PM/P/P Cores Halves/EP/TT/PR Cores

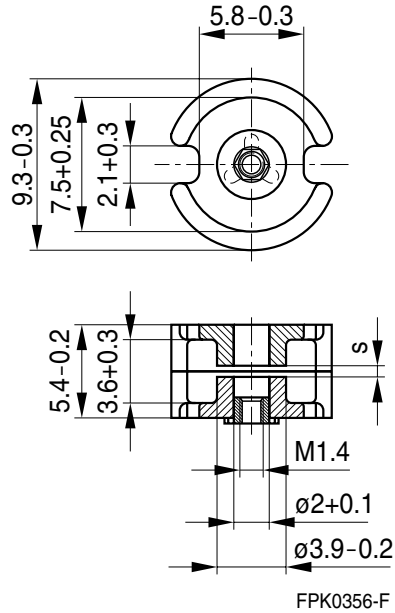
Series/Type: B65522

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B65522A5000X000		18.10.2004	31.03.2005	30.09.2005

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.

- To IEC 60133
- Delivery mode: sets



Magnetic characteristics (per set)

	with center hole	without center hole	
$\Sigma l/A$	1.25	1.13	mm^{-1}
l_e	12.5	13.4	mm
A_e	10	11.9	mm^2
A_{min}	—	9.3	mm^2
V_e	125	159	mm^3

Approx. weight (per set)

m	0.8	1.0	g

Gapped

Material	A_L value nH	s approx. mm	μ_e	Ordering code [1] -D with center hole -T with threaded sleeve
K1	25 ±3% 40 ±3%	0.45 0.26	25 40	B65517+0025A001 B65517+0040A001
M33	63 ±3%	0.20	63	B65517D0063A033
N48	100 ±3% 160 ±3% 200 ±3% 250 ±5%	0.10 0.06 0.04 0.03	100 159 200 249	B65517+0100A048 B65517+0160A048 B65517D0200A048 B65517D0250J048

Ungapped

Material	A_L value nH	μ_e	Ordering code -D with center hole -W without center hole
N48	1300 +30/–20%	1290	B65517D0000R048
N30	2500 +30/–20%	2490	B65517D0000R030
T38	5500 +40/–30%	4930	B65517W0000Y038

1) Replace the + by the code letter ”D“ or ”T“ for the required version.

Coil former

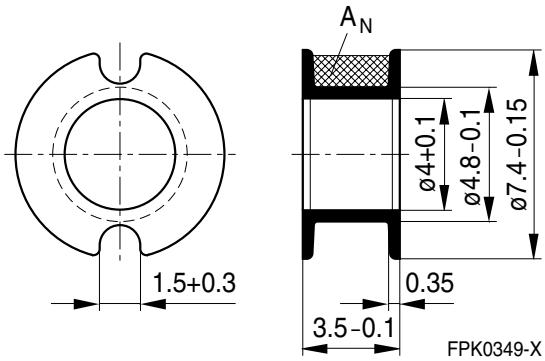
Standard: to IEC 60133
Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085: F ≙ max. operating temperature 155 °C), color code black
Valox 420-SE0® [E45329 (M)], GE PLASTICS B V
Winding: see Data Book 2007, chapter “Processing notes, 2.1”

Insulating washer between core and coil former

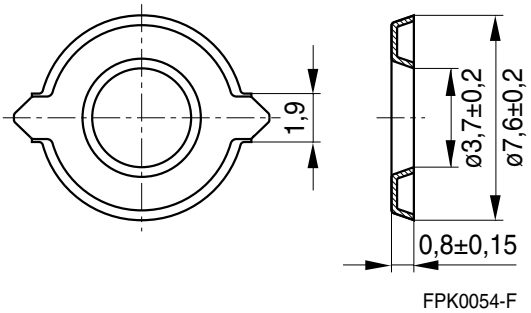
- For tolerance compensation and for insulation
- Polycarbonate spring washer (UL 94 V-0, insulation class to IEC 60085: E ≙ 120 °C), 0.08 mm thick Aryphan F685, [E167358 (M)], natural color, LOFO HIGH TECH FILM GMBH

Coil former				Ordering code
Sections	A_N mm²	l_N mm	A_R value μΩ	
1	3.6	19.2	183	B65522B0000T001
Insulating washer (reel packing, PU = 1 reel)				B65522A5000X000

Coil former



Insulating washer
(preliminary data)



