



## **SMT power inductors**

Low profile  
Size  $2.0 \times 2.0 \times 1.0$  (mm)

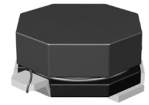
**Series/Type:**            **B82466G0**  
**Date:**                      October 2008

Size 2.0 × 2.0 × 1.0 (mm)

Preliminary data

SMD

Rated inductance 0.56 µH to 22 µH  
Rated current 0.25 A to 1.3 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

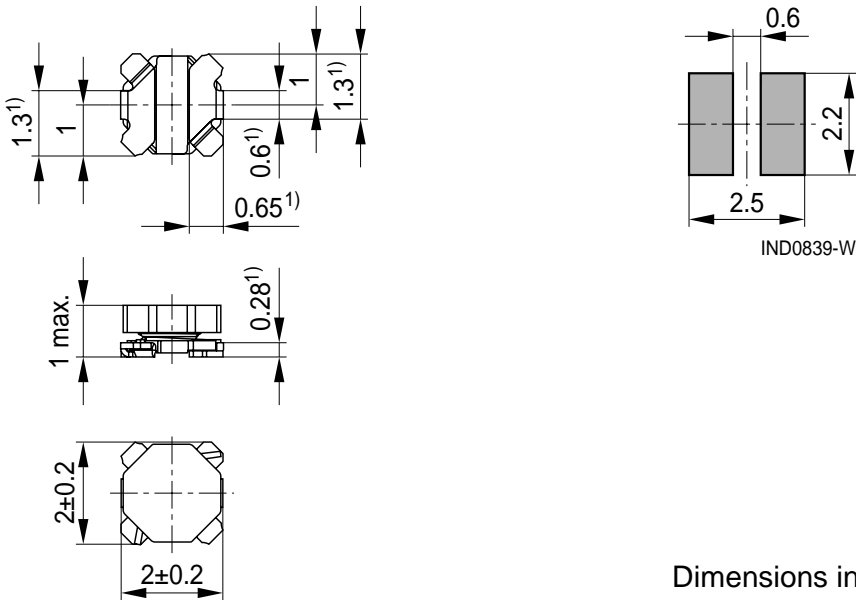
### Marking

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

### Delivery mode and packing unit

- 8-mm blister tape, wound on 180-mm Ø reel
- Packing unit: 4000 pcs./reel

Dimensional drawing and layout recommendation



IND0839-W

IND0838-R-E

Dimensions in mm

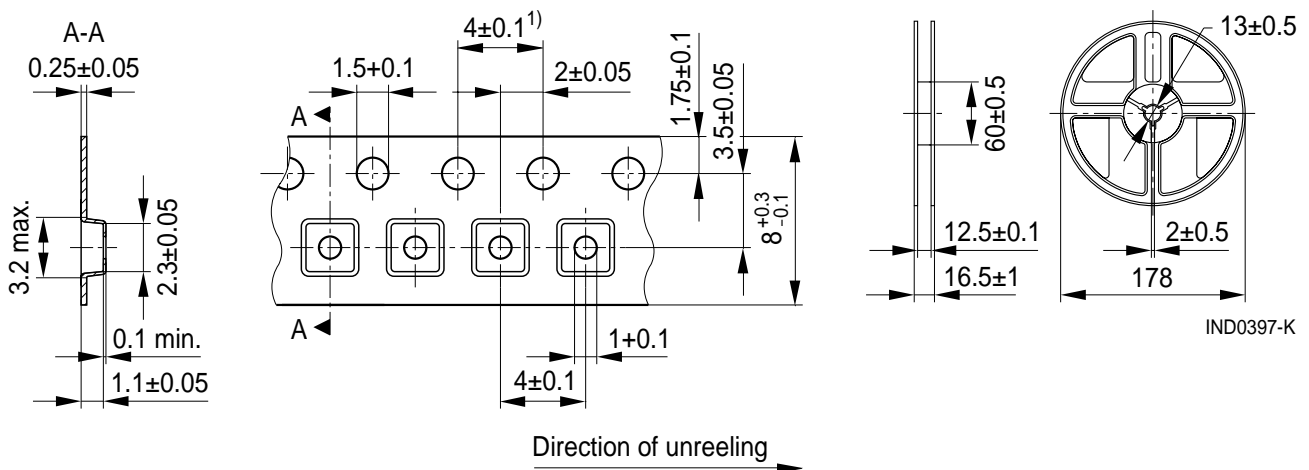
Component tolerances ±0.2 mm unless otherwise noted.

