



Ferrites and accessories

EPX 7/9
Core and accessories

Series/Type: **B65857A, B65858**
Date: September 2011

- For xDSL line transformer
- Foot print of EP7
- Height of EP13
- Optimized design for low distortion
- Delivery mode: sets

Magnetic characteristics (per set)

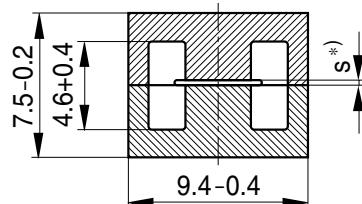
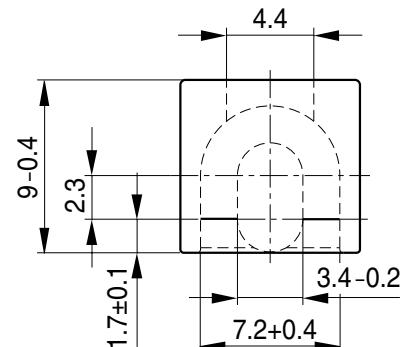
$$\Sigma I/A = 0.91 \text{ mm}^{-1}$$

$$l_e = 15.7 \text{ mm}$$

$$A_e = 17.2 \text{ mm}^2$$

$$A_{\min} = 13.9 \text{ mm}^2$$

$$V_e = 270 \text{ mm}^3$$

Approx. weight 2.8 g/set

^{*)} gapped (one-sided)

FEP0008-O

Gapped

Material	A_L value nH	s approx. mm	μ_e	Ordering code
T38	$63 \pm 3\%$	0.35	46	B65857A0063A038
	$100 \pm 3\%$	0.22	73	B65857A0100A038
	$160 \pm 4\%$	0.14	116	B65857A0160B038
	$200 \pm 4\%$	0.11	145	B65857A0200B038
	$250 \pm 5\%$	0.09	182	B65857A0250J038
	$315 \pm 6\%$	0.06	229	B65857A0315C038
	$400 \pm 7\%$	0.05	291	B65857A0400E038
T57	$63 \pm 3\%$	0.35	46	B65857A0063A057
	$100 \pm 3\%$	0.22	73	B65857A0100A057
	$160 \pm 4\%$	0.14	116	B65857A0160B057
	$200 \pm 4\%$	0.11	145	B65857A0200B057
	$250 \pm 5\%$	0.09	182	B65857A0250J057
	$315 \pm 6\%$	0.06	229	B65857A0315C057
	$400 \pm 7\%$	0.05	291	B65857A0400E057
T66	$63 \pm 3\%$	0.35	46	B65857A0063A066
	$100 \pm 3\%$	0.22	73	B65857A0100A066
	$160 \pm 4\%$	0.14	116	B65857A0160B066
	$200 \pm 4\%$	0.11	145	B65857A0200B066
	$250 \pm 5\%$	0.09	182	B65857A0250J066
	$315 \pm 6\%$	0.06	229	B65857A0315C066
	$400 \pm 7\%$	0.05	291	B65857A0400E066

Gapped

Material	A_L value nH	s approx. mm	μ_e	Ordering code
N45	63 \pm 3%	0.35	46	B65857A0063A045
	100 \pm 3%	0.22	73	B65857A0100A045
	160 \pm 4%	0.14	116	B65857A0160B045
	200 \pm 4%	0.11	145	B65857A0200B045
	250 \pm 5%	0.09	182	B65857A0250J045
	315 \pm 6%	0.06	229	B65857A0315C045
	400 \pm 7%	0.05	291	B65857A0400E045

Ungapped

Material	A_L value nH	μ_e	Ordering code
N45	2500 +30/-20%	1820	B65857A0000R045
T57	2600 +30/-20%	1890	B65857A0000R057
T38	9000 +40/-30%	6540	B65857A0000Y038
T66	10500 +40/-30%	7630	B65857A0000Y066


SMD coil former with gullwing terminals

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

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

Zenite 7130® [E344082 (M)], TICONA

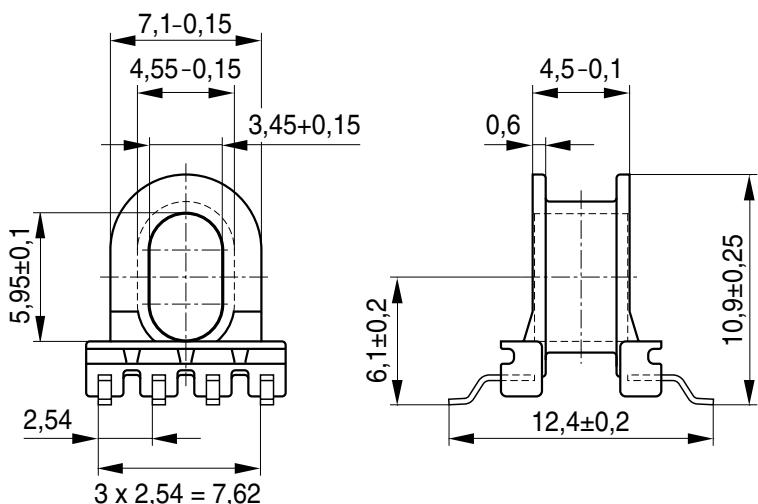
Solderability: to IEC 60068-2-58, test Td, method 6 (Group 3): 245 °C, 3 s

Resistance to soldering heat: to IEC 60068-2-58, test Td, method 6 (Group 3): 255 °C, 10 s

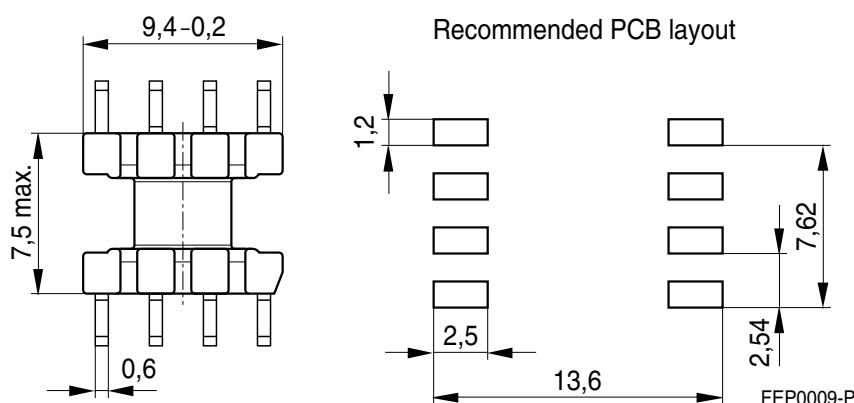
permissible soldering temperature for wire-wrap connection on coil former: 400 °C, 1 s

Winding: see Data Book 2007, chapter "Processing notes, 2.1"

Sections	A_N mm ²	l_N mm	A_R value μΩ	Terminals	Ordering code
1	4.1	22.9	191.8	8	B65858A1008T001



Bottom view



Ferrites and accessories

Cautions and warnings

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 destroyed.
- Too strong winding forces may blast the flanges or squeeze the tube that the cores can no longer be mounted.
- Too long soldering time at high temperature ($>300\text{ }^{\circ}\text{C}$) 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 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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