# B82432C1334J000 Datasheet

| | |
|---|---|
| DiGi Electronics Part Number | B82432C1334J000-DG |
| Manufacturer | EPCOS - TDK Electronics |
| Manufacturer Product Number | B82432C1334J000 |
| Description | FIXED IND 330UH 85MA 14.1OHM SMD |
| Detailed Description | 330 µH Unshielded Drum Core, Wirewound Inductor 85 mA 14.1Ohm Max 2-SMD, J-Lead |

https://www.DiGi-Electronics.com

# Purchase and inquiry

| | |
|---|---|
| Manufacturer Product Number: | Manufacturer: |
| B82432C1334J000 | EPCOS - TDK Electronics |
| Series: | Product Status: |
| SIMID | Active |
| Type: | Material - Core: |
| Drum Core, Wirewound | Ferrite |
| Inductance: | Tolerance: |
| 330 µH | ±5% |
| Current Rating (Amps): | Current - Saturation (Isat): |
| 85 mA | - |
| Shielding: | DC Resistance (DCR): |
| Unshielded | 14.1Ohm Max |
| Q @ Freq: | Frequency - Self Resonant: |
| 30 @ 796kHz | 4.5MHz |
| Ratings: | Operating Temperature: |
| AEC-Q200 | -55°C ~ 125°C |
| Inductance Frequency - Test: | Mounting Type: |
| 100 kHz | Surface Mount |
| Package / Case: | Supplier Device Package: |
| 2-SMD, J-Lead | 1812 (4532 Metric) |
| Size / Dimension: | Height - Seated (Max): |
| 0.177" L x 0.126" W (4.50mm x 3.20mm) | 0.134" (3.40mm) |

# Environmental & Export classification

| | |
|---|---|
| RoHS Status: | Moisture Sensitivity Level (MSL): |
| ROHS3 Compliant | 1  (Unlimited) |
| REACH Status: | ECCN: |
| REACH Unaffected | EAR99 |
| HTSUS: | |
| 8504.50.8000 | |

# SMT inductors

## SIMID series, SIMID 1812-C

| | |
|---|---|
| **Series/Type:** | **B82432C** |
| Date: | June 2019 |

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| SMT inductors, SIMID series | B82432C |
|---|---|
| **SIMID 1812-C** | |

SMD

**Size 1812 (EIA) or 4532 (IEC)**
**Rated inductance 1 ... 1000 µH**
**Rated current 55 ... 600 mA**

## Construction

- Upright ferrite drum core
- Laser-welded winding
- Flame-retardant molding

## Features

- Temperature range up to +150 °C
- High Q factor
- Qualified to AEC-Q200
- Suitable for lead-free reflow soldering
  as referenced in JEDEC J-STD 020D
- RoHS-compatible

## Applications

- Filtering of supply voltages, coupling, decoupling
- Antenna systems
- Automotive electronics
- Telecommunications
- Industrial electronics

## Terminals

- Base material CuSn6
- Layer composition Cu, Ag, Sn (lead-free)[1]
- Electro-plated

## Marking

- Marking on component:
  Manufacturer and letter "C",
  L value (in nH), tolerance of L value (coded),
  date of manufacture (YWWD)
- Minimum data on reel:
  Manufacturer, ordering code, L value, quantity, date of packing
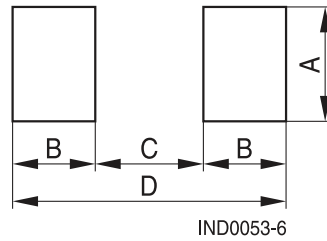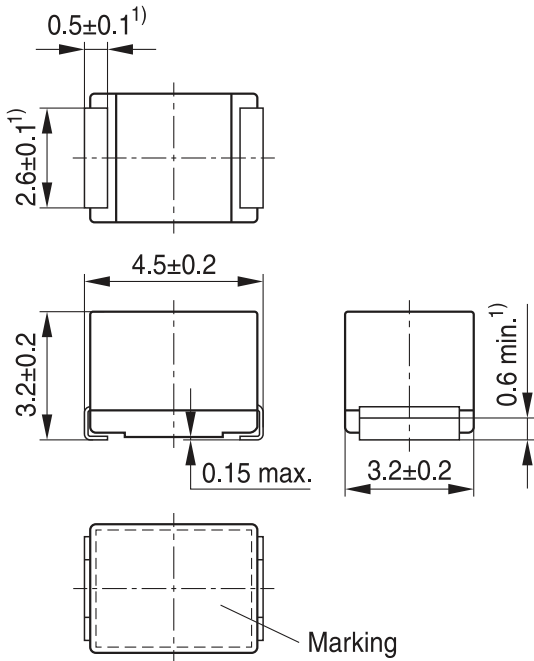
## Delivery mode and packing unit

- 12-mm blister tape, wound on 330-mm ⌀ reel
- Packing unit: 2500 pcs./reel

1) Ni-barrier-plated terminals on request (B82432C*50).

