

RM 8

Core and Accessories

		Individual parts	Part no.	Page
		Adjusting screwdriver (for assembly only)	B63399	244
		Matching handle	B63399	244
		Adjusting screw	B65812	244
		Core	B65811	238
		Clamps	B65812	243, 250
		Insulating washer 1	B65812	243, 250
		Coil former	B65812	240, 249
		Core	B65811	238
		Threaded sleeve (glued-in)		
		Insulating washer 2	B65812	243, 250

FRM0051-5

Example of an assembly set

Also available:

Coil former for SMPS transformers	B65812	241
Coil former for power applications	B65812	242
RM 8 low-profile core	B65811-P	248
Coil former	B65812	249

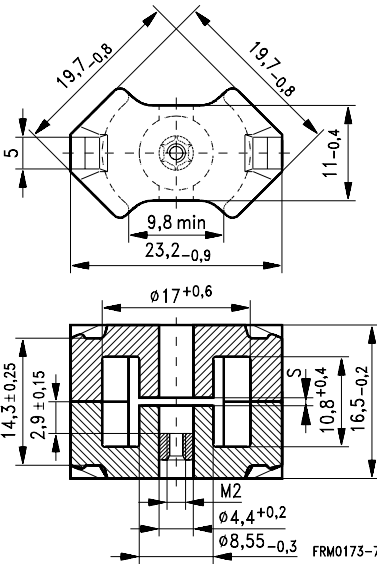
- In accordance with IEC 60431
- Cores without center hole for transformer applications
- RM cores are supplied in sets

Magnetic characteristics (per set)

	with center hole	without center hole	
$\Sigma l/A$	0,67	0,59	mm ⁻¹
l_e	35,1	38	mm
A_e	52	64	mm ²
A_{min}	—	55	mm ²
V_e	1 840	2 430	mm ³

Approx. weight (per set)

m	10,7	12	g
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Gapped

Material	A_L value nH	s approx. mm	μ_e	Ordering code ¹⁾ -D with center hole -F with threaded sleeve -J without center hole
N48	250 ± 3 % 315 ± 3 % 400 ± 3 % 630 ± 5 %	0,23 0,17 0,14 0,10	133 168 213 336	B65811-+250-A48 B65811-+315-A48 B65811-+400-A48 B65811-+630-J48
N41	160 ± 3 % 250 ± 5 % 630 ± 5 % 1600 ± 10 %	0,49 0,24 0,11 0,04	76 117 298 752	B65811-J160-A41 B65811-J250-J41 B65811-J630-J41 B65811-J1600-K41
N87	250 ± 3 % 400 ± 3 %	0,30 0,18	118 189	B65811-J250-A87 B65811-J400-A87

1) Replace the + by the code letter "F" or "D" for the required version. Standard version is "D".

Ungapped

Material	A_L value nH	μ_e	A_{L1min} nH	P_V W/set	Ordering code -D with center hole -J w/o center hole
N26	2900 + 30/- 20 %	1550			B65811-D-R26
N30	5700 + 30/- 20 %	2680			B65811-J-R30
T35	8400 + 30/- 20 %	3940			B65811-J-R35
T38	12500 + 40/- 30 %	5870			B65811-J-Y38
N49	2200 + 30/- 20 %	1040	1270	0,37 (50 mT, 500 kHz, 100 °C)	B65811-J-R49
N67	3300 + 30/- 20 %	1560	1900	1,50 (200 mT, 100 kHz, 100 °C)	B65811-J-R67
N87	3300 + 30/- 20 %	1560	1900	1,20 (200 mT, 100 kHz, 100 °C)	B65811-J-R87
N41	4100 + 30/- 20 %	1930	1900	0,36 (200 mT, 25 kHz, 100 °C)	B65811-J-R41

