SMT power inductors

Size 12.95 x 9.40 x 5.08

Series/Type: **B82476B1xxxM100**

Date: **June 2013**

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Rated inductance 1 ... 1000 µH



Construction
- Ferrite core
- Winding: enamel copper wire
- Winding soldered to terminals
- Rugged design with 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
- Qualified to AEC-Q200
- RoHS-compatible

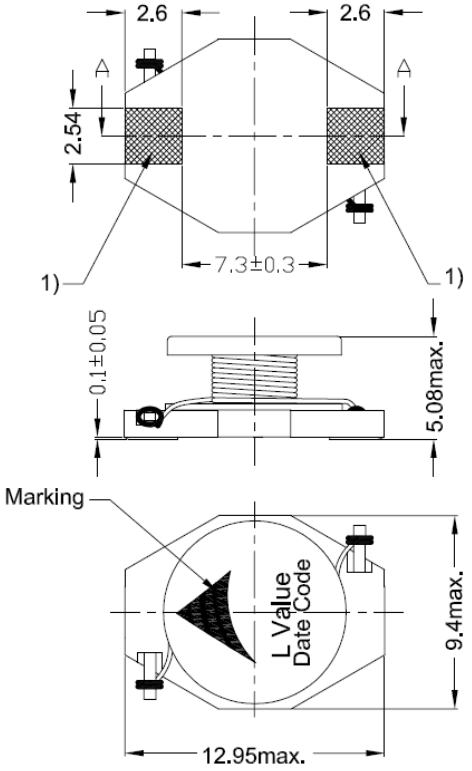
Applications
- Filtering of supply voltages
- Coupling, decoupling
- DC/DC converters
- Automotive electronics
- Industrial electronics
- Consumer electronics

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

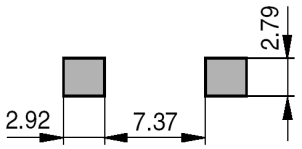
Marking
Marking on component:
Manufacturer, L value (in µH), date code
Minimum data on reel:
Manufacturer, part number, ordering code,
L value and tolerance
quantity, date of packing

Delivery mode and packaging unit
- 24-mm blister tape, reel packing
- Packaging quantity: 750 pcs./reel

Dimensional drawing and layout recommendation



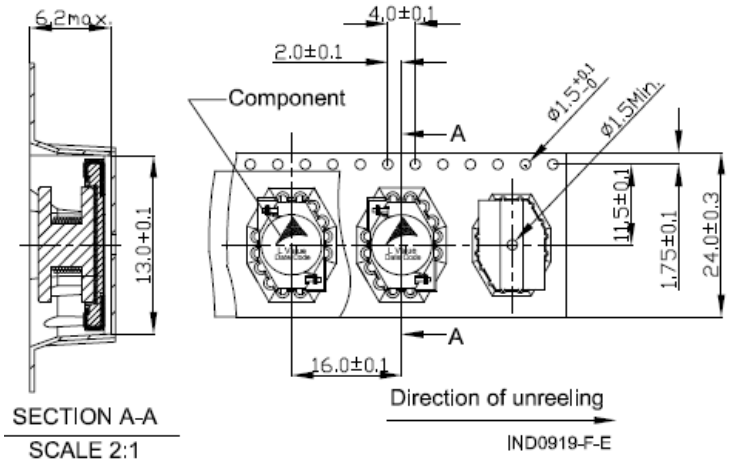
1) Soldering area



Dimensions in mm
Component tolerances ±0.2mm unless otherwise noted

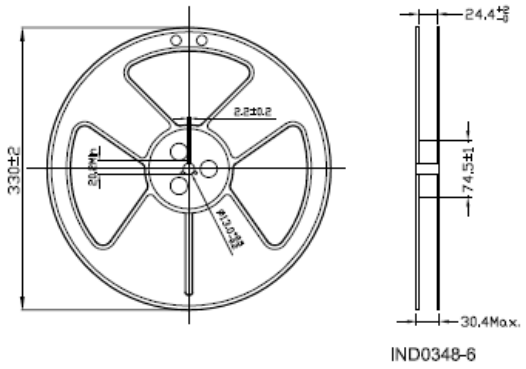
Taping and packing

Blister tape



SECTION A-A
SCALE 2:1

Reel



Dimensions in mm

Technical data and measuring conditions

Rated inductance L_R	Measured with LCR meter Agilent 4284A at frequency f_L, 0.1 V
Operating temperature range	-55 °C .. +150 °C
Rated current I_R	Max. permissible DC with temperature increase of ≤ 40 K at +20 °C
Saturation current I_{Sat}	Max. permissible DC with inductance decrease $\Delta L/L_0$ of approx. 10%,
DC resistance R_{typ}	Measured at +20 °C
Solderability (lead-free)	Dip and look method Sn95.5Ag3.8Cu0.7: +(245 ±5) °C, (3 ±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. 2 g

