

[查询"B82498B3829M000"供应商](#)



SMT inductors

SIMID series, SIMID 0805-B

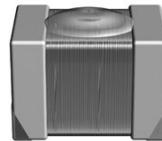
Series/Type: **B82498B**

Date: March 2008

Size 0805 (EIA) and/or 2012 (IEC)

Rated inductance 2.7 nH to 4700 nH

Rated current 90 mA to 1000 mA



Construction

- Cubic coil with ceramic core
- Winding partially plastic-sealed
- Winding ends welded to terminals

Features

- High Q factor
- High resonance frequency
- Close inductance tolerance
- Suitable for lead-free reflow soldering
- RoHS-compatible

Applications

Resonant circuits, impedance matching for

- Antenna amplifiers
- Multimedia
- Car access systems
- TPMS (Tire Pressure Monitoring System)
- Wireless communication systems
- GPS (Global Positioning System)

Terminals

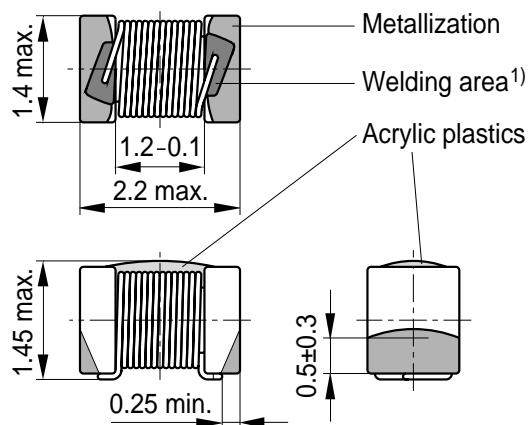
- Base material Al_2O_3 ceramic or ferrite
- Thick-film coating of Ag/Pd/Pt

Marking

- No marking on component
- Minimum data on reel:
Manufacturer, ordering code, L value,
quantity, date of packing

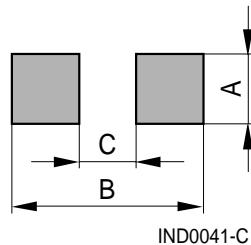
Delivery mode and packing unit

- 8-mm blister tape, wound on 180-mm Ø reel
- Packing unit: 3000 pcs./reel

SMD
Dimensional drawing and layout recommendation


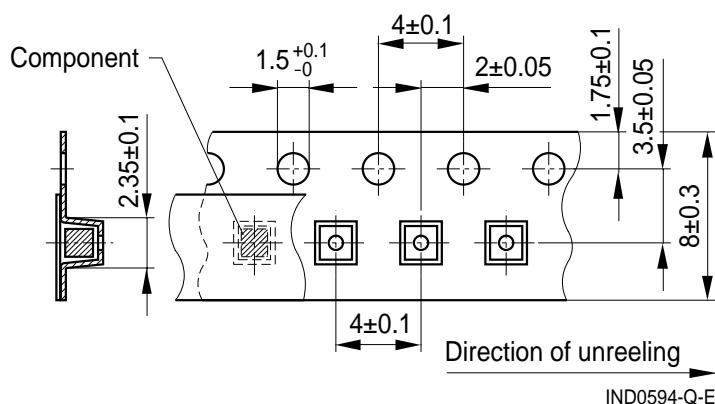
1) This area (30% of contact area) should not be used to assess solderability

