



SMT power inductors

Low profile

Size $3.8 \times 3.6 \times 1.2$ (mm)

Series/Type: **B82469G1**

Date: October 2008

SMT power inductors

B82469G1

Size 3.8 × 3.6 × 1.2 (mm)

Preliminary data

SMD

Rated inductance 0.5 µH to 22 µH

Rated current 0.53 A to 2.8 A



Construction

- Magnetically shielded
- Special ferrite core shape
- Winding: enamel copper wire
- Winding welded to terminals

Features

- Low profile
- 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
- Handheld devices (e.g. mobile phones, MP3 players, etc.)
- EDP (Electronic Data Processing)
- Consumer electronics

Terminals

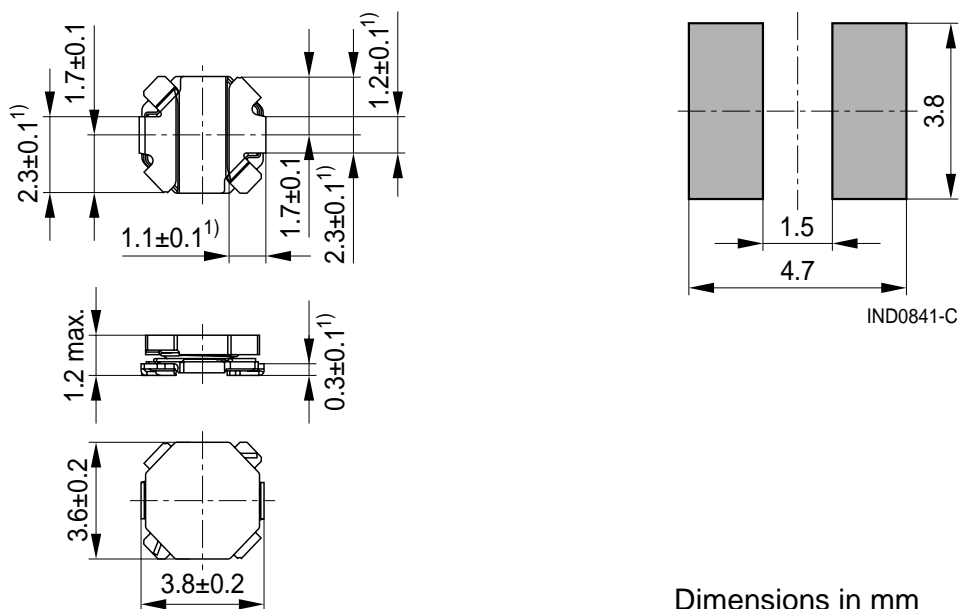
- Base material CuSn6P
- Layer composition Ni, Sn (lead-free)
- Electro-plated

Marking

- Marking on component: To be determined
- Minimum data on reel:
Manufacturer, ordering code, L value,
quantity, date of packing

