

## Power line chokes

Current-compensated ring core double chokes  
600 V AC / 1000 V DC, 0.42 ... 3.3 mH, 20 ... 50 A, +70 °C

**Series/Type:**            **B8272\*E6**

**Date:**                    **May 2015**

**Current-compensated ring core double chokes**

**Rated voltage 600 V AC / 1000 V DC**

**Rated inductance 0.42 ... 3.3 mH**

**Rated current 20 ... 50 A / +70 °C**

**Construction**

- Current-compensated ring core double choke
- Ferrite core
- Plastic core case incl. spacer (UL 94 V-0, CTI600)
- Plastic base plate (UL 94 V-0)
- Sector winding
- Clearance and creepage distances  $\geq 8$  mm

**Features**

- Insulation for high voltage applications
- Approx. 0.6 ... 0.8% stray inductance for symmetrical interference suppression
- Wide range of values due to 3 core sizes
- High rated current and rated temperature
- Suitable for wave soldering
- Design complies with EN 60938-2 (VDE 0565-2)
- UL 1446 class 155 (F) electrical insulation system
- Recyclable owing to omission of adhesives
- RoHS-compatible

**Applications**

- Suppression of common-mode interferences
- High-voltage switch-mode power applications
- Power inverters
- Frequency converters

**Terminals**

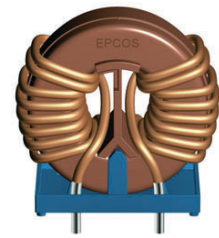
- Ends of winding wires
- Hot-dip tinned

**Marking**

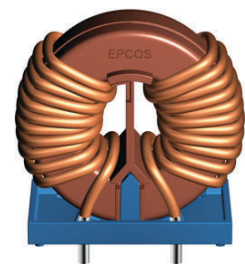
Product brand, electrical insulation system designation, ordering code, rated voltages, rated inductance, rated current, date of manufacture (YYWWD.internal ID code), production place identification code

**Delivery mode**

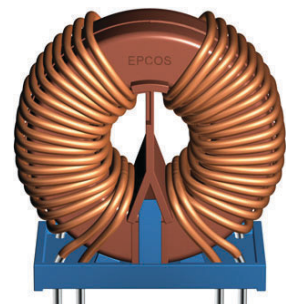
- Cardboard box



Size A



Size B

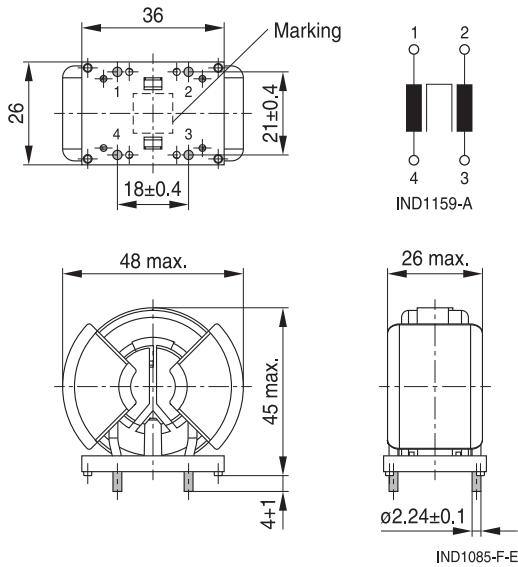


Size C

Current-compensated ring core double chokes

Dimensional drawings and pin configurations

Size A

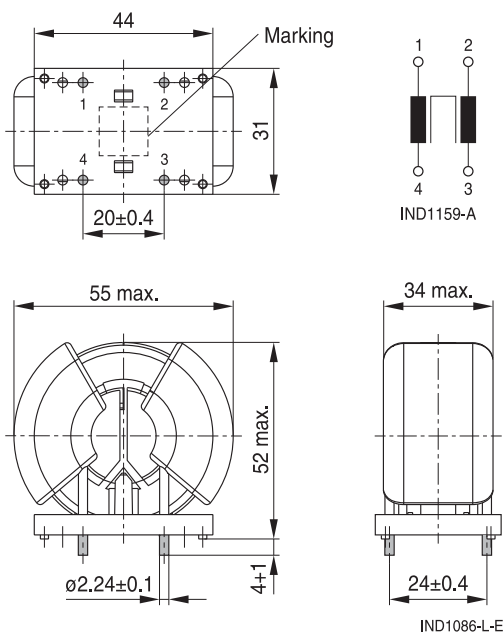


Tolerances to ISO 2768-cl / ISO 8015.  
 Size ISO 14405 (E)  
 All dimensions in mm

