



## **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)**

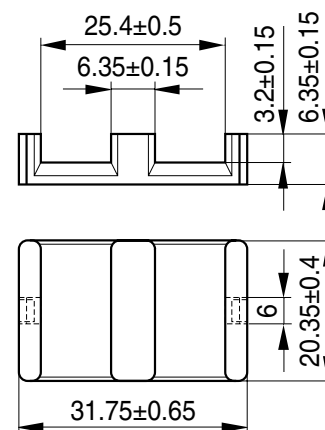
$$\Sigma l/A = 0.32 \text{ mm}^{-1}$$

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

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

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

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

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


FEK0341-3

**Ungapped**

Material	$A_L$ value nH	$\mu_e$	$P_V$ 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:**

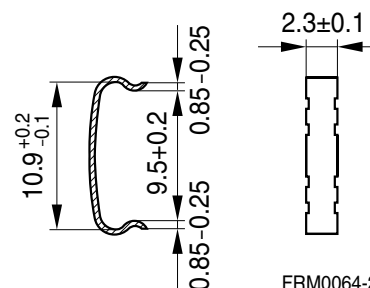
Material	Relationship between air gap – $A_L$ value		Calculation of saturation current			
	K1 (25 °C)	K2 (25 °C)	K3 (25 °C)	K4 (25 °C)	K3 (100 °C)	K4 (100 °C)
N87	208	-0.819	367	-0.796	322	-0.873

 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)**

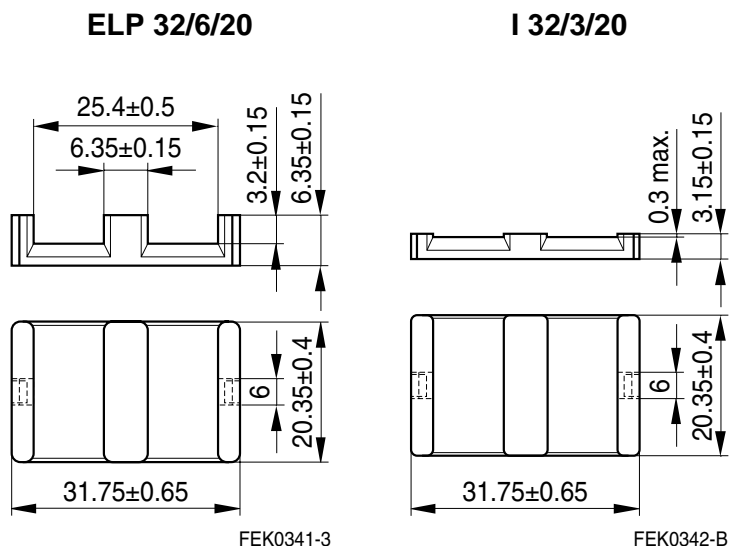
$$\Sigma l/A = 0.27 \text{ mm}^{-1}$$

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

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

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

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

**Approx. weight 24 g/set**

**Ungapped**

Material	$A_L$ value nH	$\mu_e$	$P_V$ 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:**

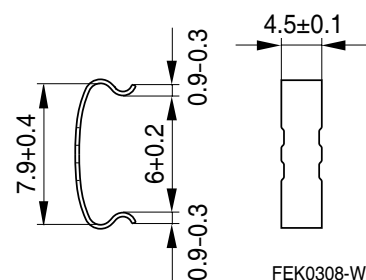
Material	Relationship between air gap – $A_L$ value		Calculation of saturation current			
	K1 (25 °C)	K2 (25 °C)	K3 (25 °C)	K4 (25 °C)	K3 (100 °C)	K4 (100 °C)
N87	234	-0.777	379	-0.796	329	-0.873

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)**

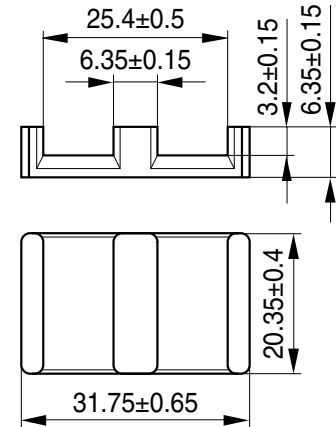
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$$A_e = 130 \text{ mm}^2$$

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

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

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


FEK0403-W

**Ungapped**

Material	$A_L$ value nH	$\mu_e$	$P_V$ 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)**

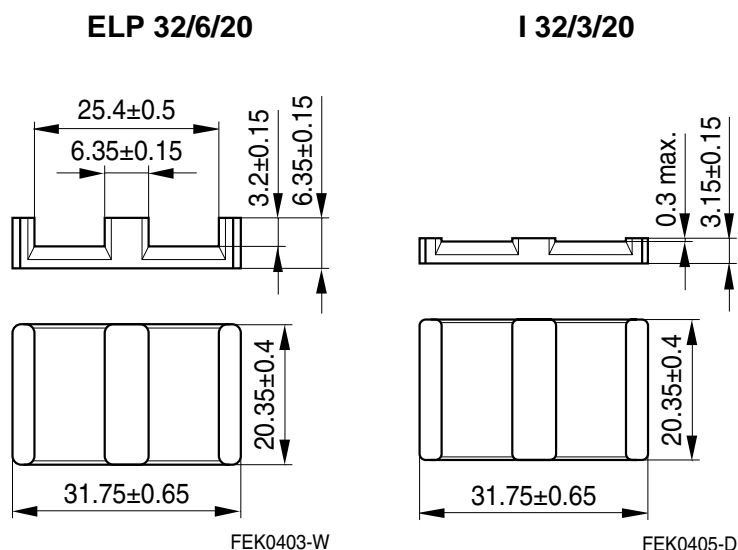
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N87	6300 ±25%	1350	< 2.90 (200 mT, 100 kHz, 100 °C)	B66457G0000X187 (ELP core) B66457P0000X187 (I core)
N97	6300 ±25%	1350	< 2.20 (200 mT, 100 kHz, 100 °C)	B66457G0000X197 (ELP core) B66457P0000X197 (I core)

**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 mounted.
- 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.

## Important notes

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**.

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