



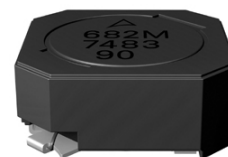
SMT power inductors

Size 10.4 × 10.4 × 4.8 (mm)

Series/Type: **B82464G4**

Date: October 2008

Rated inductance 0.82 μ H to 1000 μ H
Rated current 0.34 A to 7.6 A



Construction

- Ferrite core
- Magnetically shielded
- Winding: enamel copper wire
- Winding welded to terminals

Features

- Temperature range up to 150 °C
- High rated current
- Low DC resistance
- Suitable for lead-free reflow soldering as referenced in JEDEC J-STD 020C
- Qualified to AEC-Q200
- RoHS-compatible

Applications

- Filtering of supply voltages
- Coupling, decoupling
- DC/DC converters
- Automotive electronics
- Industrial electronics

Terminals

- Base material CuFe2P
- Layer composition Ag, Sn (lead-free)
- Electro-plated

Marking

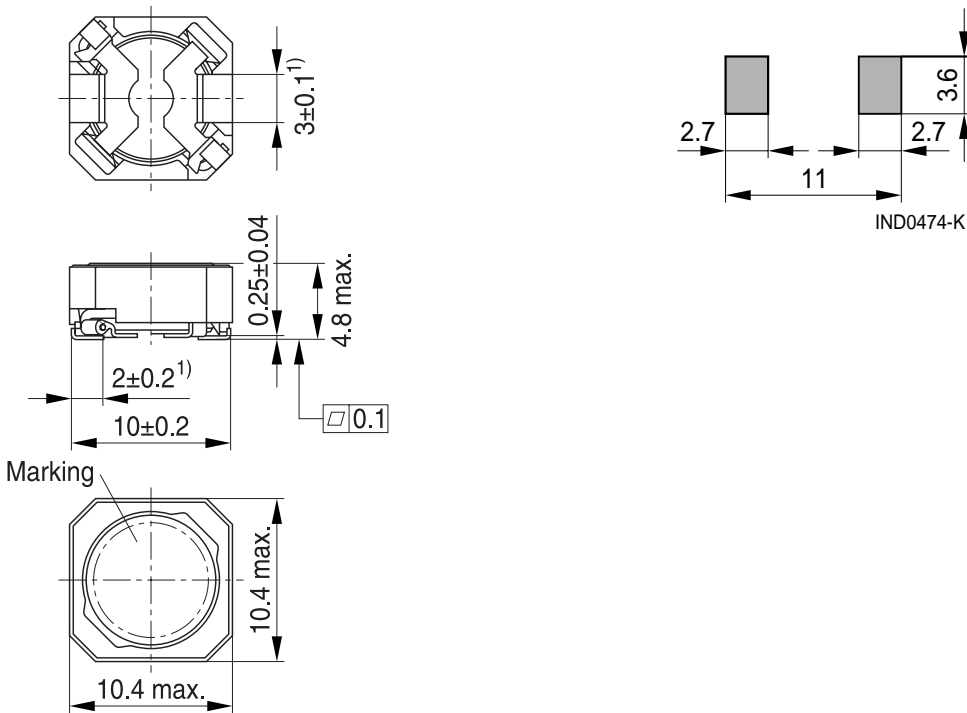
- Marking on component:
Manufacturer, L value (nH, coded),
L tolerance (coded), manufacturing date (YWWD),
two last digits of work order
- Minimum data on reel:
Manufacturer, ordering code,
L value, quantity, date of packing

Delivery mode and packing unit

- 16-mm blister tape, wound on 330-mm \varnothing reel
- Packing unit: 750 pcs./reel

