SMT power inductors

Size 7.3 × 7.3 × 4.5 (mm)

Series/Type: **B82472G6**

Date: June 2012

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Rated inductance 1 ... 1000 µH
Rated current 0.2 ... 3.6 A

Construction

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

Features

- Temperature range up to +125 °C
- High rated current
- Low DC resistance
- Suitable for lead-free reflow soldering
- RoHS-compatible

Applications

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

Terminals

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

Marking

- Marking on component:
  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

- 16-mm blister tape, wound on 330-mm ∅ reel
- Packing unit: 1000 pcs./reel

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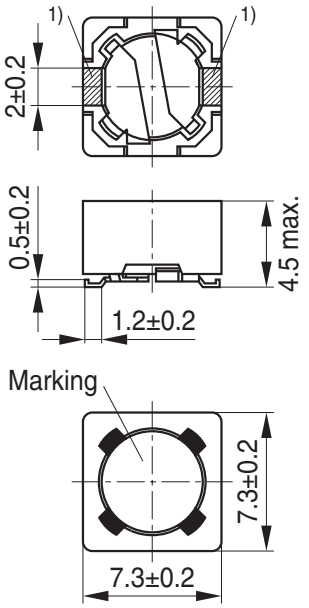
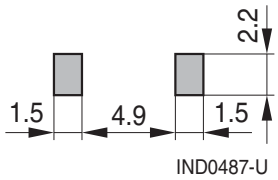
Dimensional drawing and layout recommendation





IND0487-U

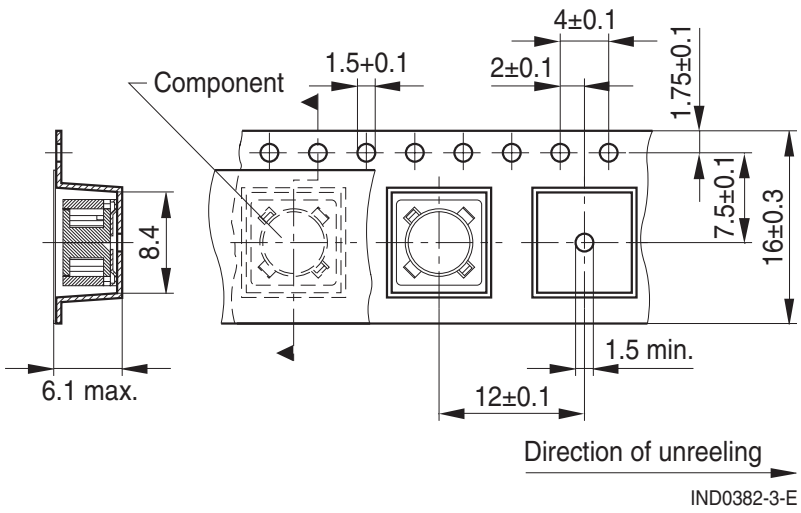
1) Soldering area

Dimensions in mm

IND0488-G-E

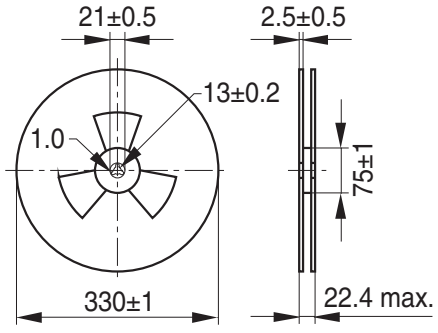
Taping and packing

Blister tape



IND0382-3-E

Reel



IND0347-5

Dimensions in mm

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Technical data and measuring conditions

Rated inductance L_R	Measured with LCR meterAgilent 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 ≤ 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 ≥ 90% (based on IEC 60068-2-58)
Resistance to soldering heat	+260°C, 10 s based on IEC 60068-2-58
Climatic category	55/125/56 (to IEC 60068-1)
Storage conditions	Mounted: –55 °C … +125 °C Packaged: –25 °C … +40 °C, ≤ 75% RH
Weight	Approx. 1.5 g

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Characteristics and ordering codes

L_R µH	Tolerance	f_L MHz	I_R A	I_{sat} A	R_{max} Ω	Ordering code
1.0	±20% ≙ M	0.1	3.60	3.30	0.015	B82472G6102M000
1.5		0.1	3.40	3.00	0.017	B82472G6152M000
2.2		0.1	3.00	2.80	0.020	B82472G6222M000
3.3		0.1	2.85	2.50	0.023	B82472G6332M000
4.7		0.1	2.50	2.00	0.030	B82472G6472M000
6.8		0.1	2.15	1.70	0.040	B82472G6682M000
10		0.1	1.90	1.40	0.053	B82472G6103M000
15		0.1	1.53	1.35	0.080	B82472G6153M000
22		0.1	1.45	1.30	0.091	B82472G6223M000
33		0.1	1.15	1.05	0.15	B82472G6333M000
47		0.1	1.00	0.90	0.20	B82472G6473M000
68		0.1	0.82	0.68	0.26	B82472G6683M000
100		0.1	0.67	0.55	0.39	B82472G6104M000
150		0.1	0.53	0.43	0.58	B82472G6154M000
220		0.1	0.43	0.36	0.88	B82472G6224M000
330		0.1	0.33	0.30	1.70	B82472G6334M000
470		0.1	0.29	0.25	2.00	B82472G6474M000
680		0.1	0.25	0.20	2.75	B82472G6684M000
820		0.1	0.24	0.23	3.30	B82472G6824M000
1000		0.1	0.20	0.15	3.85	B82472G6105M000