SMD

SMD coil former with gullwing terminals

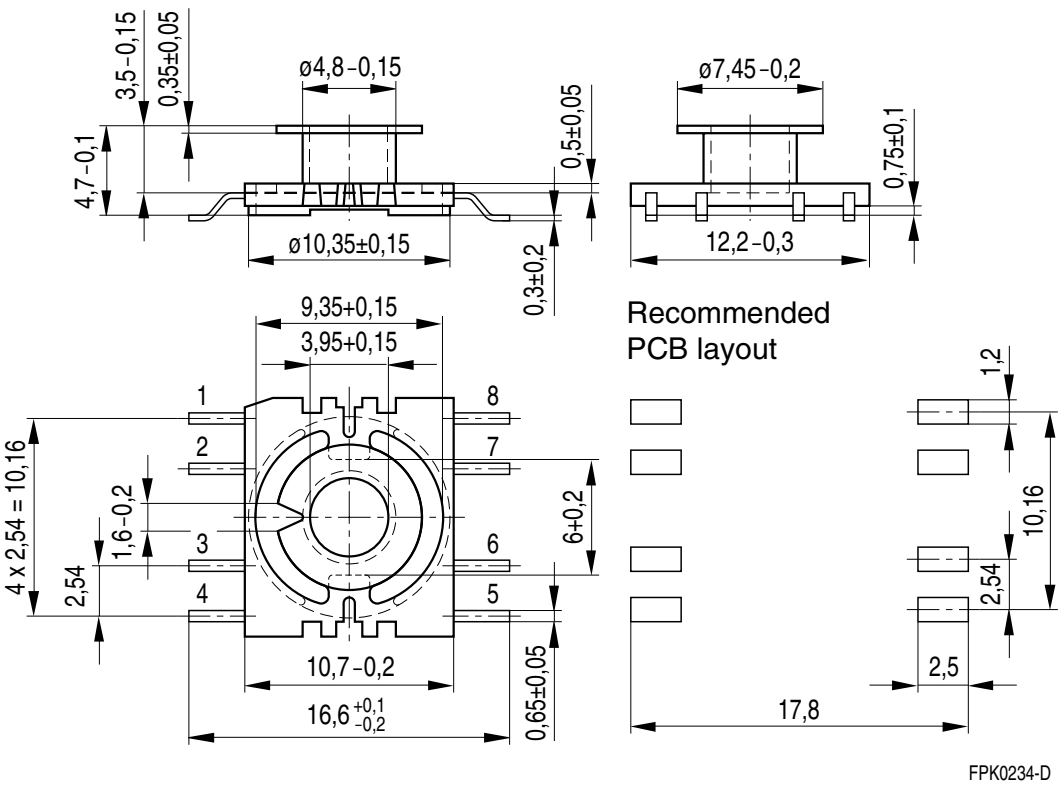
Material: GFR liquid crystal polymer (UL 94 V-0, insulation class to IEC 60085:
F ≙ max. operating temperature 155 °C), color code black
Zenite 7130® [E41938 (M)], E I DUPONT DE NEMOURS & CO INC

Solderability: to IEC 60068-2-58, test Td, method 6 (Group 3): 245 °C, 3 s

Resistance to soldering heat: to IEC 60068-2-58, test Td, method 6 (Group 3): 255 °C, 10 s
permissible soldering temperature for wire-wrap connection on coil former: 400 °C, 1 s

Winding: see Data Book 2007, chapter “Processing notes, 2.1”

Sections	A_N mm²	l_N mm	A_R value μΩ	Terminals	Ordering code
1	3.4 3.4	19.2 19.2	194 194	4 8	B65524C1004T001 B65524C1008T001



In the 4-terminal version terminals 2, 3, 6 and 7 are omitted.

Mounting assembly for printed circuit boards

- The set comprises a terminal carrier and a yoke
- For snap-in connection

Terminal carrier

- With thread for the adjusting screw (to be combined with core version ”D“)

Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085: F ≙ max. operating temperature 155 °C), color code black Pocan B4235® [E245249 (M)], LANXESS AG

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

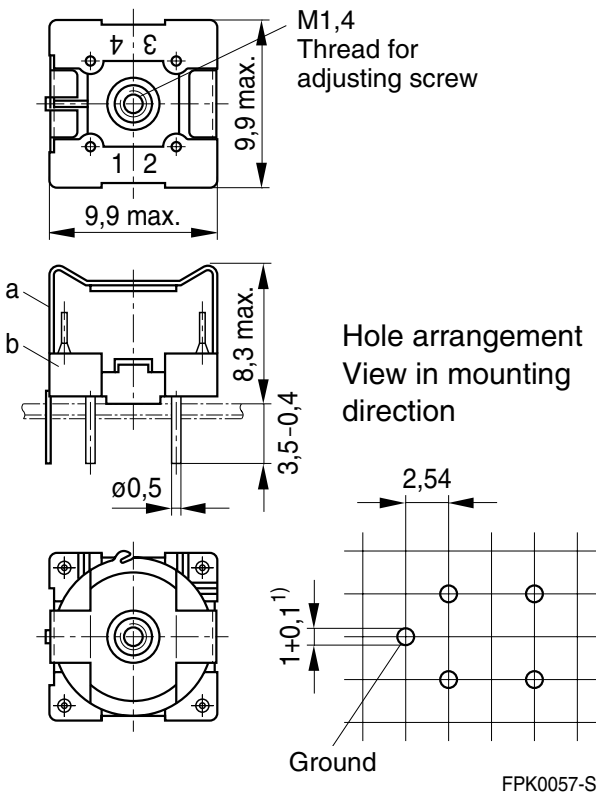
Resistance to soldering heat: to IEC 60068-2-20, test Tb, method 1B: 350 °C, 3.5 s