IND0047-U-E

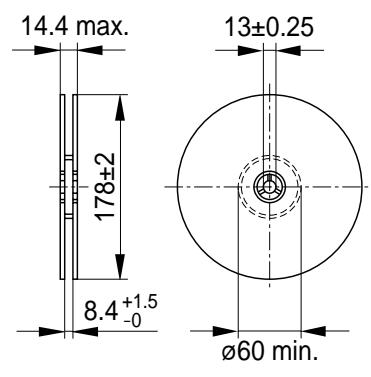


| A | B | C |
|---------------|---------------|---------------|
| 1.1 ± 0.2 | 3.4 ± 0.4 | 1.1 ± 0.1 |

Dimensions in mm

Taping and packing
Blister tape


Dimensions in mm

Reel


Technical data and measuring conditions

| | |
|---|---|
| Rated inductance L_R | Measured with RF LCR meter Agilent 4286A and test fixture Agilent 16193A at frequency f_L , 0.1 V, 20 °C |
| Q factor Q_{\min} , Q_{typ} | Measured with RF LCR meter Agilent 4286A and test fixture Agilent 16193A, 20 °C Q_{\min} measured at frequency f_Q |
| 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 ≤ 20 K at rated temperature |
| Self-resonance frequency $f_{\text{res,min}}$ | Measured with network analyzer Agilent 8753D, 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, 20 s (as referenced in JEDEC J-STD 020C) |
| Climatic category | 55/125/56 (to IEC 60068-1) |
| Storage conditions | Mounted: -55 °C ... +125 °C Packaged: -25 °C ... +40 °C, $\leq 75\%$ RH |
| Weight | Approx. 8.5 mg |

Characteristics and ordering codes

| L_R nH | Tolerance | Q_{\min} | Q_{typ} (at 800 MHz) | f_L ; f_Q MHz | I_R mA | R_{\max} Ω | $f_{\text{res,min}}$ MHz | Ordering code |
|------------------------|-------------------------|------------|-------------------------------------|----------------------|-------------|-----------------|-----------------------------|-----------------|
| Core material: ceramic | | | | | | | | |
| 2.7 | $\pm 10\% \triangleq K$ | 20 | 50 | 250 | 1000 | 0.03 | 6000 | B82498B3279M000 |
| 5.6 | $\pm 20\% \triangleq M$ | 25 | 60 | 250 | 900 | 0.04 | 6000 | B82498B3569M000 |
| 6.8 | | 30 | 70 | 250 | 800 | 0.05 | 5500 | B82498B3689K000 |
| 8.2 | | 35 | 75 | 250 | 700 | 0.06 | 5000 | B82498B3829M000 |
| 10 | $\pm 5\% \triangleq J$ | 40 | 80 | 250 | 700 | 0.06 | 4500 | B82498B3100J000 |
| 12 | | 40 | 85 | 250 | 700 | 0.06 | 4000 | B82498B3120J000 |
| 15 | | 40 | 85 | 250 | 670 | 0.07 | 3500 | B82498B3150J000 |
| 18 | | 45 | 90 | 250 | 670 | 0.07 | 3300 | B82498B3180J000 |
| 22 | | 45 | 85 | 250 | 600 | 0.09 | 2600 | B82498B3220J000 |
| 27 | | 50 | 90 | 250 | 600 | 0.09 | 2500 | B82498B3270J000 |

Closer tolerances on request.

Characteristics and ordering codes

| L_R nH | Tolerance | Q_{min} | Q_{typ} (at 800 MHz) | $f_L; f_Q$ MHz | I_R mA | R_{max} Ω | $f_{res,min}$ MHz | Ordering code ¹⁾ |
|-------------|-----------|-----------|------------------------------|-------------------|-------------|-----------------------|----------------------|-----------------------------|
|-------------|-----------|-----------|------------------------------|-------------------|-------------|-----------------------|----------------------|-----------------------------|

Core material: ceramic

| | | | | | | | | |
|-----|--|----|----|-----|-----|------|------|-----------------|
| 33 | $\pm 5\% \triangleq J$ | 45 | 80 | 250 | 520 | 0.12 | 2150 | B82498B3330J000 |
| 39 | | 50 | 90 | 250 | 560 | 0.10 | 2050 | B82498B3390J000 |
| 47 | | 45 | 85 | 200 | 500 | 0.13 | 1900 | B82498B3470J000 |
| 56 | $\pm 2\% \triangleq G$ $\pm 5\% \triangleq J$ | 45 | 60 | 200 | 480 | 0.14 | 1700 | B82498B3560+000 |
| 68 | | 45 | 60 | 200 | 410 | 0.19 | 1550 | B82498B3680+000 |
| 82 | | 40 | 60 | 150 | 390 | 0.21 | 1430 | B82498B3820+000 |
| 100 | | 40 | 50 | 150 | 350 | 0.26 | 1310 | B82498B3101+000 |
| 120 | | 40 | 45 | 150 | 270 | 0.44 | 1210 | B82498B3121+000 |
| 150 | | 35 | 40 | 100 | 270 | 0.44 | 1120 | B82498B3151+000 |
| 180 | | 35 | 30 | 100 | 260 | 0.47 | 1030 | B82498B3181+000 |
| 220 | | 35 | — | 100 | 240 | 0.55 | 950 | B82498B3221+000 |
| 270 | | 35 | — | 100 | 180 | 1.0 | 870 | B82498B3271+000 |
| 330 | | 35 | — | 100 | 180 | 1.0 | 800 | B82498B3331+000 |
| 390 | | 35 | — | 100 | 130 | 1.9 | 730 | B82498B3391+000 |
| 470 | | 35 | — | 100 | 115 | 2.4 | 660 | B82498B3471+000 |
| 560 | | 35 | — | 100 | 100 | 3.2 | 600 | B82498B3561+000 |