Coil former

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

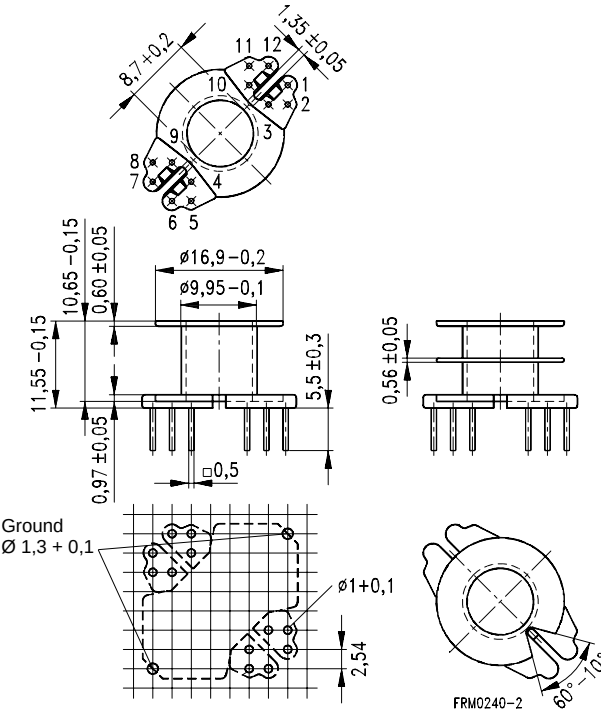
Winding: see page 152

Squared pins

For matching clamp and insulating washers see page 243

Sections	A_N mm ²	l_N mm	A_R value $\mu\Omega$	Pins	Ordering code
1	30	42	47	5	B65812-N1005-D1
				8	B65812-N1008-D1
				12	B65812-N1012-D1
2	28,4	42	50	5	B65812-N1005-D2
				8	B65812-N1008-D2
				12	B65812-N1012-D2

12 pins



Version	Pins omitted
5 pins	3, 4, 6, 7, 9, 10, 12
8 pins	3, 4, 9, 10

Hole arrangement
View in mounting direction

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:

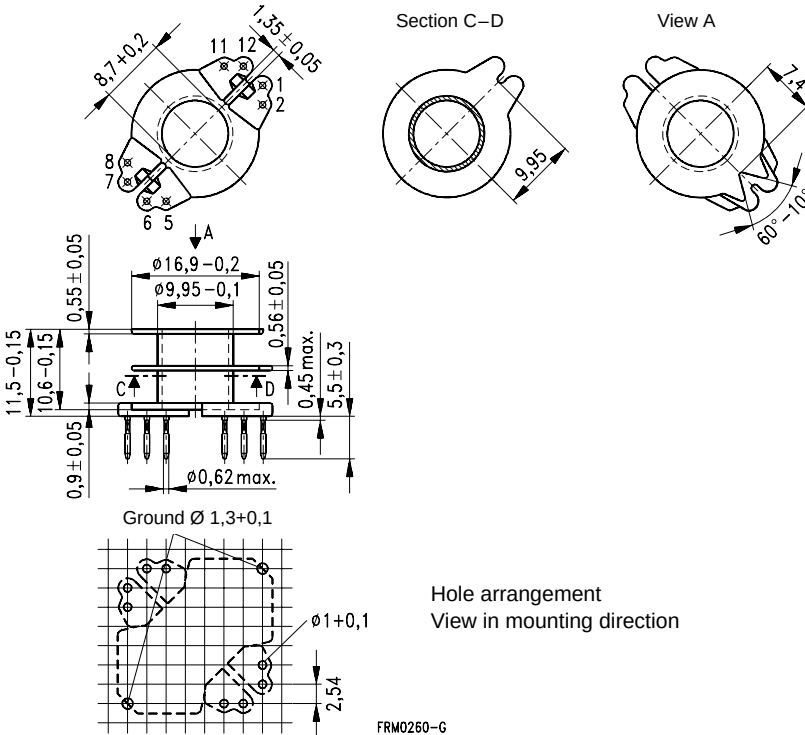
F $\geq$ max. operating temperature 155 °C), color code green

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 page 152

Sections	A_N mm ²	l_N mm	A_R value $\mu\Omega$	Pins	Ordering code
2	28,4	42	50	8	B65812-X1108-D2



