



SMT power inductors

Size $6.3 \times 6.3 \times 3.0$ (mm)

Series/Type: **B82462G4**

Date: **March 2008**

SMD

Rated inductance 0.82 μ H to 1000 μ H
Rated current 0.16 A to 3.45 A



Construction

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

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
- Qualified to AEC-Q200
- RoHS-compatible

Applications

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

Terminals

- Base material CuSn6
- Layer composition Ag, Sn (lead-free)¹⁾
- Electro-plated

Marking

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

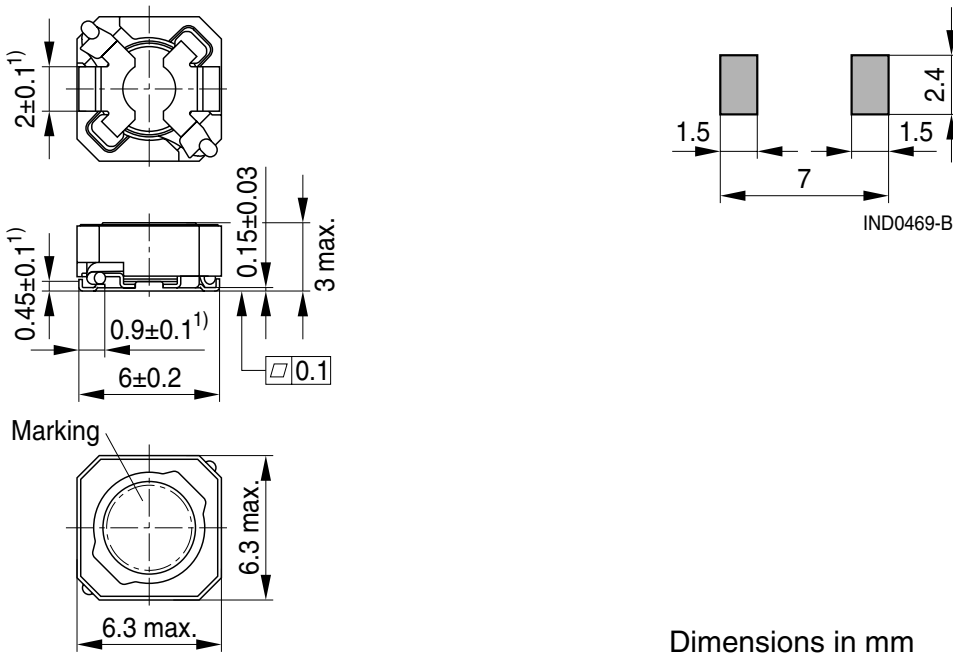
Delivery mode and packing unit

- 12-mm blister tape, wound on 330-mm \varnothing reel
- Packing unit: 2500 pcs./reel

1) Ni-barrier-plated terminals on request (B82462G4*050).

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Dimensional drawing and layout recommendation