Core material: ferrite

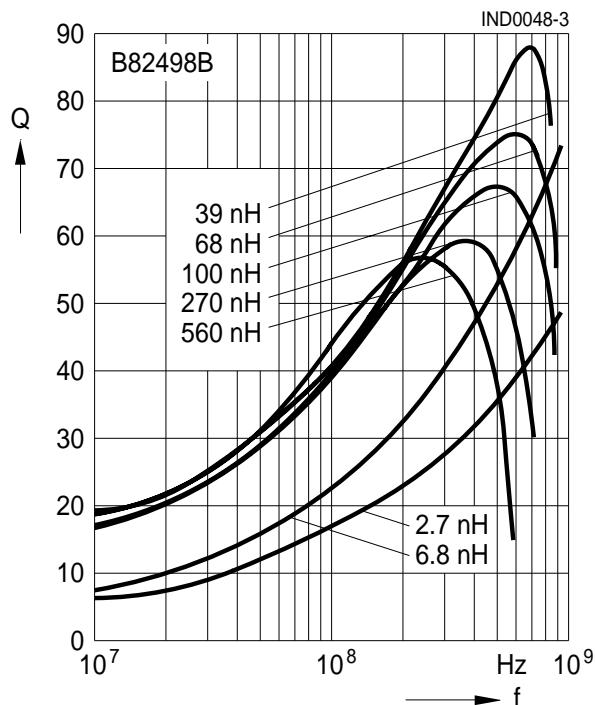
| | | | | | | | | |
|------|--|----|---|------|-----|------|-----|-----------------|
| 680 | $\pm 2\% \triangleq G$ $\pm 5\% \triangleq J$ | 20 | — | 25.2 | 250 | 0.50 | 450 | B82498B1681+000 |
| 820 | | 20 | — | 25.2 | 240 | 0.55 | 400 | B82498B1821+000 |
| 1000 | | 20 | — | 7.96 | 250 | 0.50 | 350 | B82498B1102+000 |
| 1200 | | 20 | — | 7.96 | 220 | 0.65 | 300 | B82498B1122+000 |
| 1500 | | 20 | — | 7.96 | 200 | 0.75 | 250 | B82498B1152+000 |
| 1800 | | 20 | — | 7.96 | 190 | 0.85 | 250 | B82498B1182+000 |
| 2200 | | 20 | — | 7.96 | 130 | 1.7 | 200 | B82498B1222+000 |
| 2700 | | 20 | — | 7.96 | 120 | 2.0 | 200 | B82498B1272+000 |
| 3300 | | 20 | — | 7.96 | 100 | 3.3 | 200 | B82498B1332+000 |
| 3900 | | 20 | — | 7.96 | 95 | 3.6 | 150 | B82498B1392+000 |
| 4700 | | 20 | — | 7.96 | 90 | 3.8 | 150 | B82498B1472+000 |

Closer tolerances on request.
¹⁾ Replace the + by the code letter for the required inductance tolerance.