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

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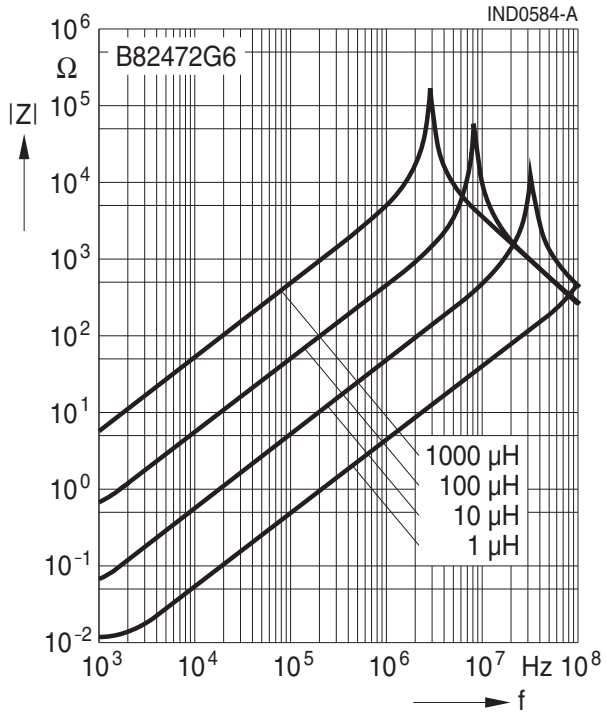
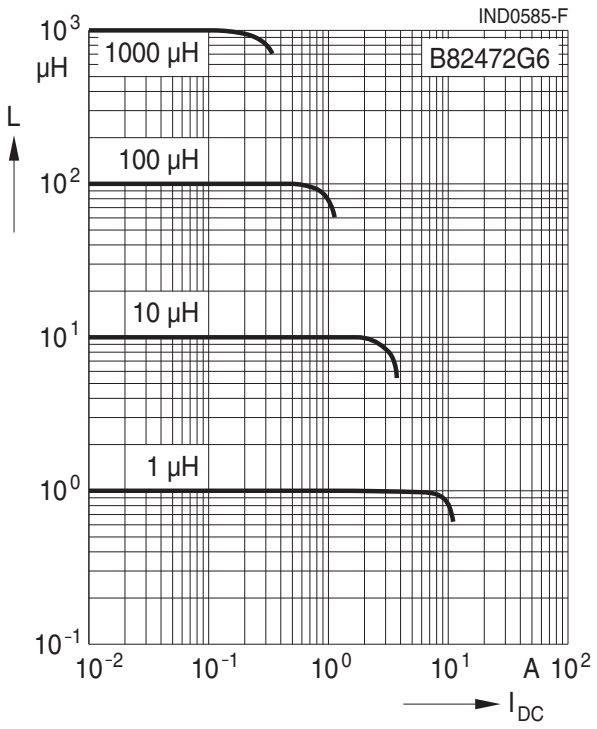
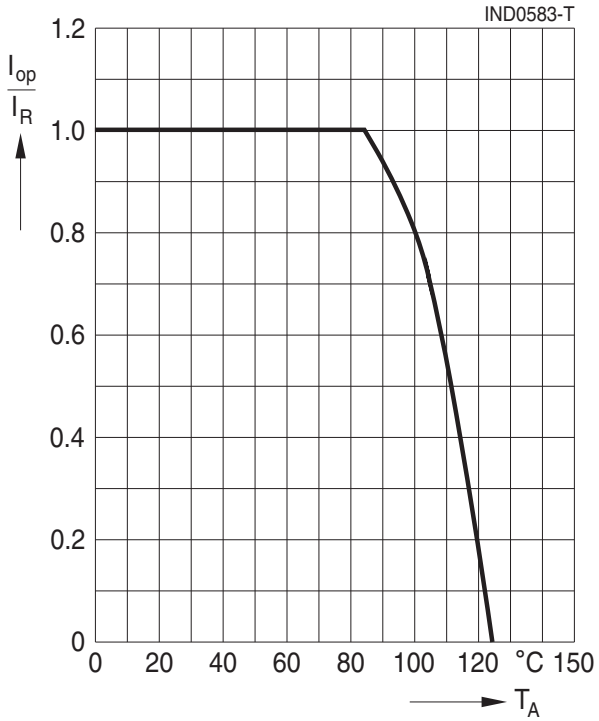
Impedance |Z| versus frequency f
measured with impedance analyzer Agilent 4294A, typical values at +20 °C



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.
  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.

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