Please read *Cautions and warnings* and
*Important notes* at the end of this document.

| SMT inductors, SIMID series | B82432C |
|---|---|
| **SIMID 1812-C** | |

**SMD**

## Dimensional drawing and layout recommendation

0.5±0.1 1)

2.6±0.1 1)

A

B    C    B

D

IND0053-6

4.5±0.2

3.2±0.2

0.6 min. 1)

0.15 max.

3.2±0.2

| A | B | C | D |
|---|---|---|---|
| 3.6 | 1.3 | 3.2 | 5.8 |

Marking

1) Soldering area          IND0083-T-E

Dimensions in mm

## Taping and packing

**Blister tape**

**Reel**

Component

4±0.1

1.5+0.1

2±0.05

1.75±0.1

5.5±0.1

12±0.3

≤ 5.9

≤ 4.1

8±0.1

1.6±0.1

18.4 max.

13 +0.5 −0.2

330±2

12.4 +2 −0

100±1

IND1526-N
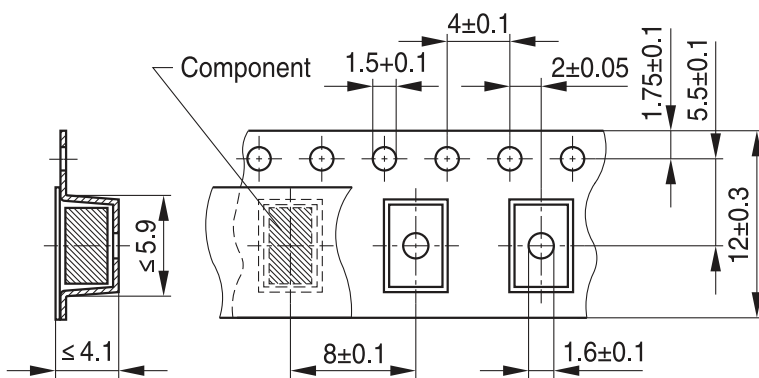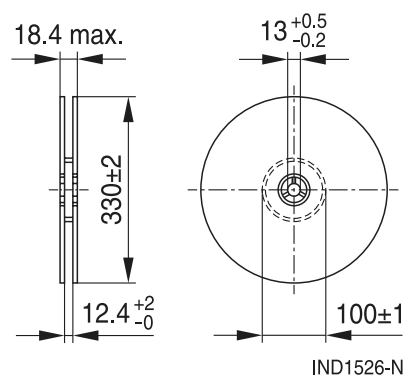
Direction of unreeling

IND0561-L-E    Dimensions in mm

Please read *Cautions and warnings* and
*Important notes* at the end of this document.

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| SMT inductors, SIMID series | B82432C |
|---|---|
| **SIMID 1812-C** | |

## SMD

## Technical data and measuring conditions

| | |
|---|---|
| Rated inductance $L_R$ | Measured with impedance analyzer Agilent 4294A or equivalent at frequency $f_L$, 0.1 V, +20 °C |
| Q factor $Q_{min}$ | Measured with impedance analyzer Agilent 4294A or equivalent at frequency $f_Q$, +20 °C |
| Rated temperature $T_R$ | +85 °C |
| Rated current $I_R$ | Maximum permissible DC with inductance decrease $\Delta L/L_0 \leq 10\%$ and temperature increase of $\leq 30$ K at rated temperature |
| Self-resonance frequency $f_{res,min}$ | Measured with impedance analyzer Agilent 4294A/E4991A or equivalent, +20 °C |
| DC resistance $R_{max}$ | Measured at +20 °C |
| Solderability (lead-free) | Sn95.5Ag3.8Cu0.7: +(245 ±5) °C, (5 ±0.3) s Wetting of soldering area $\geq$ 90% (based on IEC 60068-2-58) |
| Resistance to soldering heat | +260 °C, 40 s (as referenced in JEDEC J-STD 020D) |
| Climatic category | 55/150/56 (to IEC 60068-1) |
| Storage conditions | Mounted: –55 °C … +150 °C Packaged: –25 °C … +40 °C, $\leq$ 75% RH |
| Weight | Approx. 130 mg |