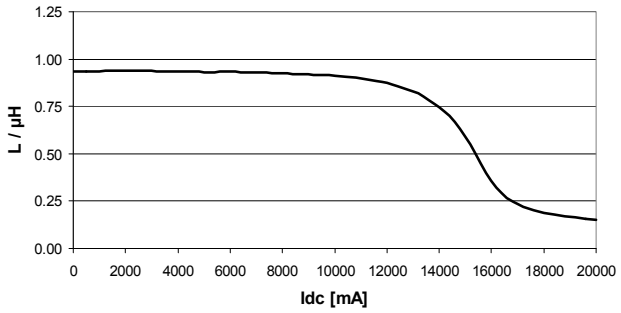
Characteristics and ordering codes

L_R µH	Tolerance	f_L MHz	I_R A	$I_{sat,min}$ A	$I_{sat,typ}$ A	R_{max} Ω	R_{typ} Ω	Ordering code
1.0	20% = M	0.1	7.50	9.0	12.5	0.0080	0.0060	B82476B1102M100
1.5			6.90	8.0	10.0	0.0090	0.0070	B82476B1152M100
2.2			6.70	7.0	8.00	0.0105	0.0090	B82476B1222M100
3.3			5.90	6.4	6.80	0.0135	0.0115	B82476B1332M100
4.7			5.30	5.4	5.60	0.0165	0.0145	B82476B1472M100
6.8			4.80	4.6	4.90	0.0210	0.0190	B82476B1682M100
10			4.30	3.8	4.25	0.0270	0.0245	B82476B1103M100
15			3.40	3.0	3.40	0.0400	0.0350	B82476B1153M100
22			2.95	2.6	2.80	0.0500	0.0450	B82476B1223M100
33			2.30	2.0	2.15	0.0880	0.0810	B82476B1333M100
47			1.95	1.6	2.05	0.120	0.110	B82476B1473M100
68			1.65	1.4	1.65	0.160	0.150	B82476B1683M100
100			1.40	1.2	1.35	0.230	0.215	B82476B1104M100
150			1.10	1.0	1.15	0.330	0.305	B82476B1154M100
220			0.88	0.8	0.88	0.530	0.480	B82476B1224M100
330			0.65	0.6	0.67	0.810	0.730	B82476B1334M100
470			0.55	0.5	0.56	1.100	1.010	B82476B1474M100
680			0.43	0.4	0.46	1.600	1.500	B82476B1684M100
1000			0.33	0.3	0.42	2.150	1.950	B82476B1105M100

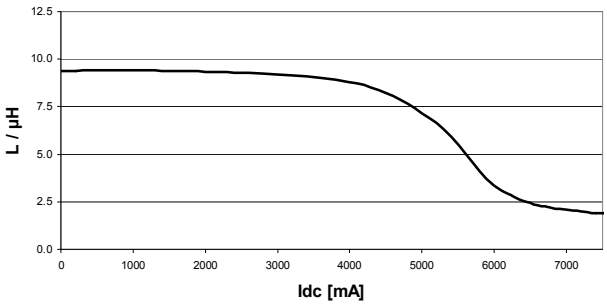
Typical curves:

Inductance vs. DC superposition measured with LCR meter Agilent 4284A at T_a=20 °C

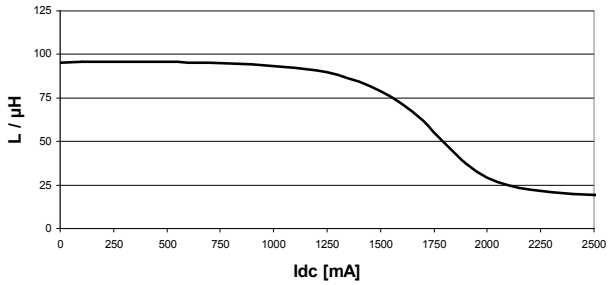
1µH



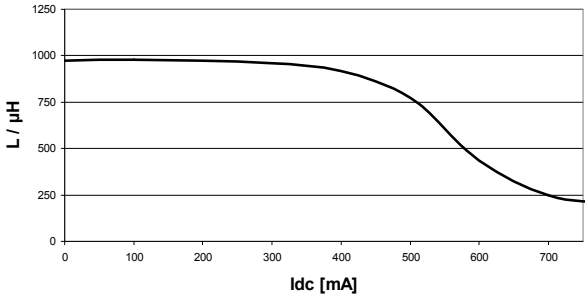
10µH



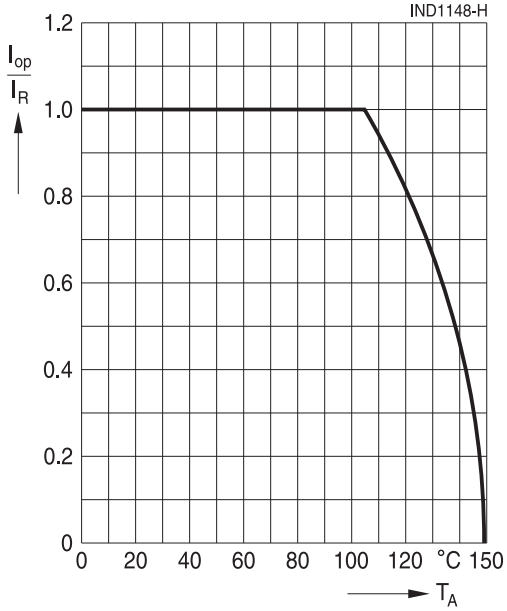
100µH



1000µH



Current derating versus ambient temperature



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-frequecy 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.** 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