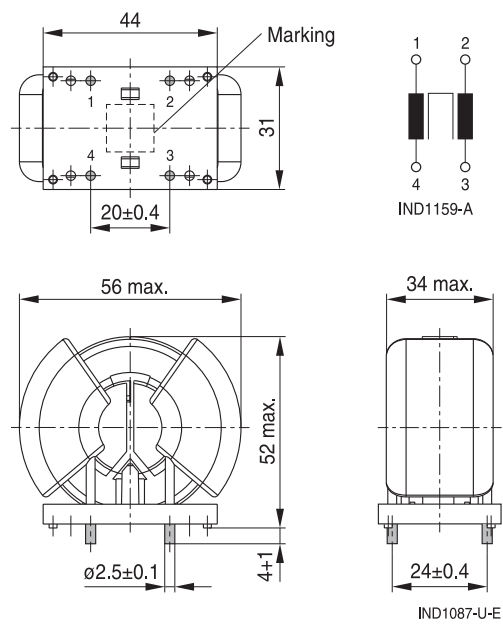
IND1245-O-E

Size B

Version 1



Version 2



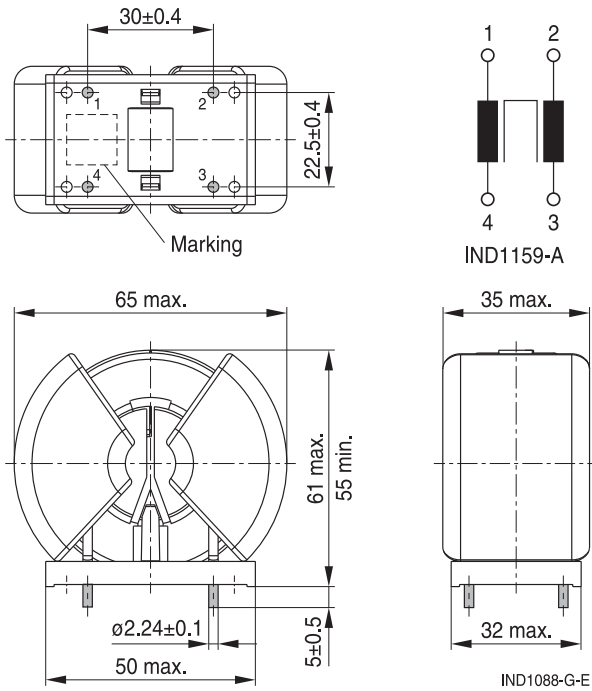
Tolerances to ISO 2768-cl / ISO 8015.  
 Size ISO 14405 (E)  
 All dimensions in mm

IND1245-O-E

**Current-compensated ring core double chokes**

**Size C**

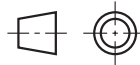
**Version 1**



Tolerances to ISO 2768-cl / ISO 8015.

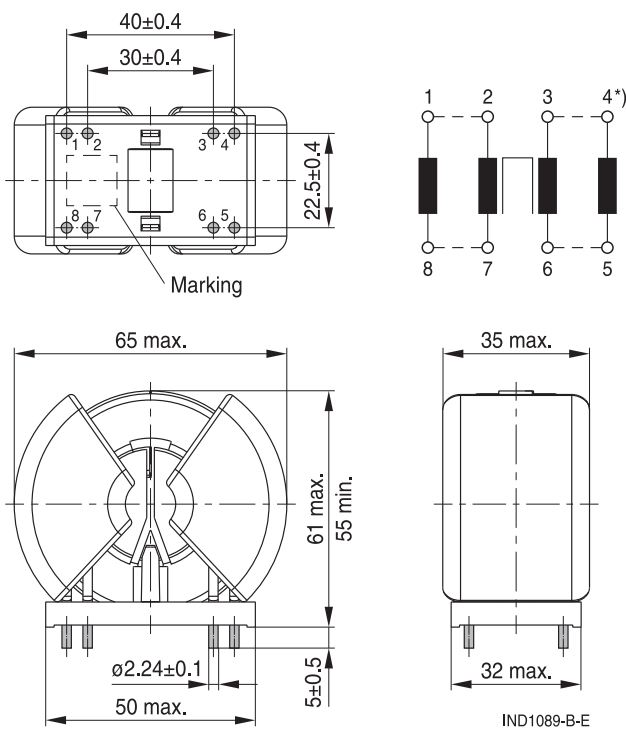
Size ISO 14405 (E)

All dimensions in mm



IND1245-O-E

**Version 2**



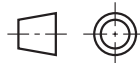
\*) Parallel wires must be shorted in application!