## Characteristics and ordering codes

| $L_R$ µH | Tolerance | $f_L$ MHz | $Q_{min}$ | $f_Q$ MHz | $I_R$ mA | $R_{max}$ Ω | $f_{res,min}$ MHz | Ordering code[1] |
|---|---|---|---|---|---|---|---|---|
| 1.0 | ±10% ≙ K | 1 | 40 | 7.96 | 600 | 0.28 | 200 | B82432C1102K000 |
| 1.2 | | 1 | 40 | 7.96 | 560 | 0.32 | 160 | B82432C1122K000 |
| 1.5 | | 1 | 40 | 7.96 | 535 | 0.35 | 120 | B82432C1152K000 |
| 1.8 | | 1 | 40 | 7.96 | 490 | 0.41 | 100 | B82432C1182K000 |
| 2.2 | | 1 | 40 | 7.96 | 480 | 0.43 | 90 | B82432C1222K000 |
| 2.7 | | 1 | 40 | 7.96 | 450 | 0.49 | 75 | B82432C1272K000 |
| 3.3 | | 1 | 40 | 7.96 | 425 | 0.55 | 60 | B82432C1332K000 |
| 3.9 | | 1 | 40 | 7.96 | 410 | 0.59 | 50 | B82432C1392K000 |
| 4.7 | | 1 | 40 | 7.96 | 390 | 0.65 | 40 | B82432C1472K000 |
| 5.6 | | 1 | 40 | 7.96 | 375 | 0.71 | 40 | B82432C1562K000 |
| 6.8 | | 1 | 40 | 7.96 | 360 | 0.78 | 35 | B82432C1682K000 |
| 8.2 | | 1 | 40 | 7.96 | 330 | 0.92 | 30 | B82432C1822K000 |

1) For Ni-barrier-plated terminals replace the last two digits "00" by "50".

Please read *Cautions and warnings* and *Important notes* at the end of this document.

## SMT inductors, SIMID series
### SIMID 1812-C

B82432C

### SMD

## Characteristics and ordering codes

| $L_R$ µH | Tolerance | $f_L$ MHz | $Q_{min}$ | $f_Q$ MHz | $I_R$ mA | $R_{max}$ Ω | $f_{res,min}$ MHz | Ordering code[1][2] |
|---|---|---|---|---|---|---|---|---|
| 10 | ±10% ≙ K | 1 | 40 | 7.96 | 320 | 0.98 | 28 | B82432C1103K000 |
| 12 |  | 0.1 | 30 | 2.52 | 300 | 1.10 | 24 | B82432C1123K000 |
| 15 |  | 0.1 | 30 | 2.52 | 280 | 1.25 | 21 | B82432C1153K000 |
| 18 |  | 0.1 | 30 | 2.52 | 270 | 1.35 | 18 | B82432C1183K000 |
| 22 |  | 0.1 | 30 | 2.52 | 260 | 1.45 | 16 | B82432C1223K000 |
| 27 |  | 0.1 | 30 | 2.52 | 245 | 1.65 | 13 | B82432C1273K000 |
| 33 | ±5% ≙ J | 0.1 | 30 | 2.52 | 230 | 1.85 | 13 | B82432C1333+000 |
| 39 | ±10% ≙ K | 0.1 | 30 | 2.52 | 220 | 2.05 | 12 | B82432C1393+000 |
| 47 |  | 0.1 | 30 | 2.52 | 210 | 2.3 | 12 | B82432C1473+000 |
| 56 |  | 0.1 | 30 | 2.52 | 200 | 2.5 | 11 | B82432C1563+000 |
| 68 |  | 0.1 | 30 | 2.52 | 190 | 2.8 | 10 | B82432C1683+000 |
| 82 |  | 0.1 | 30 | 2.52 | 175 | 3.2 | 9 | B82432C1823+000 |
| 100 |  | 0.1 | 30 | 0.796 | 145 | 4.7 | 8 | B82432C1104+000 |
| 120 |  | 0.1 | 30 | 0.796 | 140 | 5.2 | 8 | B82432C1124+000 |
| 150 |  | 0.1 | 30 | 0.796 | 130 | 6.1 | 7 | B82432C1154+000 |
| 180 |  | 0.1 | 30 | 0.796 | 120 | 6.9 | 6 | B82432C1184+000 |
| 220 |  | 0.1 | 30 | 0.796 | 115 | 7.5 | 6 | B82432C1224+000 |
| 270 |  | 0.1 | 30 | 0.796 | 90 | 12.5 | 5 | B82432C1274+000 |
| 330 |  | 0.1 | 30 | 0.796 | 85 | 14.1 | 4.5 | B82432C1334+000 |
| 390 |  | 0.1 | 30 | 0.796 | 80 | 15.3 | 4.2 | B82432C1394+000 |
| 470 |  | 0.1 | 30 | 0.796 | 75 | 17.5 | 4.0 | B82432C1474+000 |
| 560 |  | 0.1 | 30 | 0.796 | 70 | 23.0 | 3.5 | B82432C1564+000 |
| 680 |  | 0.1 | 30 | 0.796 | 65 | 25.0 | 3.3 | B82432C1684+000 |
| 820 |  | 0.1 | 30 | 0.796 | 60 | 28.0 | 3.0 | B82432C1824+000 |
| 1000 |  | 0.1 | 30 | 0.796 | 55 | 32.0 | 2.8 | B82432C1105+000 |

