



SMT power inductors

Size 10.4 × 10.0 × 5.8 (mm)

Series/Type: B82475A1
Date: October 2009

Rated inductance 10 ..H to 680 ..H

Rated current 0.28 A to 2.6 A



Construction

- Ferrite core
- Winding: enamel copper wire
- Winding soldered to terminals
- Plastic terminal carrier

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
- Qualification based on AEC-Q200
- RoHS-compatible

Applications

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

Terminals

- Base material CuSn6P
- Layer composition Ni, Sn (lead-free)
- Electro-plated

Marking

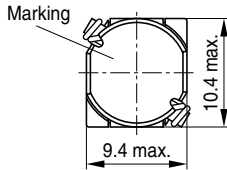
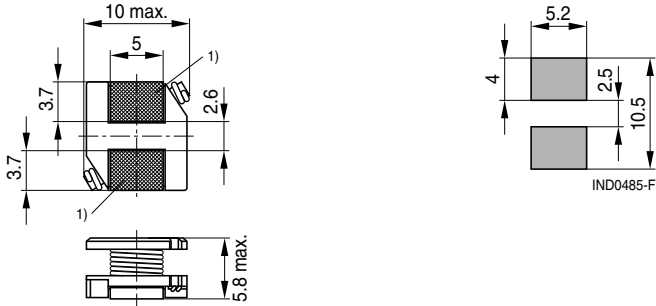
- Marking on component:
Manufacturer, L value (μH, coded),
manufacturing date (YWWD)
- Minimum data on reel:
Manufacturer, ordering code, L value,
quantity, date of packing

Delivery mode and packing unit

- 24-mm blister tape, wound on 330-mm Ø reel
- Packing unit: 500 pcs./reel

SMD

Dimensional drawing and layout recommendation



Dimensions in mm

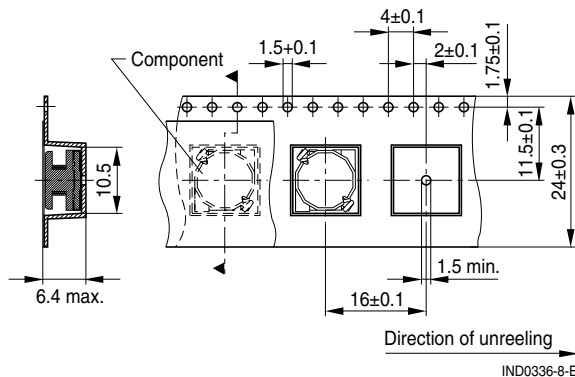
Component tolerances ± 0.2 mm unless otherwise noted.

1) Soldering area

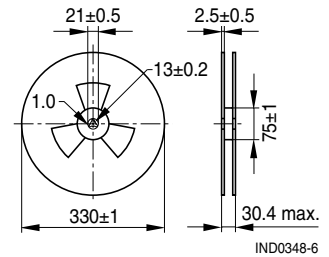
IND0484-A-E

Taping and packing

Blister tape



Reel



Dimensions in mm

Technical data and measuring conditions

| | |
|------------------------------|--|
| Rated inductance L_R | Measured with LCR meter Agilent 4284A at frequency f_L , at 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. 1.5 g |

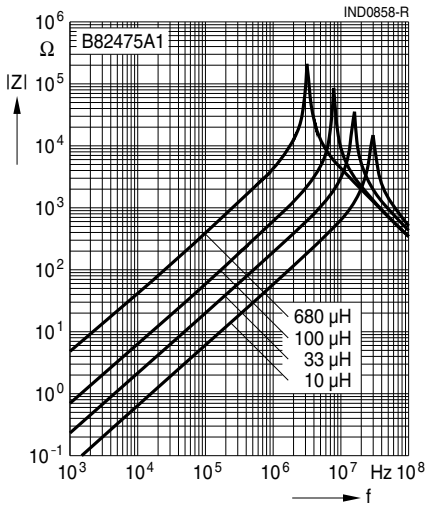
Characteristics and ordering codes

| L_R μH | Tolerance | f_L MHz | I_R A | I_{sat} A | R_{max} Ω | Ordering code |
|------------------------|-------------------------|--------------|------------|----------------|-----------------------|-----------------|
| 10 | $\pm 20\% \triangleq M$ | 0.1 | 2.60 | 2.75 | 0.06 | B82475A1103M000 |
| 15 | | 0.1 | 2.27 | 2.35 | 0.08 | B82475A1153M000 |
| 22 | | 0.1 | 1.95 | 2.00 | 0.10 | B82475A1223M000 |
| 33 | | 0.1 | 1.50 | 1.60 | 0.12 | B82475A1333M000 |
| 47 | $\pm 10\% \triangleq K$ | 0.1 | 1.28 | 1.35 | 0.17 | B82475A1473K000 |
| 68 | | 0.1 | 1.11 | 1.20 | 0.22 | B82475A1683K000 |
| 100 | | 0.1 | 0.97 | 1.00 | 0.35 | B82475A1104K000 |
| 150 | | 0.1 | 0.78 | 0.82 | 0.47 | B82475A1154K000 |
| 220 | | 0.1 | 0.66 | 0.70 | 0.73 | B82475A1224K000 |
| 330 | | 0.1 | 0.52 | 0.55 | 1.15 | B82475A1334K000 |
| 470 | | 0.1 | 0.42 | 0.45 | 1.48 | B82475A1474K000 |
| 680 | | 0.1 | 0.28 | 0.30 | 2.25 | B82475A1684K000 |

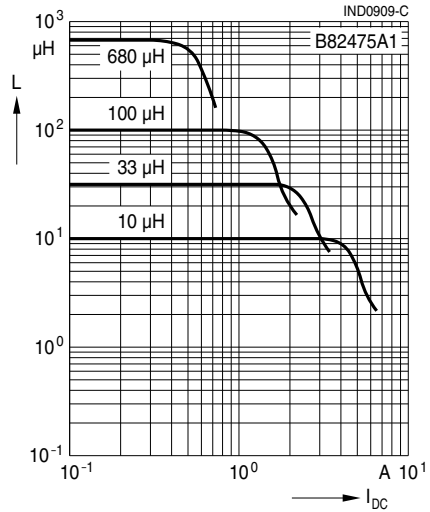
Sample kit available. Ordering code: B8247XX001
For more information refer to chapter "Sample kits".

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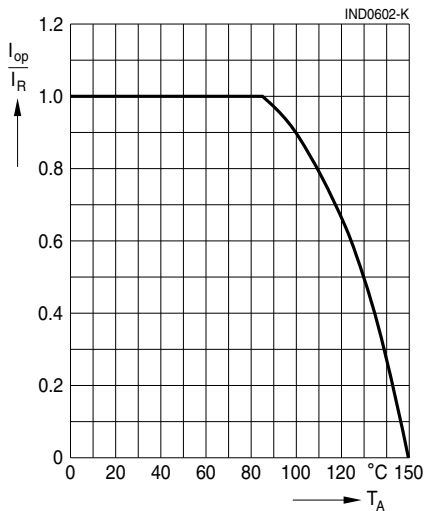
Impedance $|Z|$ versus frequency f
 measured with impedance analyzer
 Agilent 4294A, typical values at 20 °C



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.

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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