SMT power inductors

Size 12.95 × 9.4 × 5.08 (mm)

Series/Type: B82476A1
Date: June 2012
SMT power inductors

B82476A1

Size 12.95 x 9.4 x 5.08 (mm)

Rated inductance 1 ... 1000 μH
Rated current 0.3 ... 6.8 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 020D
- RoHS-compatible

Applications

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

Terminals

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

Marking

- Marking on component:
  Manufacturer, L value (μH, coded),
  manufacturing date (YWWD)
- Minimum marking 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: 750 pcs./reel
Dimensional drawing and layout recommendation

1) Soldering area

Dimensions in mm
Component tolerances ±0.2 mm unless otherwise noted.

Taping and packing

Blister tape

Dimensions in mm
SMT power inductors B82476A1
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Technical data and measuring conditions

Rated inductance $L_R$
Measured with LCR meter Agilent 4284A 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 $\leq 40$ 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 °C, (5 ±0.3) s
Wetting of soldering area ≥ 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, ≤ 75% RH

Weight
Approx. 1.3 g

Characteristics and ordering codes

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<tr>
<th>$L_R$ μH</th>
<th>Tolerance</th>
<th>$f_L$ MHz</th>
<th>$I_R$ A</th>
<th>$I_{sat}$ A</th>
<th>$R_{max}$ Ω</th>
<th>Ordering code</th>
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Please read Cautions and warnings and Important notes at the end of this document.
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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)
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.
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. As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.

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Release 2018-10