Coil former for power applications

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

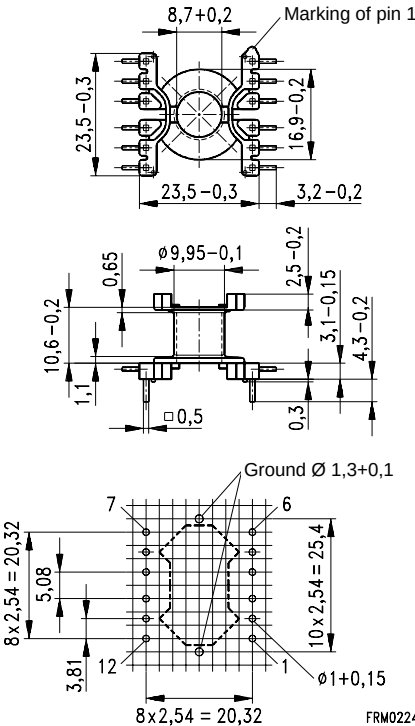
Solderability: to IEC 60068-2-20, test Ta, method 1 (aging 3): 235 °C, 2 s

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

Winding: see page 152

For matching clamp and insulating washer 1 see page 243

Sections	A_N mm ²	l_N mm	A_R value $\mu\Omega$	Pins	Ordering code
1	30	42	47	12	B65812-C1512-T1



Hole arrangement
View in mounting direction
(Note half pitch!)

Clamp

- With ground terminal, made of stainless spring steel (tinned), 0,4 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

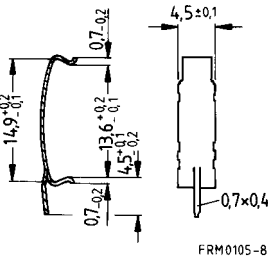
- For tolerance compensation and for insulation
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E $\triangleq$ 120 °C), 0,06 mm thick

Insulating washer 2 for double-clad PCBs

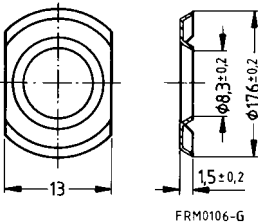
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E $\triangleq$ 120 °C), 0,3 mm thick

	Ordering code
Clamp (ordering code per piece, 2 are required)	B65812-A2203
Insulating washer 1 (reel packing, PU = 1 reel)	B65812-A5000
Insulating washer 2 (bulk)	B65812-C2005

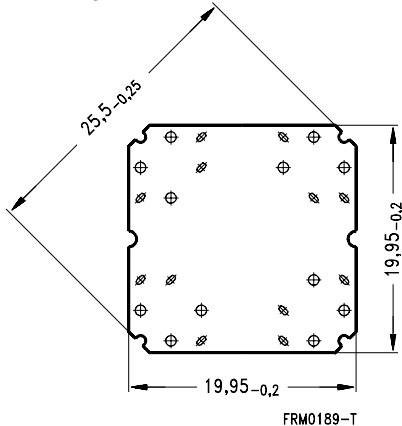
Clamp



Insulating washer 1



Insulating washer 2



Adjusting screw

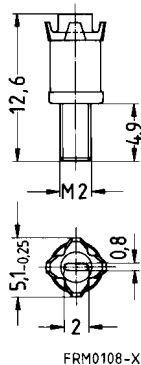
- Tube core with thread and core brake made of GFR polyterephthalate

Plastic **adjusting screwdriver** (not shown)

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

Core RM 8		Adjusting screw			Min. adjusting range %	Ordering code
Material	A _L value nH	Tube core Ø × length mm	Material	Color code		
M 33	100	3,85 × 5,0	Si 1	yellow	16	B65812-B3003-X101
N 48	250	4,18 × 5,0	Si 1	white	12	B65812-B3001-X101
	315	3,85 × 5,0	N 22	gray	13	B65812-B3003-X22
	400	4,18 × 4,0	N 22	brown	17	B65812-B3002-X22
	500 630	4,18 × 5,0	N 22	black	13 9	B65812-B3001-X22
Adjusting screwdriver						B63399-B1
Handle						B63399-B5