1) Soldering area

Taping and packing

Blister tape

Reel



IND0397-K

IND0904-A-E

1) Limit tolerance over 10 pitches ±0.2

Dimensions in mm

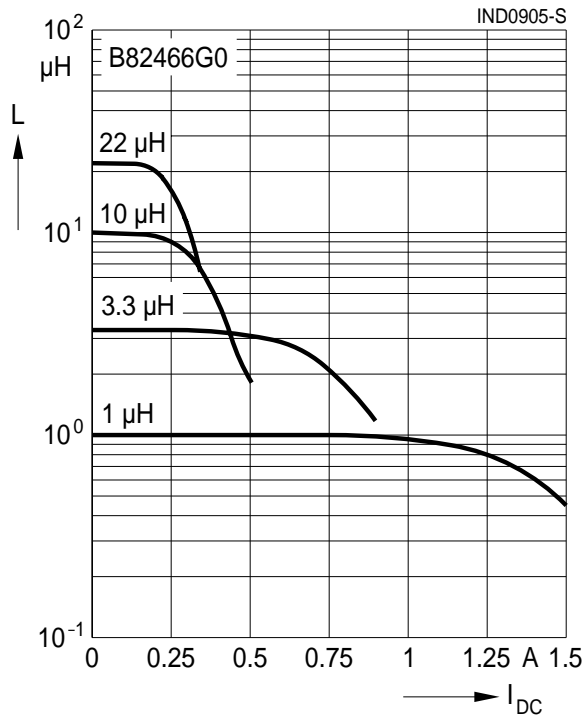
**Technical data and measuring conditions**

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 $\leq 40$ 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 $\pm 20\%$ , 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

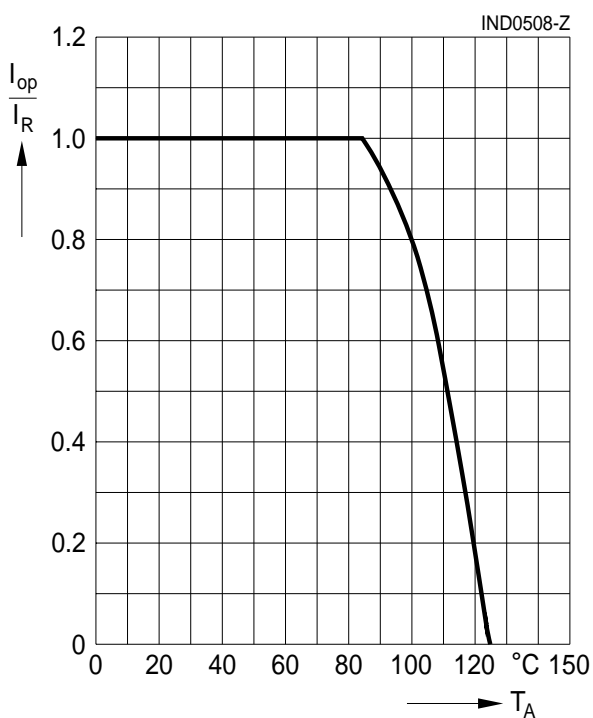
**Characteristics and ordering codes**

$L_R$ $\mu\text{H}$	Tolerance	$f_L$ MHz	$I_R$ A	$I_{sat,typ}$ A	$R_{typ}$ $\Omega$	Ordering code
0.56	$\pm 20\% \triangleq M$	0.1	1.30	1.60	0.070	B82466G0561M000
1.0		0.1	1.05	1.20	0.105	B82466G0102M000
1.5		0.1	0.92	1.00	0.145	B82466G0152M000
2.2		0.1	0.77	0.85	0.205	B82466G0222M000
2.7		0.1	0.72	0.76	0.245	B82466G0272M000
3.3		0.1	0.67	0.72	0.265	B82466G0332M000
4.7		0.1	0.60	0.63	0.350	B82466G0472M000
6.8		0.1	0.49	0.51	0.515	B82466G0682M000
10		0.1	0.36	0.40	0.900	B82466G0103M000
15		0.1	0.27	0.32	1.52	B82466G0153M000
22		0.1	0.25	0.26	1.70	B82466G0223M000

**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  $T_R = 85\text{ °C}$ )



## 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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