



Ferrites and accessories

EELP 32, EILP 32
Core set (with and without clamp recess)

Series/Type: B66287G, B66287P, B66457G, B66457P, B65808, B66288
Date: September 2006, January 2008

ELP 32/6/20
Core and accessories (with clamp recess)
B66287, B65808
Core set EELP 32
Combination: ELP 32/6/20 with ELP 32/6/20

- To IEC 62317-9
- Delivery mode: single units

Magnetic characteristics (per set)

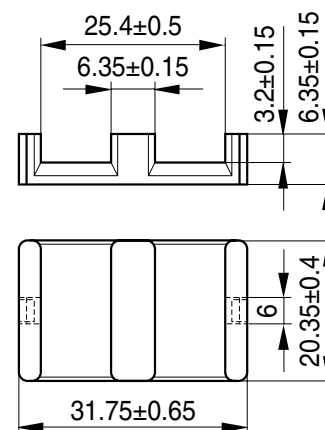
$$\Sigma l/A = 0.32 \text{ mm}^{-1}$$

$$l_e = 41.4 \text{ mm}$$

$$A_e = 130 \text{ mm}^2$$

$$A_{\min} = 128 \text{ mm}^2$$

$$V_e = 5390 \text{ mm}^3$$

Approx. weight 28 g/set
ELP 32/6/20


FEK0341-3

Ungapped

Material	A_L value nH	μ_e	P_V W/set	Ordering code (per piece)
N49	3900 ±25%	990	< 1.40 (50 mT, 500 kHz, 100 °C)	B66287G0000X149
N92	4300 ±25%	1090	< 3.70 (200 mT, 100 kHz, 100 °C)	B66287G0000X192
N87	5700 ±25%	1450	< 3.40 (200 mT, 100 kHz, 100 °C)	B66287G0000X187
N97	5700 ±25%	1440	< 2.60 (200 mT, 100 kHz, 100 °C)	B66287G0000X197

Calculation factors (for formulas, see “E cores: general information”, page 372)

EELP 32:

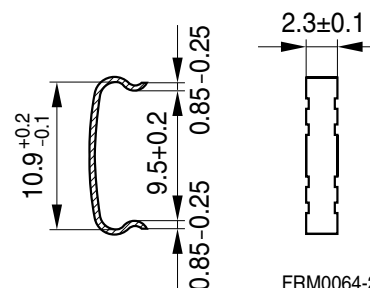
Material	Relationship between air gap – A_L value		Calculation of saturation current			
	K1 (25 °C)	K2 (25 °C)	K3 (25 °C)	K4 (25 °C)	K3 (100 °C)	K4 (100 °C)
N87	208	-0.819	367	-0.796	322	-0.873

 Validity range: K1, K2: 0.10 mm < s < 1.50 mm
 K3, K4: 150 nH < A_L < 1000 nH

Clamp

Ordering code per piece, 2 pieces required

Ordering code: B65808J2204X000



FRM0064-2

ELP 32/6/20 with I 32/3/20
Core and accessories (with clamp recess)
B66287, B66288
Core set EILP 32
Combination:
ELP 32/6/20 with I 32/3/20

- To IEC 62317-9
- Delivery mode: single units

Magnetic characteristics (per set)

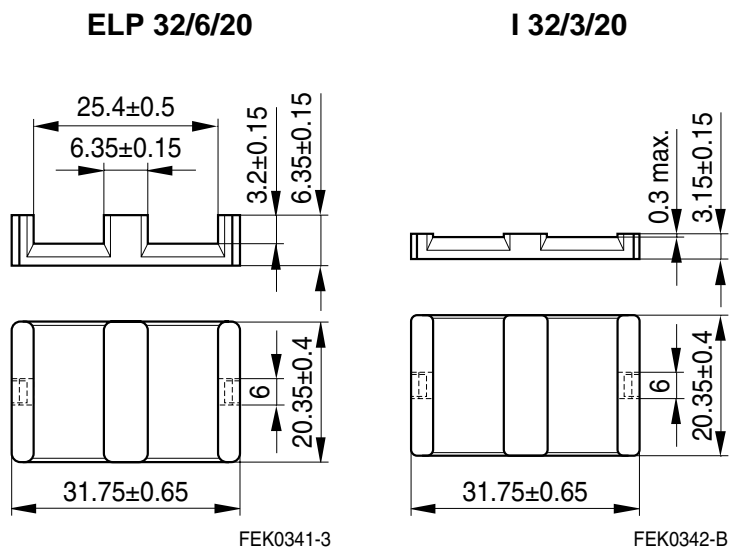
$$\Sigma l/A = 0.27 \text{ mm}^{-1}$$

$$l_e = 35.1 \text{ mm}$$

$$A_e = 130 \text{ mm}^2$$

$$A_{\min} = 128 \text{ mm}^2$$

$$V_e = 4560 \text{ mm}^3$$

Approx. weight 24 g/set

Ungapped

Material	A_L value nH	μ_e	P_V W/set	Ordering code (per piece)
N49	4400 ±25%	950	< 1.20 (50 mT, 500 kHz, 100 °C)	B66287G0000X149 (ELP core) B66287P0000X149 (I core)
N92	4800 ±25%	1031	< 3.20 (200 mT, 100 kHz, 100 °C)	B66287G0000X192 (ELP core) B66287P0000X192 (I core)
N87	6300 ±25%	1350	< 2.90 (200 mT, 100 kHz, 100 °C)	B66287G0000X187 (ELP core) B66287P0000X187 (I core)
N97	6300 ±25%	1350	< 2.20 (200 mT, 100 kHz, 100 °C)	B66287G0000X197 (ELP core) B66287P0000X197 (I core)

Calculation factors (for formulas, see “E cores: general information”, page 372)
EILP 32:

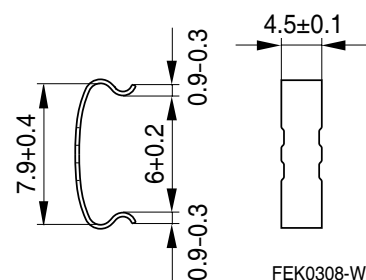
Material	Relationship between air gap – A_L value		Calculation of saturation current			
	K1 (25 °C)	K2 (25 °C)	K3 (25 °C)	K4 (25 °C)	K3 (100 °C)	K4 (100 °C)
N87	234	-0.777	379	-0.796	329	-0.873

Validity range: K1, K2: 0.10 mm < s < 1.50 mm
K3, K4: 150 nH < A_L < 1000 nH

Clamp

Ordering code per piece, 2 pieces required.