IND1160-B-E

Tolerances to ISO 2768-cl / ISO 8015.

Size ISO 14405 (E)

All dimensions in mm



IND1245-O-E

**Technical data and measuring conditions**

|  |   |
|--|---|
| Rated voltage $V_R$                              | 600 V AC (50 / 60 Hz)<br>1000 V DC  |
| Test voltage $V_{test}$                          | 3500 V DC, 2 s (line/line)<br>500 V DC, 1 s (parallel wires)  |
| Rated temperature $T_R$                          | +70 °C  |
| Rated current $I_R$                              | Referred to 50 Hz and rated temperature<br>(shorted parallel wires in application)  |
| Rated inductance $L_R$                           | Measured with Agilent 4284A at 0.1 mA, +20 °C<br>Measuring frequency: $L_R \leq 1$ mH: $f = 100$ kHz<br>$L_R > 1$ mH: $f = 10$ kHz<br>Inductance is specified per winding |
| Inductance tolerance                             | -30/+50% at +20 °C  |
| Inductance decrease $\Delta L/L_0$               | < 10% at DC magnetic bias with $I_R$ , +20 °C   |
| Stray inductance $L_{stray,typ}$                 | Measured with Agilent 4284A at 5 mA, +20 °C,<br>typical values<br>Measuring frequency: $L_R \leq 1$ mH: $f = 100$ kHz<br>$L_R > 1$ mH: $f = 10$ kHz                       |
| DC resistance $R_{typ}$                          | Measured at +20 °C, typical values,<br>specified per winding and shorted parallel wires   |
| Solderability (lead-free)                        | Sn96.5Ag3.0Cu0.5: +(245 ± 5) °C, (3 ± 0.3) s<br>Wetting of soldering area ≥ 95% (to IEC 60068-2-20, test Ta)  |
| Resistance to soldering heat<br>(wave soldering) | +(260 ± 5) °C, (10 ± 1) s<br>(to IEC 60068-2-20, test Tb)   |
| Climatic category                                | 40/125/56 (to IEC 60068-1)  |
| Pollution degree                                 | P2 (to IEC 61558-1)   |
| Storage conditions (packaged)                    | -25 °C ... +40 °C, ≤ 75% RH   |
| Approvals  | UL1446 Class 155 (F) (E320370)  |

**Characteristics and ordering codes**
**Size A**

| $I_{R,+70\text{ °C}}$<br>A | $L_R$<br>mH | $L_{\text{stray,typ}}$<br>$\mu\text{H}$ | $R_{\text{typ}}$<br>m $\Omega$ | Weight<br>approx. g | Ordering code                 |
|----------------------------|-------------|---|--------------------------------|---------------------|-------------------------------|
| 21                         | 1.5         | 8.3                                     | 2.8                            | 100                 | B82726E6213A040               |
| 24                         | 1.0         | 5.7                                     | 2.3                            | 90                  | B82726E6243A041               |
| 26                         | 0.6         | 3.8                                     | 1.7                            | 85                  | B82726E6263A040               |
| 29                         | 0.44        | 2.9                                     | 1.5                            | 80                  | B82726S6243A040 <sup>1)</sup> |

1) Alternative rating: 24 A at +85 °C

**Size B**

| $I_{R,+70\text{ °C}}$<br>A | $L_R$<br>mH | $L_{\text{stray,typ}}$<br>$\mu\text{H}$ | $R_{\text{typ}}$<br>m $\Omega$ | Weight<br>approx. g | Ordering code                 | Version |   |
|----------------------------|-------------|---|--------------------------------|---------------------|-------------------------------|---------|---|
|                            |             |   |                                |                     |                               | 1       | 2 |
| 20                         | 2.7         | 19                                      | 4.4                            | 155                 | B82726E6203B041               | X       | — |
| 24                         | 1.5         | 11                                      | 3.2                            | 135                 | B82726S6203A040 <sup>1)</sup> | X       | — |
| 28                         | 1.0         | 7                                       | 2.1                            | 140                 | B82726E6283B040               | —       | X |
| 33                         | 0.42        | 3.5                                     | 1.4                            | 120                 | B82726E6333B040               | —       | X |

