



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The following products presented in this data sheet are being withdrawn.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

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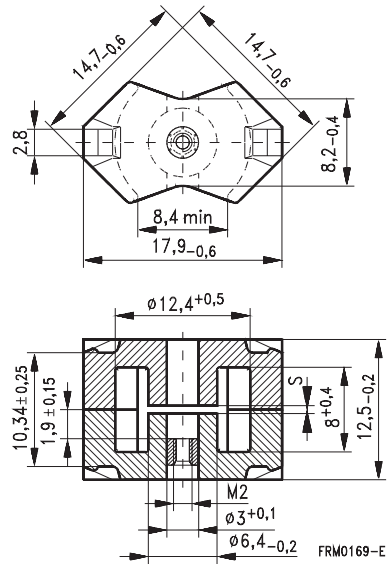
- In accordance with IEC 60431
- Core without center hole for transformer applications
- RM cores are supplied in sets

Magnetic characteristics (per set)

	with center hole	without center hole	
$\Sigma I/A$	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	$40 \pm 3 \%$	0,80	27,4	B65807-+40-A1
M33	$63 \pm 3 \%$	0,60	43,2	B65807-+63-A33
	$100 \pm 3 \%$	0,38	68,5	B65807-+100-A33
N48	$160 \pm 3 \%$	0,22	110	B65807-+160-A48
	$250 \pm 3 \%$	0,12	171	B65807-+250-A48
	$315 \pm 3 \%$	0,08	216	B65807-+315-A48
	$400 \pm 3 \%$	0,05	274	B65807-+400-A48
N41	$250 \pm 3 \%$	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 \geq max. operating temperature 180 °C), color code black

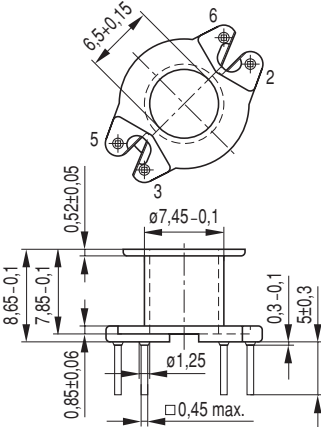
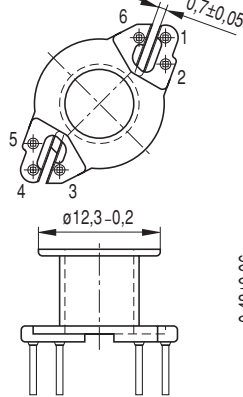
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

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

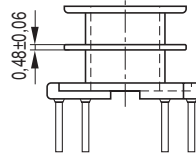
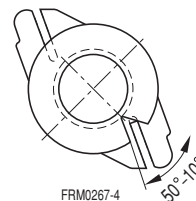
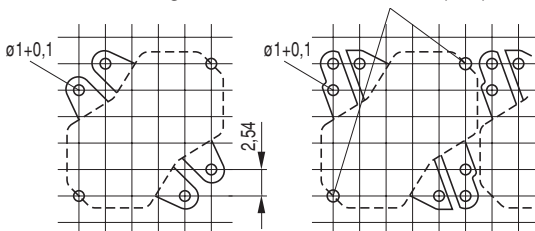
Winding: see "Processing Notes", page 153

For matching clamp and insulating washers see page 210.