Closer tolerances on request.
Higher currents possible at temperatures <$T_R$ on request.

1) Replace the + by the code letter for the required inductance tolerance.
2) For Ni-barrier-plated terminals replace the last two digits "00" by "50".

Please read *Cautions and warnings* and
*Important notes* at the end of this document.

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**SMT inductors, SIMID series**　　　　　　　　　　　　　　　　**B82432C**

**SIMID 1812-C**

SMD

### Impedance |Z| versus frequency f
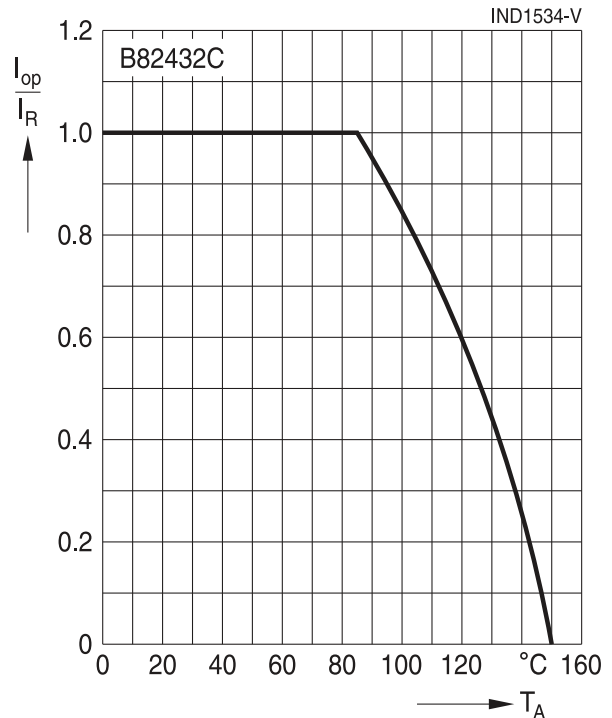measured with impedance analyzer Agilent E4991A, typical values at +20 °C

IND0033-6

B82432C

$|Z|$ in Ω

1000 µH
100 µH
10 µH
1 µH

f in Hz
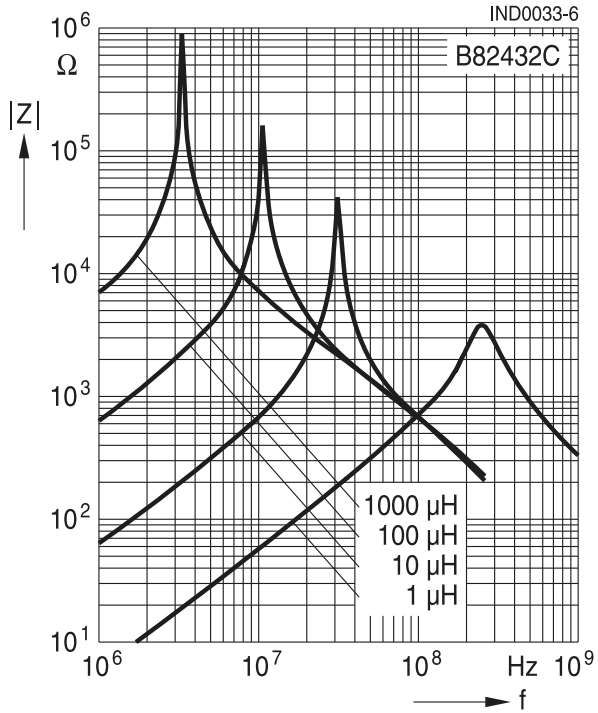
### Inductance L versus DC load current $I_{DC}$
measured with LCR meter Agilent 4285A, typical values at +20 °C