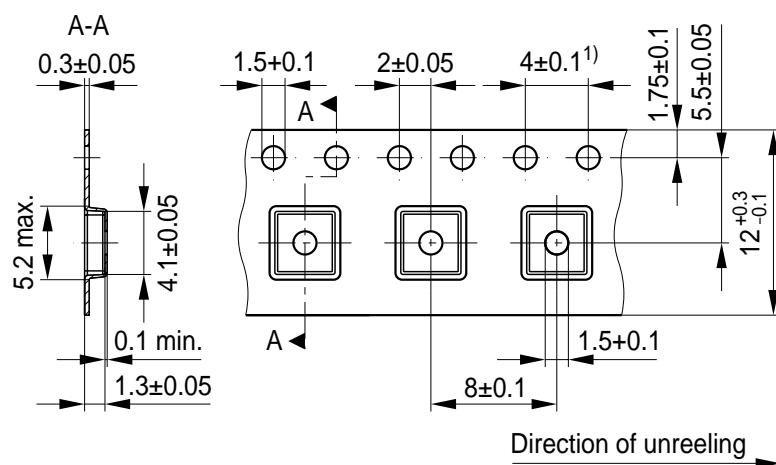
Delivery mode and packing unit

- 12-mm blister tape, wound on 180-mm Ø reel
- Packing unit: 1000 pcs./reel

Dimensional drawing and layout recommendation


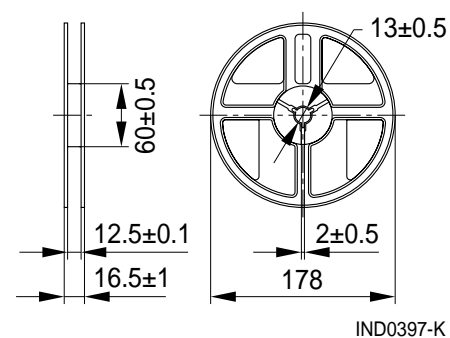
1) Soldering area

IND0840-Z-E

Taping and packing
Blister tape


1) Limit tolerance over 10 pitches ±0.2

IND0833-N-E

Reel


Dimensions in mm

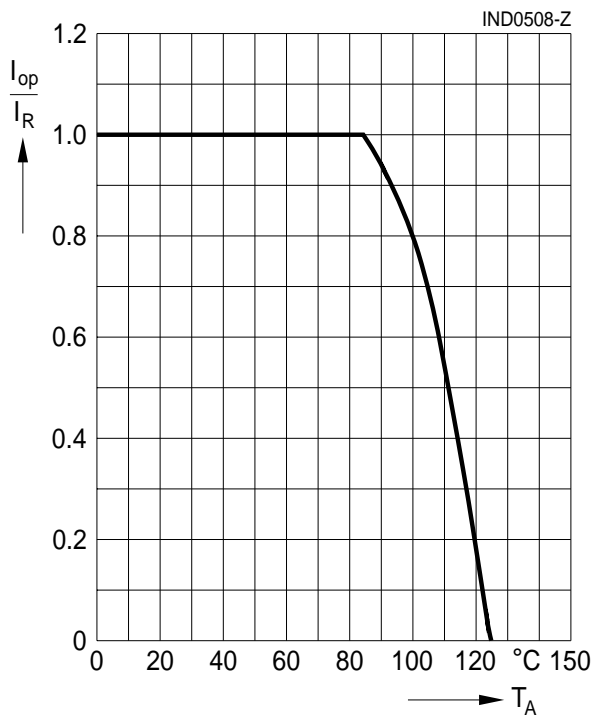
SMT power inductors
B82469G1
Size 3.8 × 3.6 × 1.2 (mm)
Preliminary data
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Technical data and measuring conditions

| | |
|----------------------------------|--|
| Rated inductance L_R | Measured with LCR meter Agilent 4294 A 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 $I_{sat,typ}$ | Max. permissible DC with inductance decrease $\Delta L/L_0$ of approx. 30%, typical values |
| DC resistance R_{typ} | Measured at 20 °C, tolerance $\pm 0.20\%$, typical values |
| Solderability (lead-free) | Dip and look method Sn95.5Ag3.8Cu0.7: (245 \pm 5) °C, (3 \pm 0.3) s Wetting of soldering area $\geq 90\%$ (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, $\leq 75\%$ RH |
| Weight | Approx. 0.2 g |

Characteristics and ordering codes

| L_R μH | Tolerance | f_L MHz | I_R A | $I_{sat,typ}$ A | R_{typ} Ω | Ordering code |
|------------------|-------------------------|--------------|------------|--------------------|-----------------------|-----------------|
| 0.5 | $\pm 20\% \triangleq M$ | 0.1 | 2.80 | 3.00 | 0.024 | B82469G1501M000 |
| 1.0 | | 0.1 | 2.00 | 2.05 | 0.035 | B82469G1102M000 |
| 1.5 | | 0.1 | 1.70 | 1.80 | 0.046 | B82469G1152M000 |
| 2.2 | | 0.1 | 1.55 | 1.45 | 0.065 | B82469G1222M000 |
| 3.3 | | 0.1 | 1.30 | 1.15 | 0.085 | B82469G1332M000 |
| 4.7 | | 0.1 | 1.20 | 1.00 | 0.13 | B82469G1472M000 |
| 6.8 | | 0.1 | 0.90 | 0.80 | 0.17 | B82469G1682M000 |
| 10 | | 0.1 | 0.80 | 0.66 | 0.27 | B82469G1103M000 |
| 15 | | 0.1 | 0.60 | 0.59 | 0.37 | B82469G1153M000 |
| 22 | | 0.1 | 0.53 | 0.45 | 0.53 | B82469G1223M000 |

**Current derating I_{op}/I_R
versus ambient temperature T_A**
(rated temperature $T_R = 85^\circ\text{C}$)



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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