground terminal, made of stainless spring steel (tinned), 0,435 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

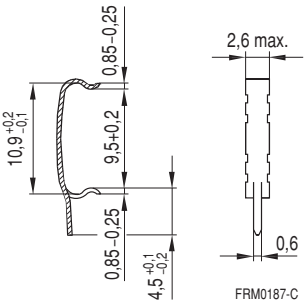
- For tolerance compensation and for insulation
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E ≙ 120 °C), 0,08 mm thick

Insulating washer 2 for double-clad PCBs

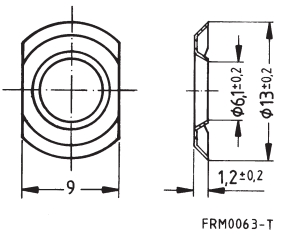
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E ≙ 120 °C), 0,3 mm thick

	Ordering code
Clamp (ordering code per piece, 2 are required)	B65808-A2203
Insulating washer 1 (reel packing, PU = 1 reel)	B65808-A5000
Insulating washer 2 (bulk)	B65808-C2005

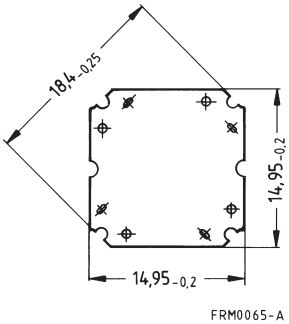
Clamp



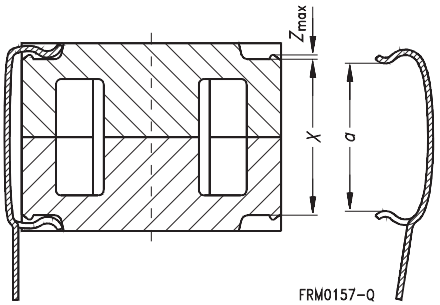
Insulating washer 1



Insulating washer 2



Clamping forces for RM 6



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)		9,5 + 0,2
Core nose Z_{max} (mm)		0,22
Height of core pair X (mm)	X_{min}	10,1
	X_{max}	10,6
Clamping force F (N)	F_{min}	7
	F_{max}	50

SMD

SMD coil former with gullwing terminals

Material: GFR liquid crystal polymer (UL 94 V-0, insulation class to IEC 60085: F ≙ 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

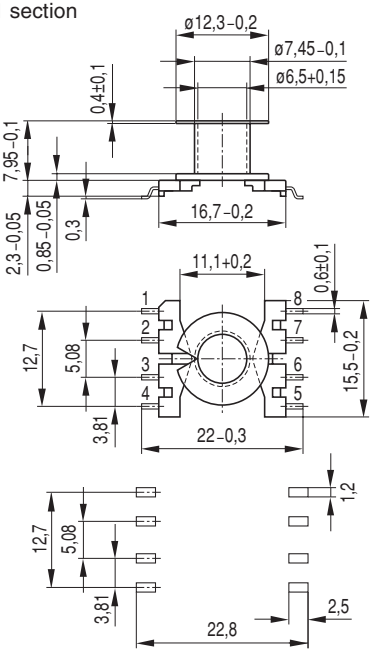
Clamp

- Without ground terminal, made of stainless spring steel, 0,435 mm thick
- Also available as strip clamp (each carton containing 2 reels) on request

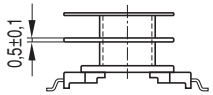
Sections	A_N mm²	l_N mm	A_R value μΩ	Terminals	Ordering code
1	16,2	31	66	8	B65821-C1008-T1
2	15,2	31	69	8	B65821-C1008-T2
Clamp	(ordering code per piece, 2 are required)				B65808-J2204