IND0034-8

B82432C

L in µH

1000 µH
100 µH
10 µH
1 µH

$I_{DC}$ in A
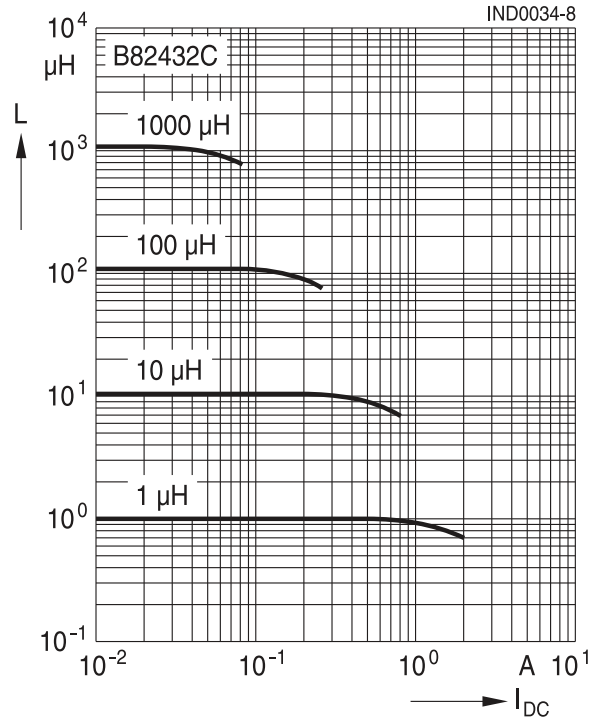
### Q factor versus frequency f
measured with impedance analyzer Agilent 4294A, typical values at +20 °C

IND0035-W

B82432C

Q

1 µH
10 µH
100 µH
1000 µH

f in Hz
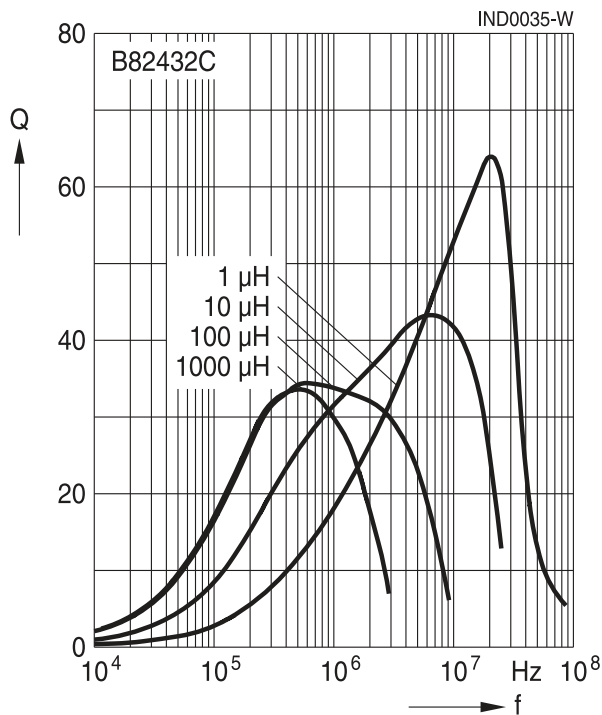
### Current derating $I_{op}/I_R$ versus ambient temperature $T_A$
(rated temperature $T_R$ = +85 °C)

IND1534-V

B82432C

$\frac{I_{op}}{I_R}$

$T_A$ in °C

Please read *Cautions and warnings* and
*Important notes* at the end of this document.

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## 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, wire insulation, plastics or glue.
  - The effect of the potting material can change the high-frequency behaviour of the components.
  - Many coating materials have a negative effect (chemically and mechanically) on the winding wires, insulation materials and connecting points. Customers are always obligated to determine whether and to what extent their coating materials influence the component.
    Customers are responsible and bear all risk for the use of the coating material. TDK Electronics does not assume any liability for failures of our components that are caused by the coating material.

- 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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Please read *Cautions and warnings* and *Important notes* at the end of this document.

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2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.

3. **The warnings, cautions and product-specific notes must be observed**.

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Release 2018-10

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