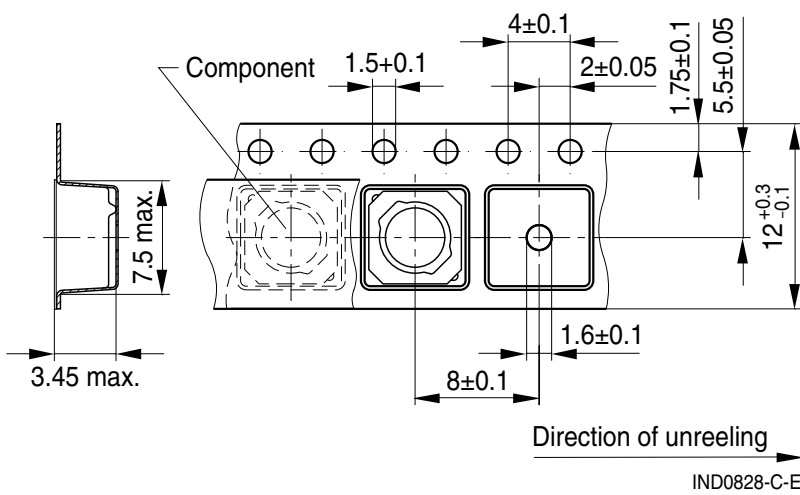
Dimensions in mm

1) Soldering area

IND0472-V-E

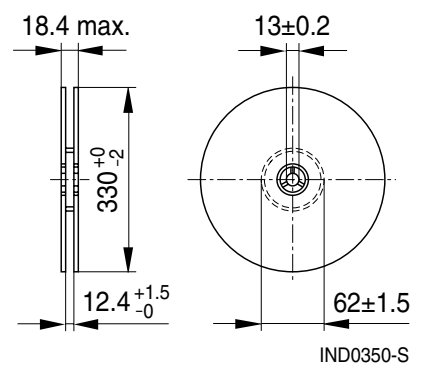
Taping and packing

Blister tape



Dimensions in mm

Reel



Technical data and measuring conditions

Rated inductance L_R	Measured with impedance analyzer Agilent 4294A 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 $\geq 90\%$ (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
0.82	$\pm 20\% \triangleq M$	0.1	3.45	4.45	0.015	B82462G4821M000
1.0		0.1	3.40	4.40	0.016	B82462G4102M000
1.2		0.1	3.25	3.90	0.017	B82462G4122M000
1.5		0.1	3.10	3.60	0.020	B82462G4152M000
2.2		0.1	2.55	2.60	0.025	B82462G4222M000
3.3		0.1	2.30	2.10	0.031	B82462G4332M000
4.7		0.1	2.00	1.80	0.040	B82462G4472M000
6.8		0.1	1.65	1.50	0.050	B82462G4682M000
10		0.1	1.50	1.30	0.062	B82462G4103M000
15		0.1	1.25	1.05	0.097	B82462G4153M000
22		0.1	1.05	0.85	0.15	B82462G4223M000
33		0.1	0.85	0.72	0.23	B82462G4333M000
47		0.1	0.75	0.60	0.31	B82462G4473M000
68		0.1	0.65	0.50	0.41	B82462G4683M000
100		0.1	0.53	0.42	0.58	B82462G4104M000
150		0.1	0.38	0.33	1.05	B82462G4154M000
220		0.1	0.35	0.28	1.35	B82462G4224M000
330		0.1	0.27	0.22	2.30	B82462G4334M000
470		0.1	0.24	0.18	2.70	B82462G4474M000
680		0.1	0.20	0.15	4.05	B82462G4684M000
1000		0.1	0.16	0.13	6.00	B82462G4105M000

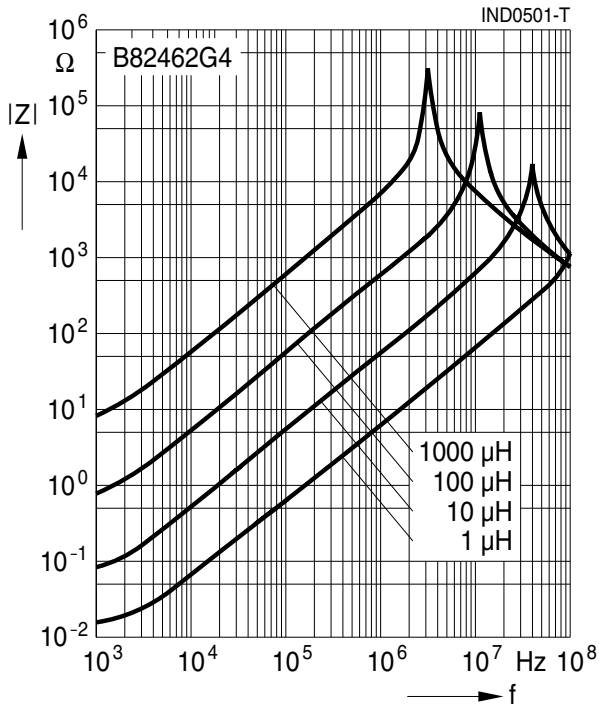
Sample kit available. Ordering code: B82462X004

For more information refer to chapter "Sample kits".

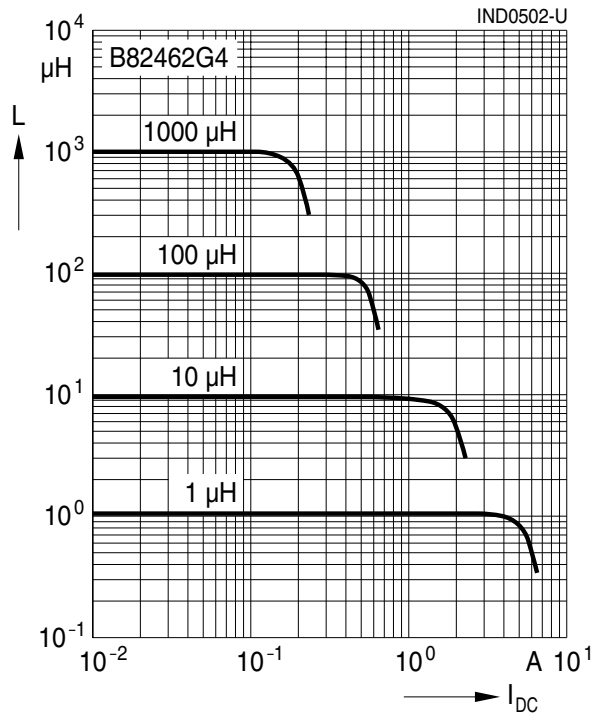
1) For Ni-barrier-plated terminals replace the last two digits "00" by "50".

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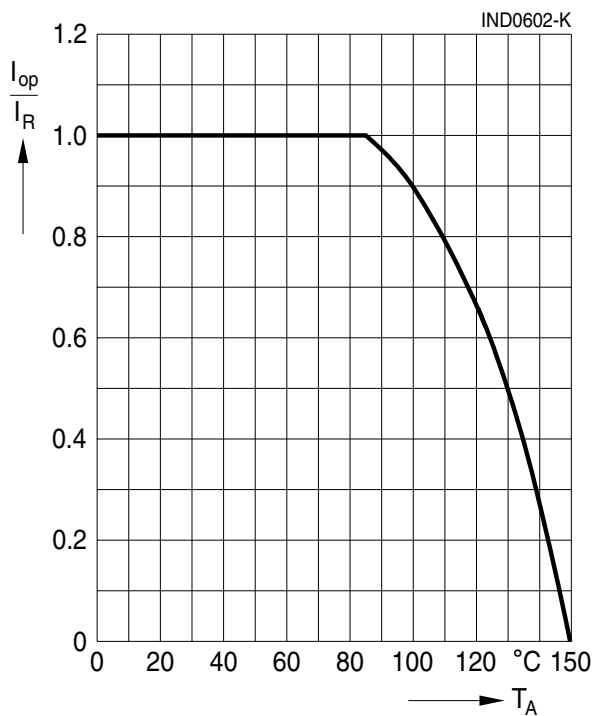
Impedance $|Z|$ versus frequency f
 measured with impedance analyzer
 Agilent 4294A, typical values at 20 °C



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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