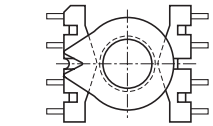
Coil former

1 section



2 sections

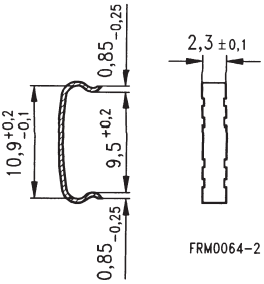




Recommended PCB layout

FRM0238-Q

Clamp



FRM0064-2

SMD

SMD coil former with J terminals

Material: GFR liquid crystal polymer (UL 94 V-0, insulation class to IEC 60085: F ≙ 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

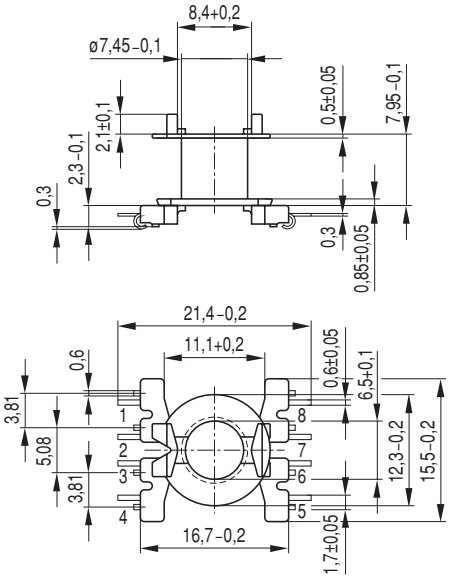
Winding: see *"Processing Notes"*, page 160

Clamp

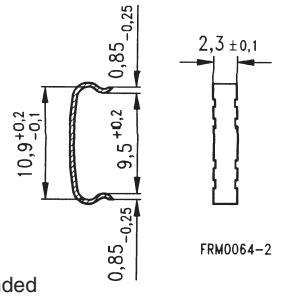
- Without ground terminal, made of stainless spring steel, 0,435 mm thick
- Also available as strip clamp (each carton containing 2 reels) on request

Sections	A_N mm²	l_N mm	A_R value μΩ	Terminals	Ordering code
1	16,2	31	66	8	B65821-J1008-T1
Clamp	(ordering code per piece, 2 are required)				B65808-J2204

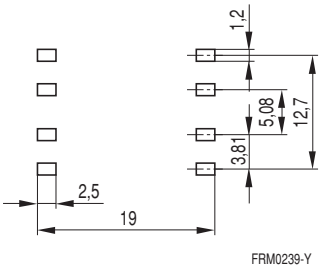
Coil former



Clamp



Recommended PCB layout



Adjusting screw

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

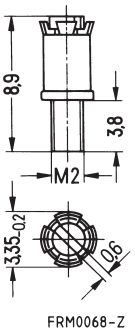
Plastic **adjusting screwdriver** (not shown)

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

Core RM 6		**Adjusting screw**				Min. adjusting range	Ordering code
		Fig.	Tube core				
Material	A_L value nH		∅ × length mm	Material	Color code	%	
K 1	40	a	2,62 × 3,7	Si 1	white	15	B65659-F1-X101
M 33	63	a	2,62 × 3,7	Si 1	white	17	B65659-F1-X101
	100	c	2,82 × 4,4	Si 1	brown	16	B65659-F4-X101
N 48	160	a	2,62 × 3,7	K 1	green	17	B65659-F1-X1
	250	a	2,62 × 3,7	N 22	red	11	B65659-F1-X23
	315	b	2,75 × 4,4	N 22	black	13	B65659-F3-X23
	400	c	2,82 × 4,4	N 22	yellow	11	B65659-F4-X23
Adjusting screwdriver							B63399-B4
Handle							B63399-B5

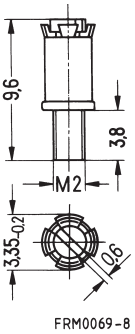
Adjusting screws

a



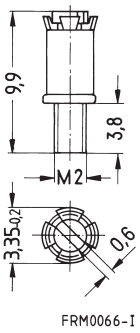
FRM0068-Z

b



FRM0069-8

c



FRM0066-I

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