SMD
Q factor versus frequency f (ceramic core)

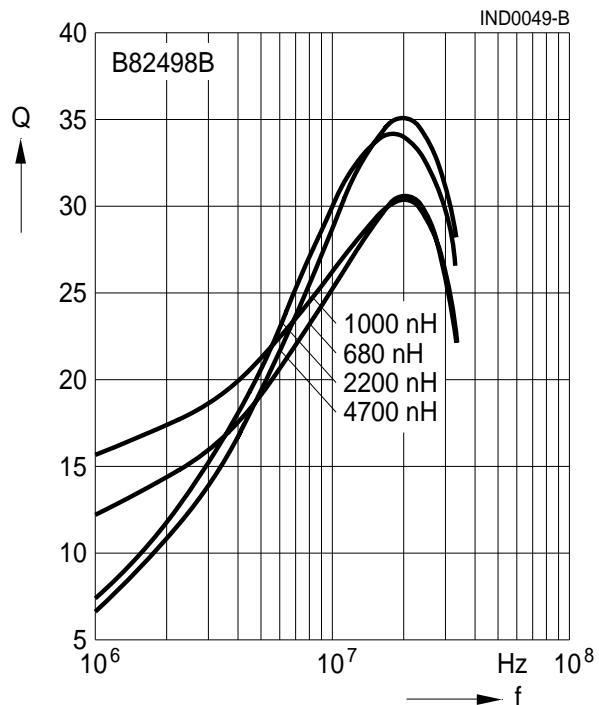
measured with RF LCR meter

Agilent 4286A, typical values at 20 °C


Q factor versus frequency f (ferrite core)

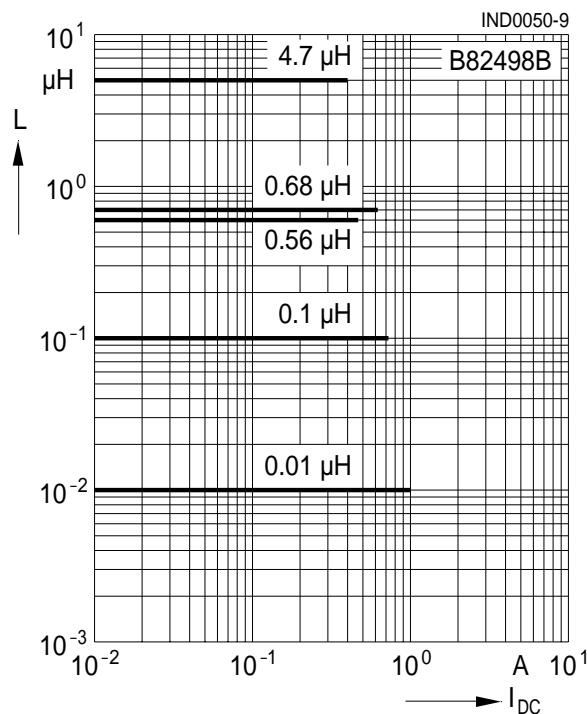
measured with RF LCR meter

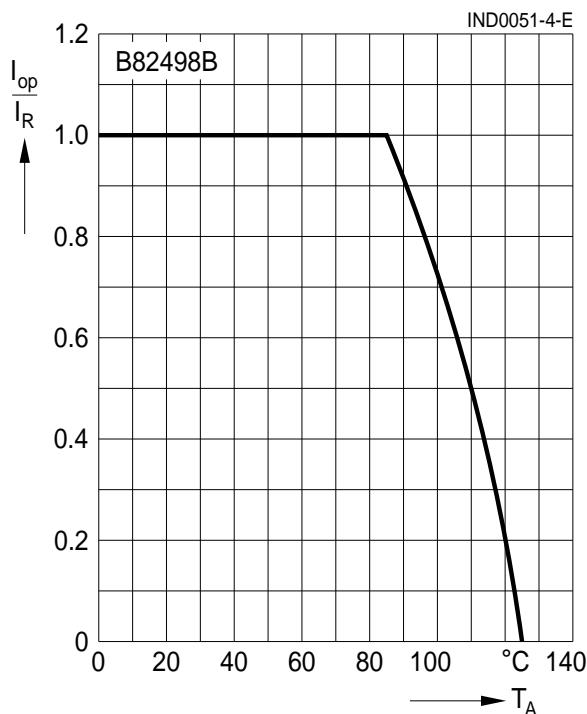
Agilent 4286A, typical values at 20 °C


Inductance L versus DC load current I_{DC}

measured with RF 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

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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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.

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