SMD

Dimensional drawing and layout recommendation



1) Soldering area

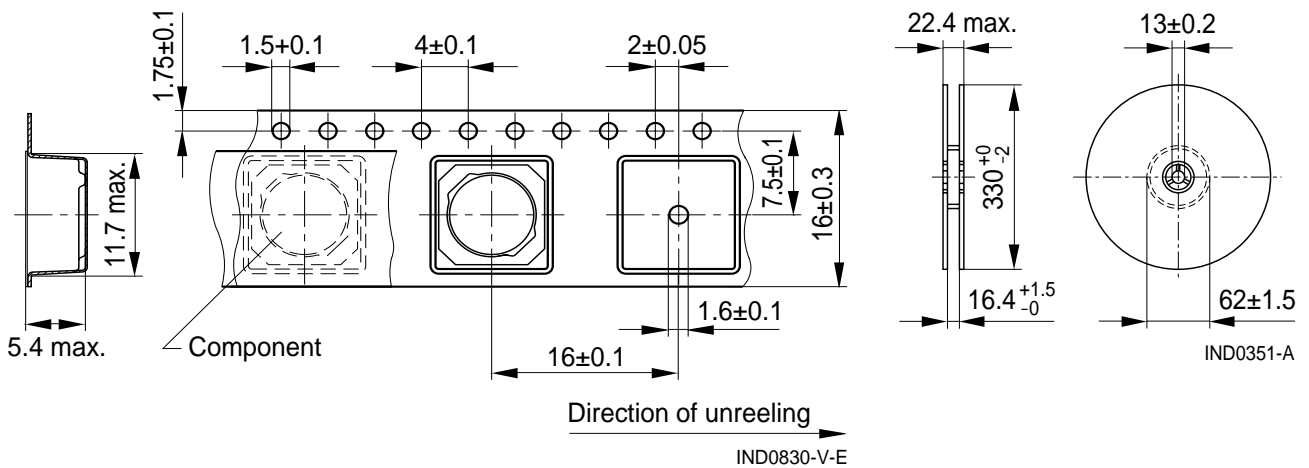
IND0477-H-E

Dimensions in mm

Taping and packing

Blister tape

Reel



Dimensions in mm

Technical data and measuring conditions

| | |
|------------------------------|--|
| Rated inductance L_R | Measured with impedance analyzer Agilent 4294A at frequency f_L , 0.1 V, 20 °C |
| Rated temperature T_R | 85 °C |
| Rated current I_R | Max. permissible DC with temperature increase of ≤ 40 K at rated temperature |
| Saturation current I_{sat} | Max. permissible DC with inductance decrease $\Delta L/L_0$ of approx. 10% |
| DC resistance R_{max} | Measured at 20 °C |
| Solderability (lead-free) | Dip and look method 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 020C) |
| 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. 2 g |

Characteristics and ordering codes

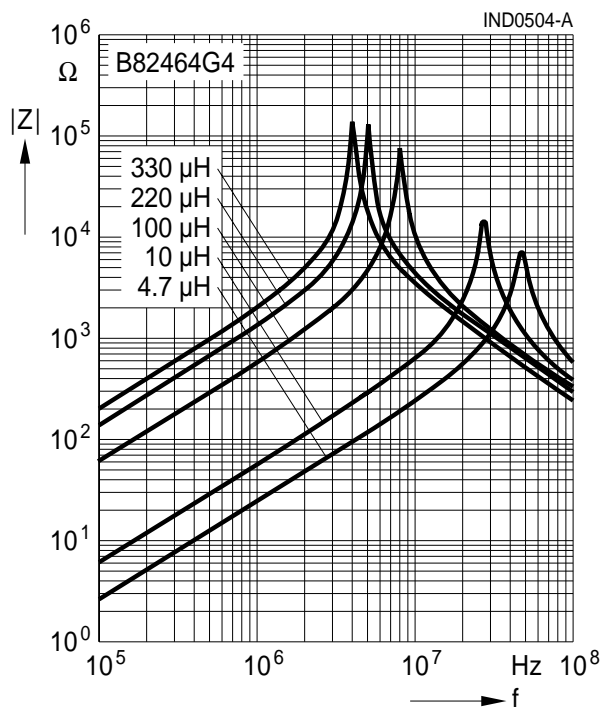
| L_R μH | Tolerance | f_L MHz | I_R A | I_{sat} A | R_{max} Ω | Ordering code |
|------------------------|-------------------------|--------------|------------|-----------------------|------------------------------|-----------------|
| 0.82 | $\pm 20\% \triangleq M$ | 0.1 | 7.60 | 10.3 | 0.007 | B82464G4821M000 |
| 1.0 | | 0.1 | 7.50 | 10.0 | 0.007 | B82464G4102M000 |
| 1.5 | | 0.1 | 7.00 | 8.50 | 0.009 | B82464G4152M000 |
| 2.2 | | 0.1 | 6.50 | 7.00 | 0.010 | B82464G4222M000 |
| 3.3 | | 0.1 | 5.50 | 5.90 | 0.012 | B82464G4332M000 |
| 4.7 | | 0.1 | 4.90 | 5.20 | 0.015 | B82464G4472M000 |
| 6.8 | | 0.1 | 4.30 | 4.60 | 0.020 | B82464G4682M000 |
| 10 | | 0.1 | 3.40 | 3.50 | 0.030 | B82464G4103M000 |
| 15 | | 0.1 | 2.75 | 3.10 | 0.040 | B82464G4153M000 |
| 22 | | 0.1 | 2.25 | 2.50 | 0.052 | B82464G4223M000 |
| 33 | | 0.1 | 1.85 | 2.10 | 0.075 | B82464G4333M000 |
| 47 | | 0.1 | 1.55 | 1.80 | 0.095 | B82464G4473M000 |
| 68 | | 0.1 | 1.30 | 1.45 | 0.13 | B82464G4683M000 |
| 100 | | 0.1 | 1.05 | 1.15 | 0.22 | B82464G4104M000 |
| 150 | | 0.1 | 0.85 | 0.90 | 0.32 | B82464G4154M000 |
| 220 | | 0.1 | 0.70 | 0.75 | 0.44 | B82464G4224M000 |
| 330 | | 0.1 | 0.59 | 0.65 | 0.65 | B82464G4334M000 |
| 470 | | 0.1 | 0.50 | 0.55 | 0.93 | B82464G4474M000 |
| 680 | | 0.1 | 0.42 | 0.46 | 1.30 | B82464G4684M000 |
| 1000 | | 0.1 | 0.34 | 0.35 | 2.20 | B82464G4105M000 |

