Ferrites and accessories

P 22 × 13
Core and accessories

Series/Type: **B65661, B65662, B65812**
Date: October 2009

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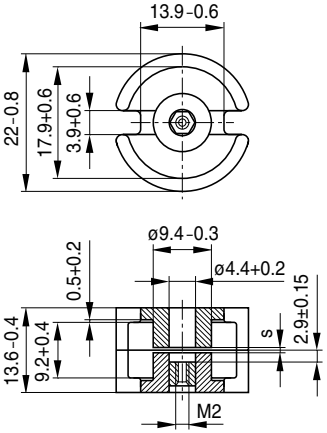
- To IEC 60133
- Delivery mode: sets



FPK0118-Q

Magnetic characteristics (per set)

	with center hole	without center hole	
$\Sigma l/A$	0.5	0.46	mm^{-1}
l_e	31.6	33.2	mm
A_e	63	72.6	mm^2
A_{min}	—	58.1	mm^2
V_e	1990	2410	mm^3

Approx. weight (per set)

m	13	14	g

Gapped

Material	A_L value nH	s approx. mm	μ_e	Ordering code [1] -D with center hole -N with threaded sleeve
N48	160 ±3%	0.50	64	B65661+0160A048
	250 ±3%	0.26	100	B65661+0250A048
	315 ±3%	0.22	126	B65661+0315A048
	630 ±3%	0.10	251	B65661+0630A048
	1250 ±5%	0.05	499	B65661D1250J048

Ungapped

Material	A_L value nH	μ_e	P_V W/set	Ordering code -D with center hole -W without center hole
K1	220 +30/–20%	88		B65661D0000R001
N48	3800 +30/–20%	1520		B65661D0000R048
N30	8300 +30/–20%	3020		B65661W0000R030
T38	16000 +40/–30%	5820		B65661W0000Y038
N87	4400 +30/–20%	1600	< 1.1 (200 mT, 100 kHz, 100 °C)	B65661W0000R087

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

Coil former

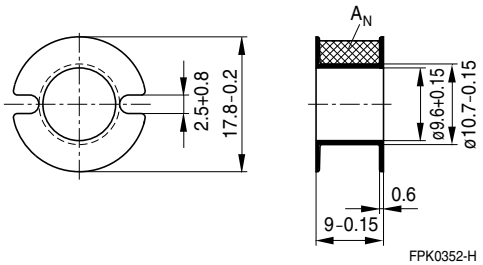
Standard: to IEC 60133
Material: GFR polyterephthalate (UL 94 V-0, insulation class to IEC 60085: F ≙ max. operating temperature 155 °C), color code black Valox 420-SE0® [E45329 (M)], GE PLASTICS B V
Winding: see Data Book 2007, chapter “Processing notes, 2.1”

Insulating washer between core and coil former

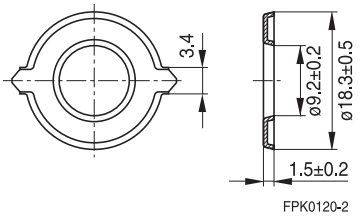
- For tolerance compensation and for insulation
- Polycarbonate spring washer (UL 94 V-0, insulation class to IEC 60085: E ≙ 120 °C), 0.08 mm thick Aryphan F685, [E167358 (M)], natural color, LOFO HIGH TECH FILM GMBH

Coil former				Ordering code
Sections	A_N mm²	l_N mm	A_R value μΩ	
1	23.4	44	67	B65662B0000T001
Insulating washer (reel packing, PU = 1 reel)				B65662A5000X000

Coil former



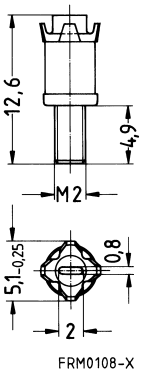
Insulating washer
(preliminary data)



Adjusting screw

- Tube core with thread and core brake made of GFR polyterephthalate Pocan B3235® [E245249 (M)], LANXESS AG

Tube core ∅ × length (mm)	Material	Color code	Ordering code
3.85 × 5.0	N22	gray	B65812B3003X022



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 their special behavior under mechanical load.

Just like any ceramic material, ferrite cores are brittle and sensitive to any shock, fast changing or tensile load. Especially fast cooling rates under ultrasonic cleaning, high static and 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 the value for the initial permeability. Thus, the embedding medium should offer 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 irreversibly when exposed to strong magnetic fields.

Processing notes

- The start of the winding process should be soft. Otherwise, the flanges may be destroyed.
- Excessive winding forces may damage the flanges or squeeze the tube so that the cores can no longer be mounted.
- Excessive soldering time at high temperature (>300 °C) may affect 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 contamination with tin oxide (SnO) from the tin bath or burned insulation from the wire. For detailed information see Data Book 2007, chapter "Processing notes, 2.2".
- The dimensions of the pin hole arrangement are fixed and should be understood as an ideal recommendation for drilling the printed circuit board. In order to avoid problems when mounting the transformer, customers should make allowances for manufacturing tolerances in the drilling and pick-and-place processes by increasing the diameter of the pin holes.

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- Техническая поддержка проекта;
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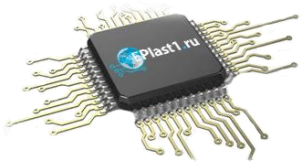

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