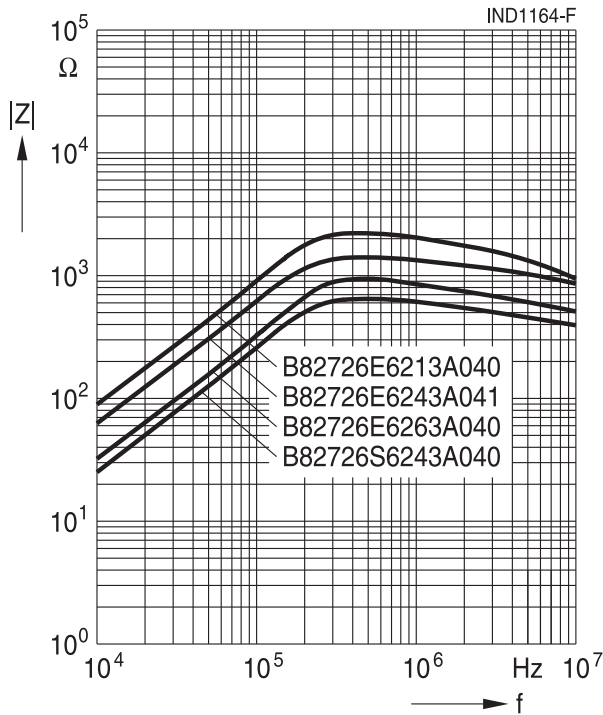
1) Alternative rating: 20 A at +85 °C

**Size C**

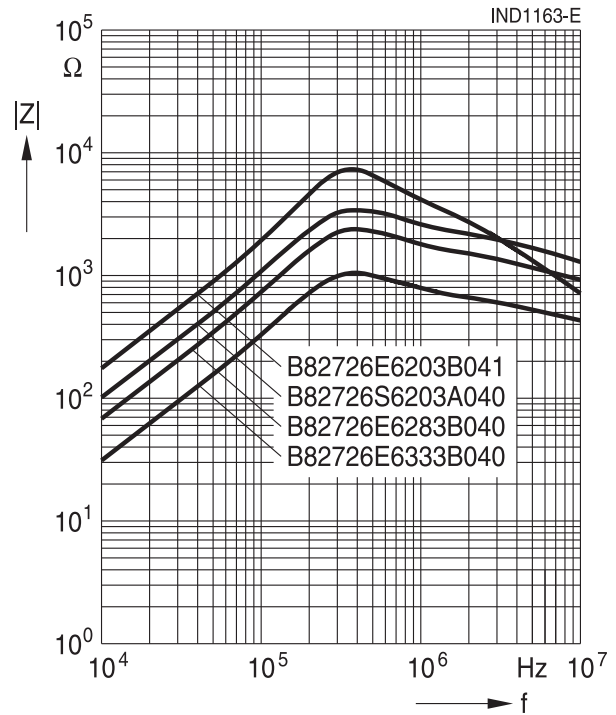
| $I_{R,+70\text{ °C}}$<br>A | $L_R$<br>mH | $L_{\text{stray,typ}}$<br>$\mu\text{H}$ | $R_{\text{typ}}$<br>m $\Omega$ | Weight<br>approx. g | Ordering code   | Version |   |
|----------------------------|-------------|---|--------------------------------|---------------------|-----------------|---------|---|
|                            |             |   |                                |                     |                 | 1       | 2 |
| 22                         | 3.3         | 20.0                                    | 4.6                            | 210                 | B82727E6223A040 | X       | — |
| 24                         | 2.2         | 15.0                                    | 3.9                            | 200                 | B82727E6243A040 | X       | — |
| 40                         | 1.5         | 9.0                                     | 1.7                            | 245                 | B82727E6403A040 | —       | X |
| 44                         | 1.0         | 6.3                                     | 1.35                           | 220                 | B82727E6443A040 | —       | X |
| 50                         | 0.57        | 3.7                                     | 1.0                            | 200                 | B82727E6503A040 | —       | X |