Yoke

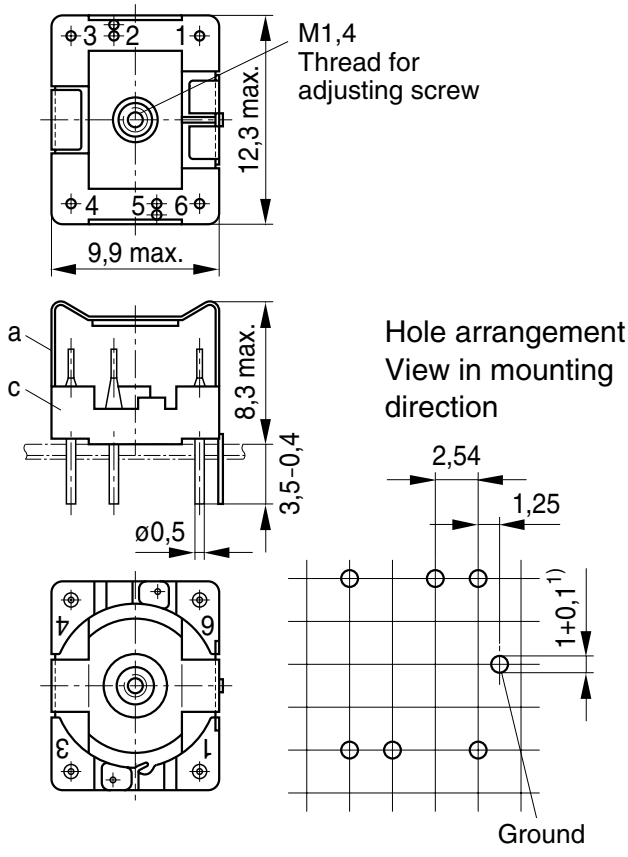
Spring yoke, made of tinned nickel silver (0.25 mm), with ground terminal

Complete mounting assembly (4 solder terminals) Ordering code: B65518D2001X000	Complete mounting assembly (6 solder terminals) Ordering code: B65518D2002X000

4 solder terminals



6 solder terminals



1) 1.3 hole also permissible

a) Yoke

b) Terminal carrier with 4 solder terminals

c) Terminal carrier with 6 solder terminals

Mechanical stress and mounting

Ferrite cores have to meet mechanical requirements during assembling and for a growing number of applications. Since ferrites are ceramic materials one has to be aware of the special behavior under mechanical load.

As valid for any ceramic material, ferrite cores are brittle and sensitive to any shock, fast changing or tensile load. Especially high cooling rates under ultrasonic cleaning and high static or cyclic loads can cause cracks or failure of the ferrite cores.

For detailed information see Data Book 2007, chapter “General – Definitions, 8.1”.

Effects of core combination on A_L value

Stresses in the core affect not only the mechanical but also the magnetic properties. It is apparent that the initial permeability is dependent on the stress state of the core. The higher the stresses are in the core, the lower is the value for the initial permeability. Thus the embedding medium should have the greatest possible elasticity.

For detailed information see Data Book 2007, chapter “General – Definitions, 8.2”.

Heating up

Ferrites can run hot during operation at higher flux densities and higher frequencies.

NiZn-materials

The magnetic properties of NiZn-materials can change irreversible in high magnetic fields.

Processing notes

– The start of the winding process should be soft. Else the flanges may be destroid.
– To strong winding forces may blast the flanges or squeeze the tube that the cores can no more be mount.
– To long soldering time at high temperature (>300 °C) may effect coplanarity or pin arrangement.
– Not following the processing notes for soldering of the J-leg terminals may cause solderability problems at the transformer because of pollution with Sn oxyd of the tin bath or burned insulation of the wire. For detailed information see Data Book 2007, chapter “Processing notes, 2.2”.
– The dimensions of the hole arrangement have fixed values and should be understood as a recommendation for drilling the printed circuit board. For dimensioning the pins, the group of holes can only be seen under certain conditions, as they fit into the given hole arrangement. To avoid problems when mounting the transformer, the manufacturing tolerances for positioning the customers’ drilling process must be considered by increasing the hole diameter.

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The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
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