Sample kit available. Ordering code: B82464X004

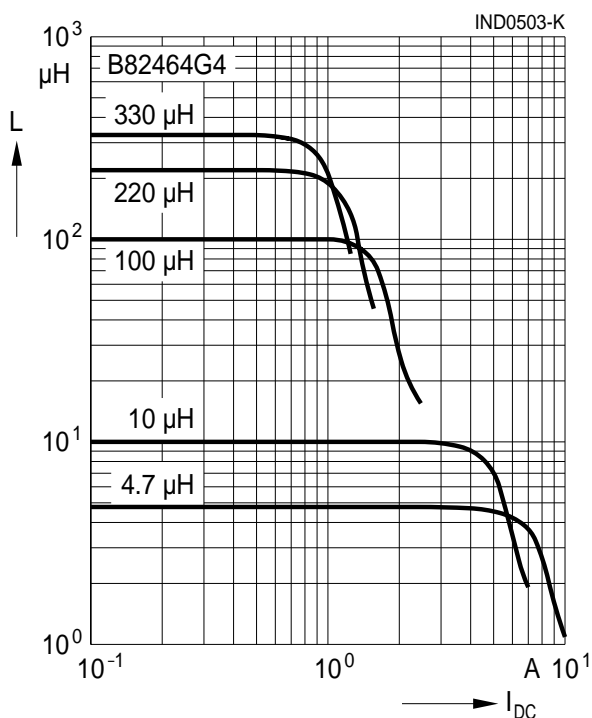
For more information refer to chapter "Sample kits".

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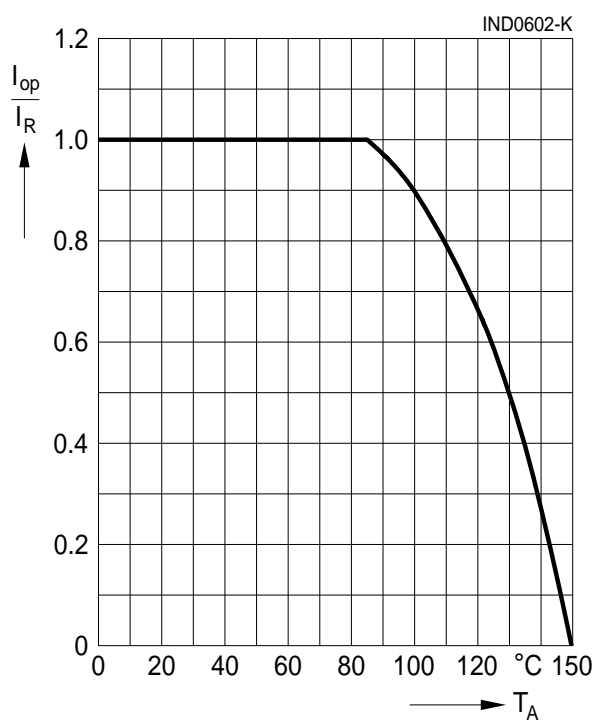
Impedance $|Z|$ versus frequency f
measured with impedance analyzer
Agilent 4294A, typical values at 20 °C



Inductance L versus DC load current I_{DC}
measured with LCR meter Agilent 4275A,
typical values at 20 °C



Current derating I_{op}/I_R
versus ambient temperature T_A
(rated temperature $T_R = 85$ °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.
- 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.

Important notes

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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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