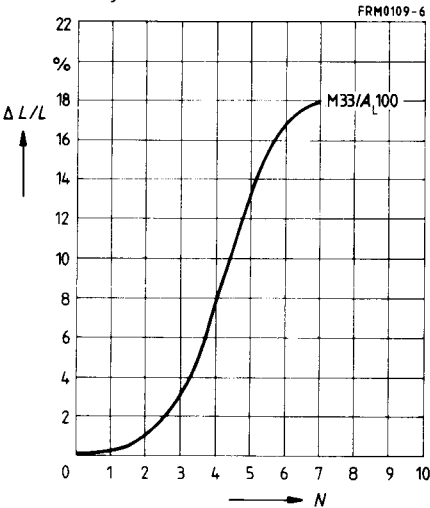
Adjusting screw



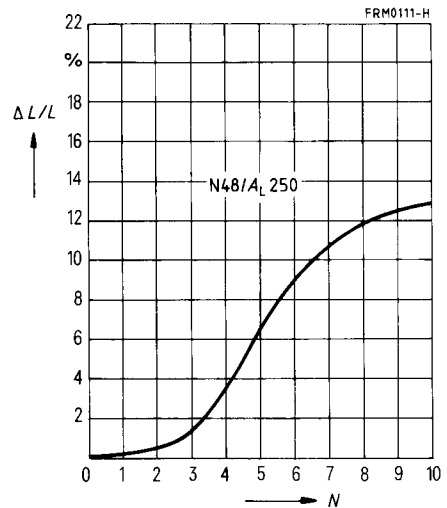
Inductance adjustment curves (nominal values)

Relative inductance change $\Delta L/L$ versus turns N of adjusting screw.
 $0 \cong$ at least 2 turns engaged.

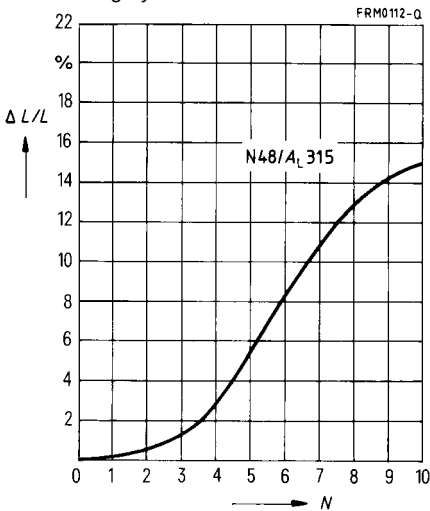
Adjusting screw B65812-B3003-X101
Color code yellow



Adjusting screw B65812-B3001-X101
Color code white



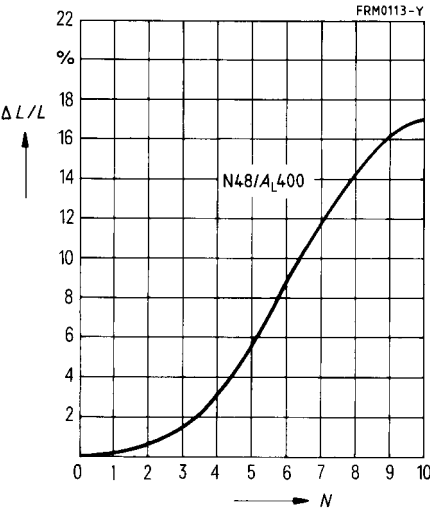
Adjusting screw B65812-B3003-X22
Color code gray



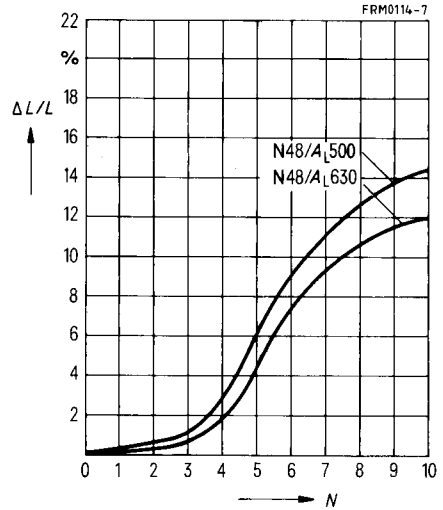
Inductance adjustment curves (nominal values)

Relative inductance change $\Delta L/L$ versus turns N of adjusting screw.
 $0 \triangleq$ at least 2 turns engaged.

