



SMT power inductors

Low profile

Size $3.0 \times 3.0 \times 1.4$ (mm)

Series/Type: **B82468A4**

Date: March 2008

SMT power inductors

B82468A4

Size 3.0 × 3.0 × 1.4 (mm)

SMD

Rated inductance 1 µH to 22 µH

Rated current 0.48 A to 1.95 A

Construction

- Ferrite core
- Winding: enamel copper wire
- Winding soldered 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

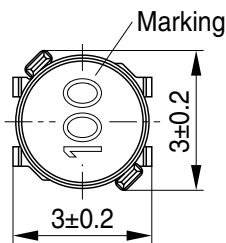
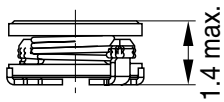
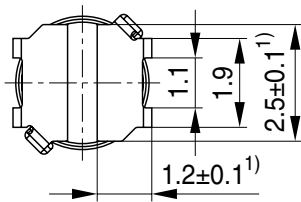
- Base material CuSn6P
- Layer composition Ni, Sn (lead-free)
- Electro-plated

Marking

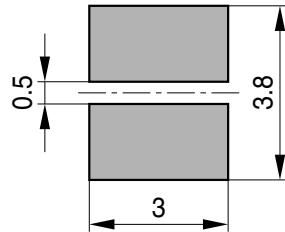
- Marking on component:
L value (µH, coded)
- Minimum data on reel:
Manufacturer, ordering code, L value,
quantity, date of packing

Delivery mode and packing unit

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

SMD
Dimensional drawing and layout recommendation


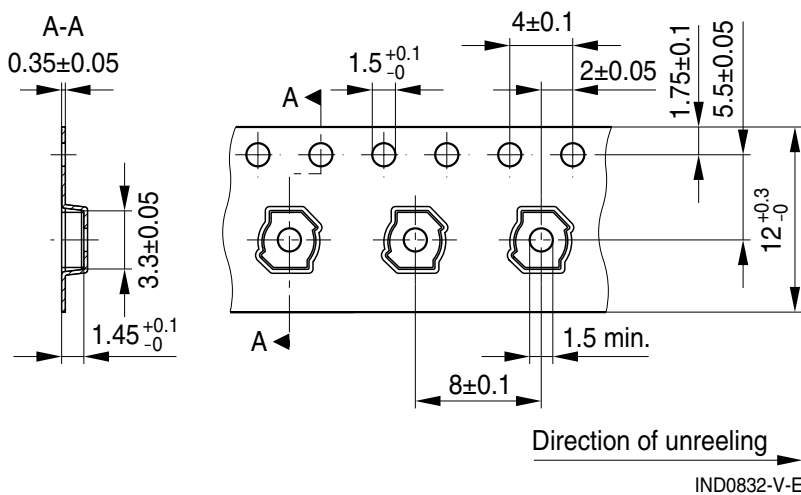
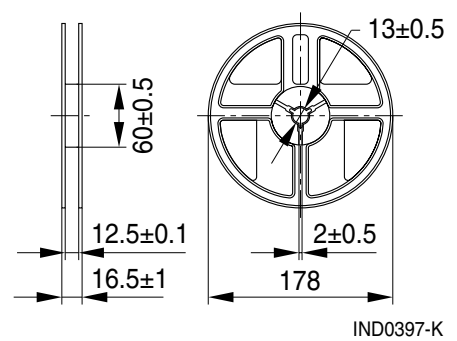
1) Soldering area
IND0600-Z-E



IND0601-C

Dimensions in mm

Component tolerances ± 0.2 mm unless otherwise noted.

Taping and packing
Blister tape

Reel


Dimensions in mm

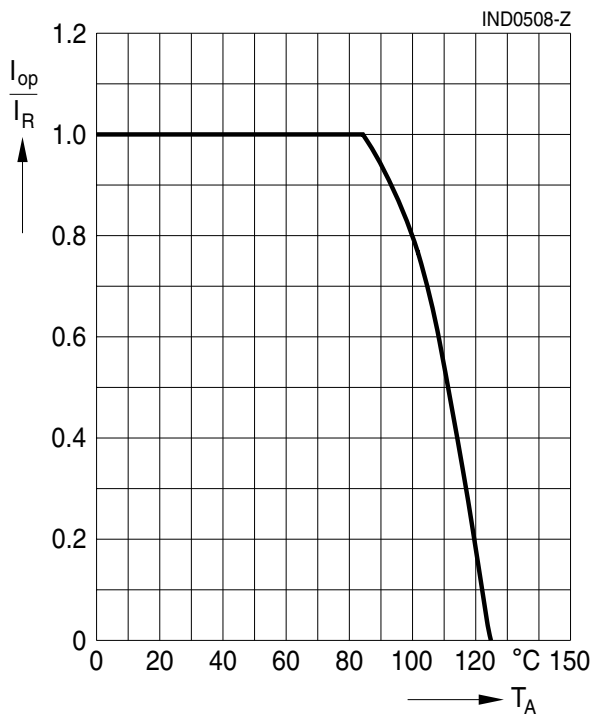
Technical data and measuring conditions

Rated inductance L_R	Measured with LCR meter Agilent 4284A at frequency f_L , 0.1 V, 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. 30%
DC resistance R_{typ}	Measured at 20 °C, tolerance $\pm 20\%$, 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. 0.5 g

Characteristics and ordering codes

L_R μH	Tolerance	f_L MHz	I_R A	I_{sat} A	R_{typ} Ω	Ordering code
1.0	$\pm 20\% \triangleq M$	0.1	1.95	2.95	0.051	B82468A4102M000
1.5		0.1	1.70	2.40	0.065	B82468A4152M000
2.2		0.1	1.48	2.10	0.087	B82468A4222M000
3.3		0.1	1.20	1.65	0.135	B82468A4332M000
4.7		0.1	1.03	1.30	0.185	B82468A4472M000
6.8		0.1	0.88	1.20	0.240	B82468A4682M000
10		0.1	0.75	0.95	0.330	B82468A4103M000
15		0.1	0.59	0.75	0.550	B82468A4153M000
22		0.1	0.48	0.65	0.810	B82468A4223M000

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



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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