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

4 pins

5 + 6 pins


Pin 4 is omitted
in 5-pin version


Hole arrangement
View in mounting direction


FRM0267.4

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

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

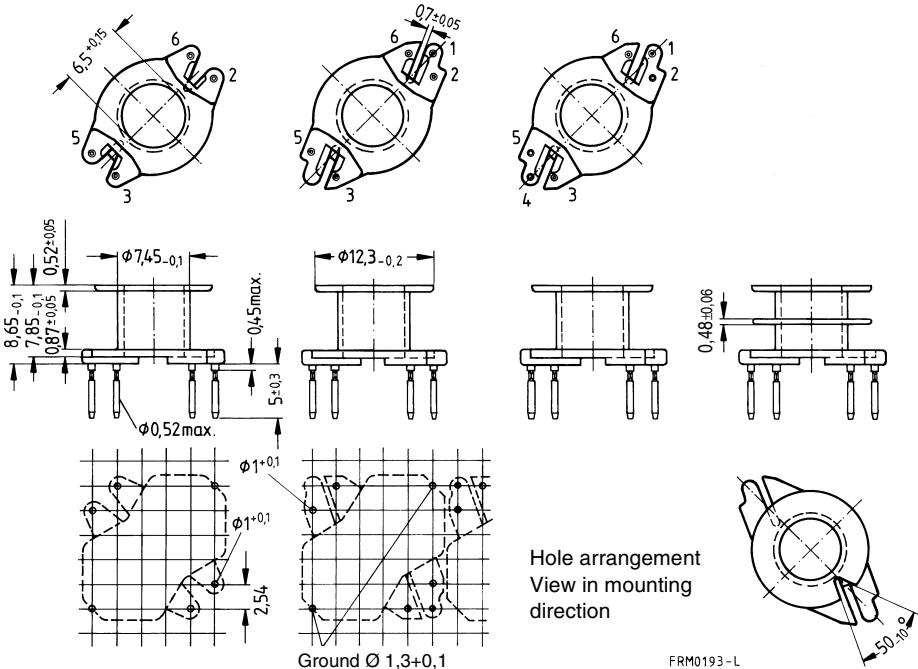
For matching clamp and insulating washers see page 210.

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

4 pins

5 pins

6 pins



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

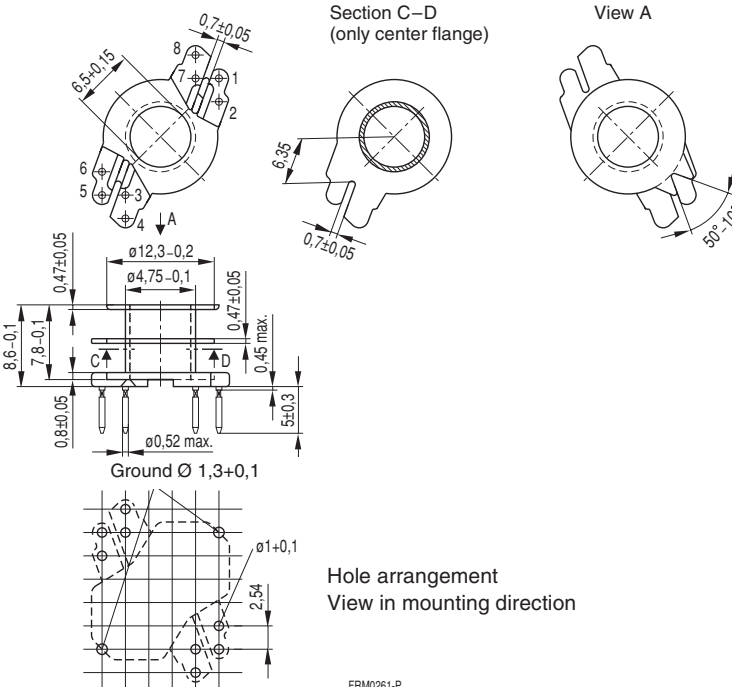
Material: GFR thermosetting plastic (UL 94 V-0, insulation class to IEC 60085:
F \triangleq max. operating temperature 155 °C), color code green

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 mm ²	l_N mm	A_R value $\mu\Omega$	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:

 $F \triangleq$ max. operating temperature 155 °C), color code black

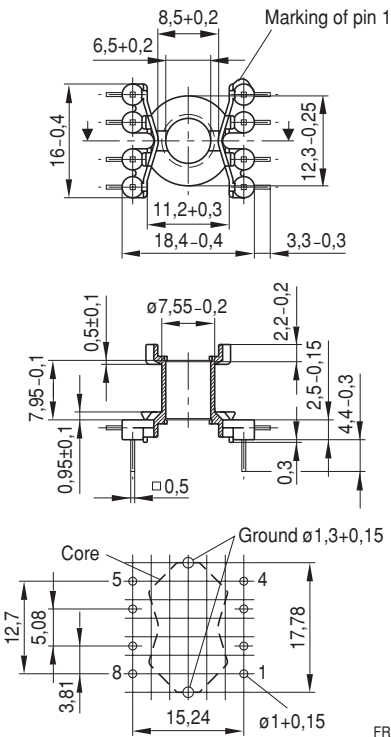
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

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 mm ²	l_N mm	A_R value $\mu\Omega$	Pins	Ordering code
1	15	30	69	8	B65808-E1508-T1


 Hole arrangement
View in mounting direction

FRM0298-Y

Coil former for power applications with straight pins

Optimized for automatic winding

Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085:

 $H \triangleq$ max. operating temperature 180 °C), color code black

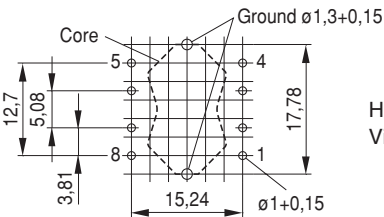
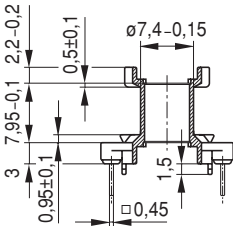
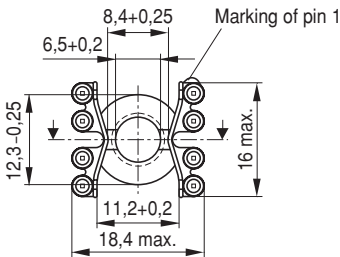
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

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 mm ²	l_N mm	A_R value $\mu\Omega$	Pins	Ordering code
1	15	30	69	8	B65808-W1508-T1


 Hole arrangement
View in mounting direction

FRM0299-7

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

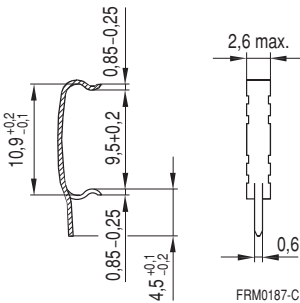
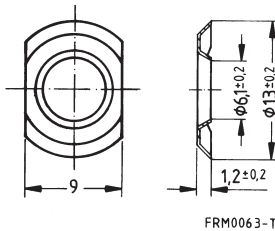
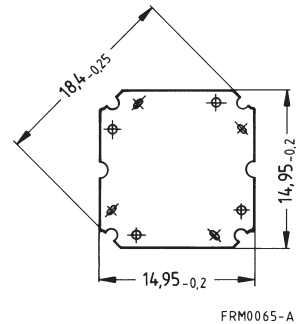
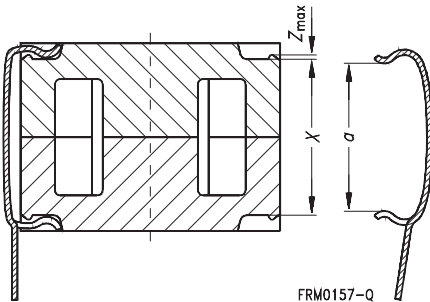
Insulating washer 1 between core and coil former

- For tolerance compensation and for insulation
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E \triangleq 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 \triangleq 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 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