Adjusting screw B65812-B3002-X22
Color code brown



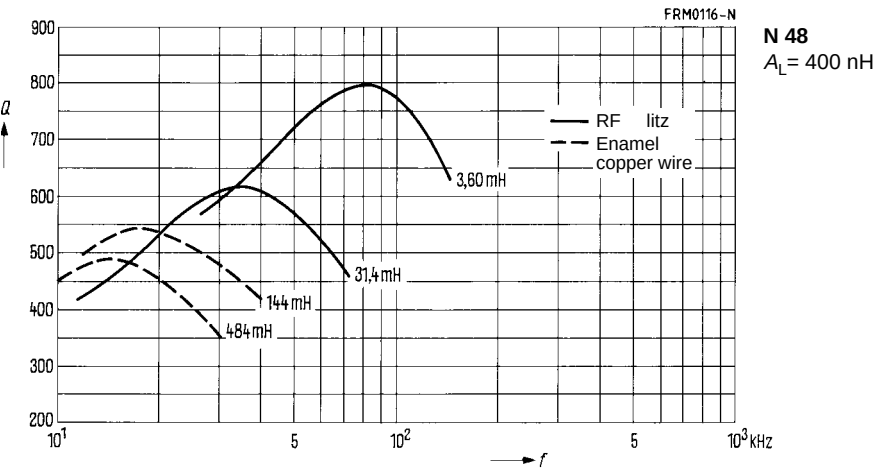
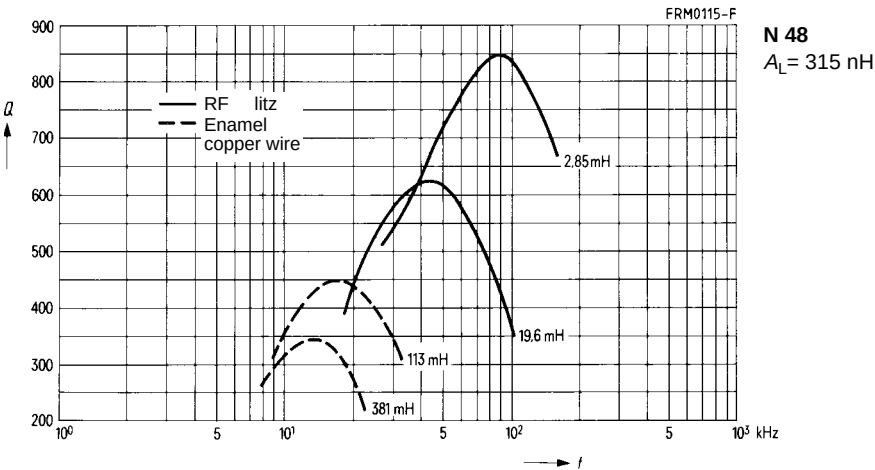
Adjusting screw B65812-B3001-X22
Color code black



Q factor characteristics (typical values)

Flux density in the core $\hat{B} < 2 \text{ mT}$

Material	L (mH) for		Turns	Wire; RF litz wire	Sections
	$A_L = 315 \text{ nH}$	$A_L = 400 \text{ nH}$			
N 48	381	484	1100	0,15 CuL	1
	113	144	600	0,2 CuL	1
	19,6	31,4	280	$20 \times 0,05 \text{ CuLS}$	1
	2,85	3,6	95	$60 \times 0,05 \text{ CuLS}$	1