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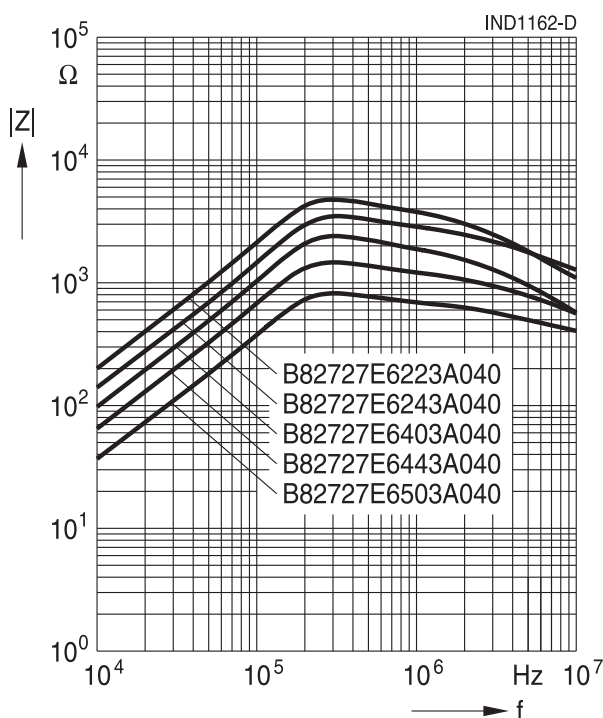
**Impedance  $|Z|$  versus frequency  $f$**   
measured with windings in parallel at +20 °C,  
typical values



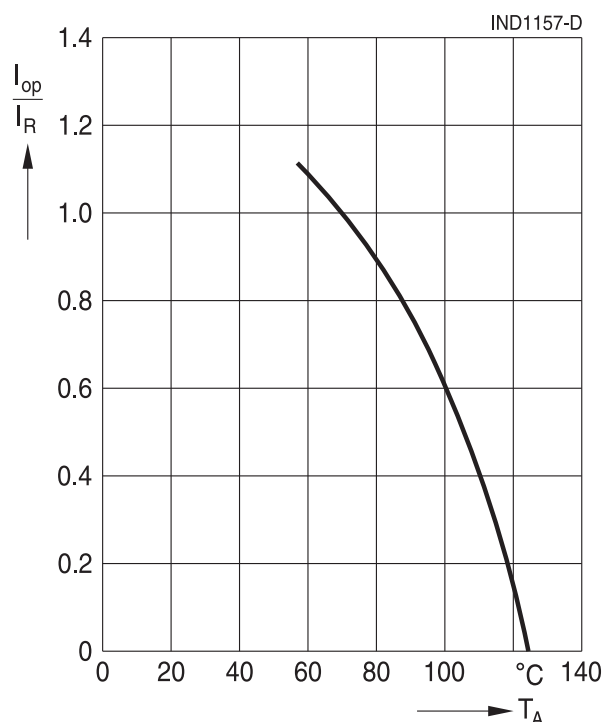
**Impedance  $|Z|$  versus frequency  $f$**   
measured with windings in parallel at +20 °C,  
typical values



**Impedance  $|Z|$  versus frequency  $f$**   
measured with windings in parallel at +20 °C,  
typical values



**Current derating  $I_{op}/I_R$**   
**versus ambient temperature  $T_A$**   
rated temperature  $T_R = +70$  °C



## Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition) and in the data sheets.
  - Particular attention should be paid to the derating curves given there.
  - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not the housing.
- If the components are to be washed varnished it is necessary to check whether the washing varnish agent that is used has a negative effect on the wire insulation, any plastics that are used, or on glued joints. In particular, it is possible for washing varnish agent residues to have a negative effect in the long-term on wire insulation.  
Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.
- The following points must be observed if the components are potted in customer applications:
  - Many potting materials shrink as they harden. They therefore exert a pressure on the plastic housing or core. This pressure can have a deleterious effect on electrical properties, and in extreme cases can damage the core or plastic housing mechanically.
  - It is necessary to check whether the potting material used attacks or destroys the wire insulation, plastics or glue.
  - The effect of the potting material can change the high-frequency behaviour of the components.
- Ferrites are sensitive to direct impact. This can cause the core material to flake, or lead to breakage of the core.
- Even for customer-specific products, conclusive validation of the component in the circuit can only be carried out by the customer.

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