Ordering code: B66288F2204X000



Core set EELP 32
Combination: ELP 32/6/20 with ELP 32/6/20

- To IEC 62317-9
- Delivery mode: single units

Magnetic characteristics (per set)

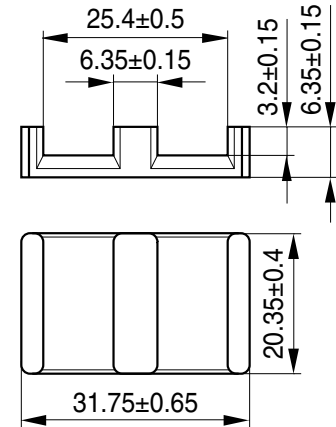
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$$l_e = 41.4 \text{ mm}$$

$$A_e = 130 \text{ mm}^2$$

$$A_{\min} = 128 \text{ mm}^2$$

$$V_e = 5390 \text{ mm}^3$$

Approx. weight 28 g/set
ELP 32/6/20


FEK0403-W

Ungapped

Material	A_L value nH	μ_e	P_V W/set	Ordering code (per piece)
N49	3900 ±25%	990	< 1.40 (50 mT, 500 kHz, 100 °C)	B66457G0000X149
N92	4300 ±25%	1030	< 3.70 (200 mT, 100 kHz, 100 °C)	B66457G0000X192
N87	5700 ±25%	1450	< 3.40 (200 mT, 100 kHz, 100 °C)	B66457G0000X187
N97	5700 ±25%	1440	< 2.60 (200 mT, 100 kHz, 100 °C)	B66457G0000X197

Calculation factors (for formulas, see “E cores: general information”, page 372)
EELP 32:

Material	Relationship between air gap – A_L value		Calculation of saturation current			
	K1 (25 °C)	K2 (25 °C)	K3 (25 °C)	K4 (25 °C)	K3 (100 °C)	K4 (100 °C)
N87	208	-0.819	367	-0.796	322	-0.873

 Validity range: K1, K2: 0.10 mm < s < 1.50 mm
 K3, K4: 150 nH < A_L < 1000 nH

Core set EILP 32
Combination:
ELP 32/6/20 with I 32/3/20

- To IEC 62317-9
- Delivery mode: single units

Magnetic characteristics (per set)

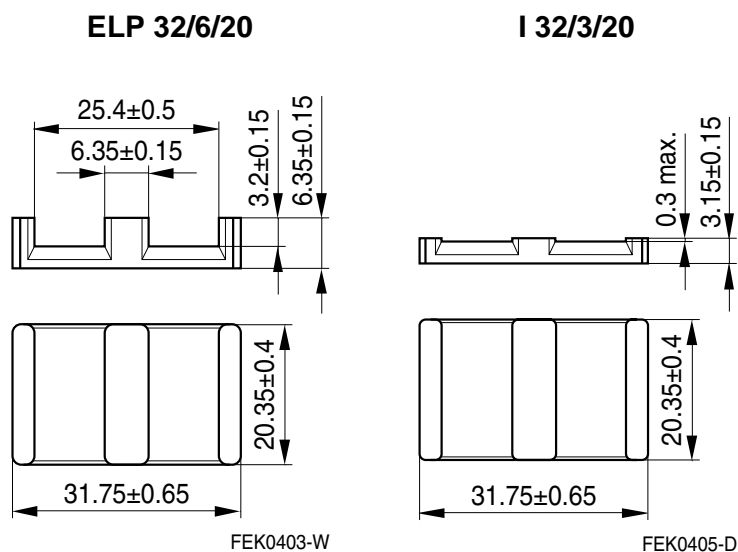
$$\Sigma l/A = 0.27 \text{ mm}^{-1}$$

$$l_e = 35.1 \text{ mm}$$

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Ungapped

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N92	4800 ±25%	1031	< 3.20 (200 mT, 100 kHz, 100 °C)	B66457G0000X192 (ELP core) B66457P0000X192 (I core)
N87	6300 ±25%	1350	< 2.90 (200 mT, 100 kHz, 100 °C)	B66457G0000X187 (ELP core) B66457P0000X187 (I core)
N97	6300 ±25%	1350	< 2.20 (200 mT, 100 kHz, 100 °C)	B66457G0000X197 (ELP core) B66457P0000X197 (I core)

Calculation factors (for formulas, see “E cores: general information”, page 372)
EILP 32:

Material	Relationship between air gap – A_L value		Calculation of saturation current			
	K1 (25 °C)	K2 (25 °C)	K3 (25 °C)	K4 (25 °C)	K3 (100 °C)	K4 (100 °C)
N87	234	-0.777	379	-0.796	329	-0.873

Validity range: K1, K2: 0.10 mm < s < 1.50 mm
K3, K4: 150 nH < A_L < 1000 nH

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 “Definitions”, section 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 “Definitions”, section 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.
- 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”, section 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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