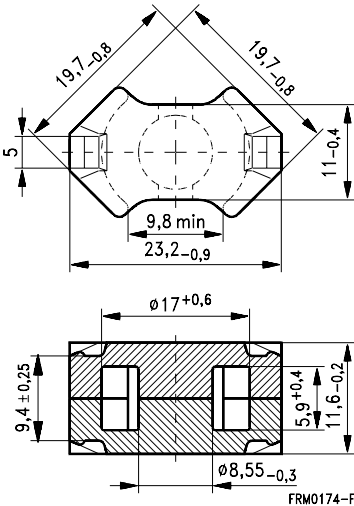


- For compact transformers
- Without center hole
- RM cores are supplied in sets

Magnetic characteristics (per set)

$\Sigma l/A = 0,44 \text{ mm}^{-1}$
 $l_e = 28,7 \text{ mm}$
 $A_e = 64,9 \text{ mm}^2$
 $A_{\min} = 55,4 \text{ mm}^2$
 $V_e = 1860 \text{ mm}^3$

Approx. weight 9,2 g/set



Ungapped

Material	A_L value nH	μ_e	$A_{L1\min}$	P_V W/set	Ordering code
N49	2900 + 30/- 20 %	1020	2000	0,33 (50 mT, 500 kHz, 100 °C)	B65811-P-R49
N87	4100 + 30/- 20 %	1440	2550	0,92 (200 mT, 100 kHz, 100 °C)	B65811-P-R87

Coil former

Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085:
H $\geq$ max. operating temperature 155 °C), color code black

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

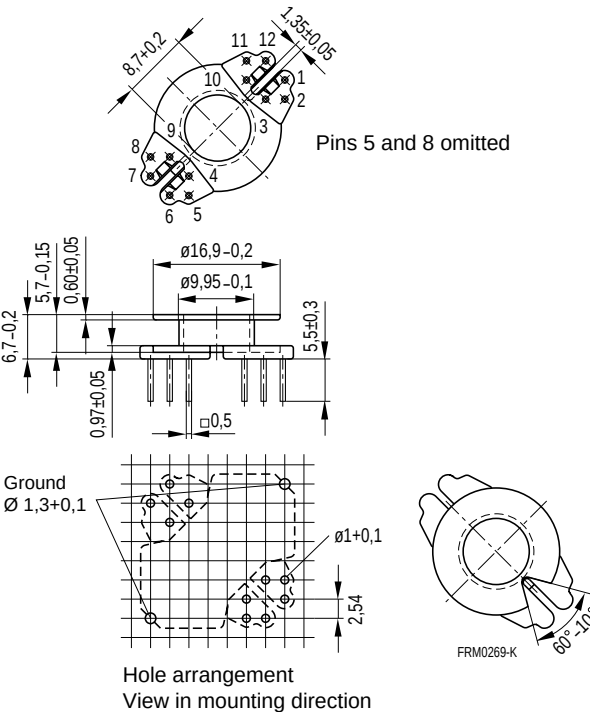
Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3,5 s

Winding: see page [152](#)

Squared pins

For matching clamp and insulating washers see page [250](#)

Sections	A_N mm ²	l_N mm	A_R value $\mu\Omega$	Pins	Ordering code
1	14,3	42	101	10	B65812-P1010-D1



Clamp

- With ground terminal, made of stainless spring steel (tinned), 0,4 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

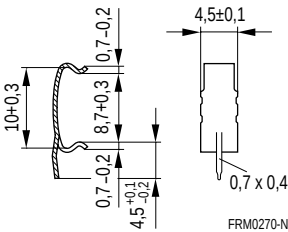
- For tolerance compensation and for insulation
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E $\triangleq$ 120 °C), 0,06 mm thick

Insulating washer 2 for double-clad PCBs

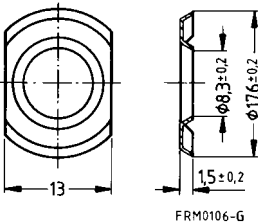
- Made of polycarbonate (UL 94 V-0, insulation class to IEC 60085: E $\triangleq$ 120 °C), 0,3 mm thick

	Ordering code
Clamp (ordering code per piece, 2 are required)	B65812-P2203
Insulating washer 1 (reel packing, PU = 1 reel)	B65812-A5000
Insulating washer 2 (bulk)	B65812-C2005

Clamp



Insulating washer 1



Insulating washer 2