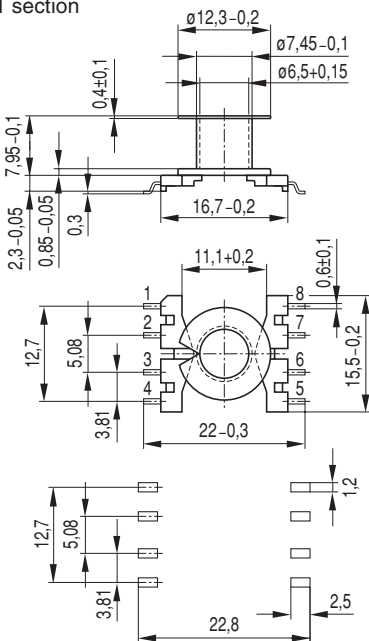
Clamp

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

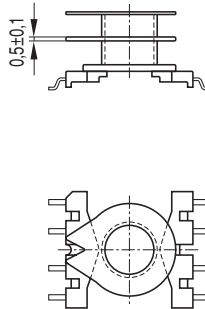
Sections	A _N mm ²	l _N mm	A _R value μΩ	Terminals	Ordering code
1	16,2	31	66	8	B65821-C1008-T1
2	15,2	31	69	8	B65821-C1008-T2
Clamp (ordering code per piece, 2 are required)					B65808-J2204

Coil former

1 section



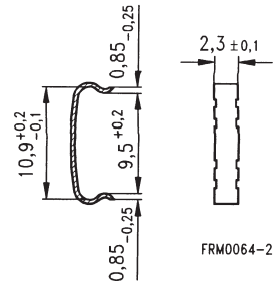
2 sections



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 \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

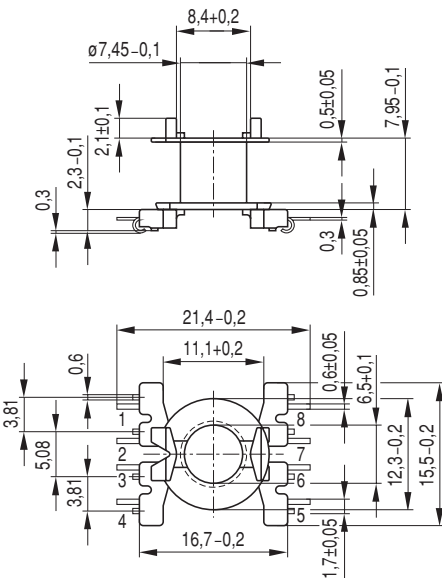
Winding: see "Processing Notes", page 160

Clamp

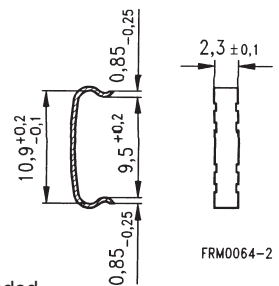
- Without ground terminal, made of stainless spring steel, 0,435 mm thick
- Also available as strip clamp (each carton containing 2 reels) on request

Sections	A _N mm ²	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

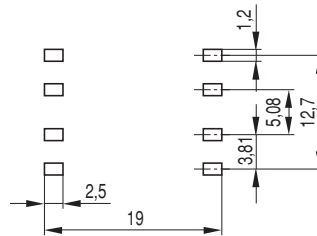


Clamp



FRM0064-2

Recommended PCB layout



FRM0239-Y

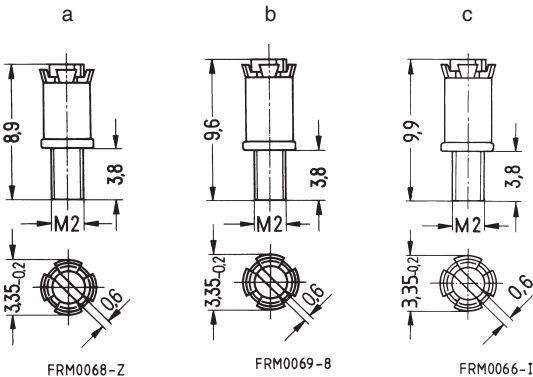
RM 6	B65659
Accessories	B63399

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
Material	A _L value nH	Fig.	Tube core Ø × 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



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