



## **SMT power inductors**

Size 8.3 x 7.5 x 5.5 (mm)

**Series/Type:**        **B82473M**  
**Date:**                May 2009  
**Version:**             02

**Rated inductance 10  $\mu$ H to 470  $\mu$ H**  
**Rated current 0.34 A to 2.3 A**



#### Construction

- Ferrite core
- Winding: enamel copper wire
- Winding soldered to terminals
- Injection molded base

#### Features

- High mechanical stability
- 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
- Qualification to AEC-Q200
- RoHS-compatible

#### Applications

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

#### Terminals

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

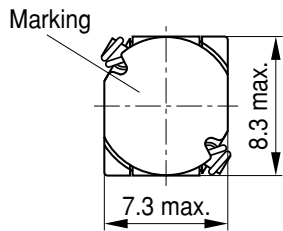
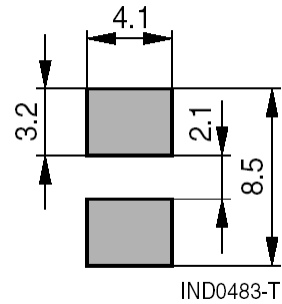
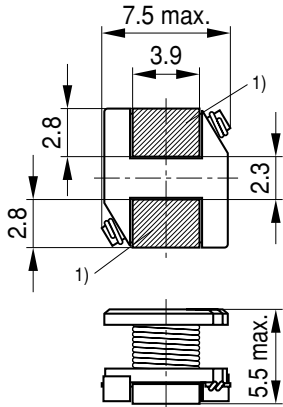
#### Marking

- Marking on component:  
L value ( $\mu$ H, 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

Dimensional drawing and layout recommendation



Dimensions in mm

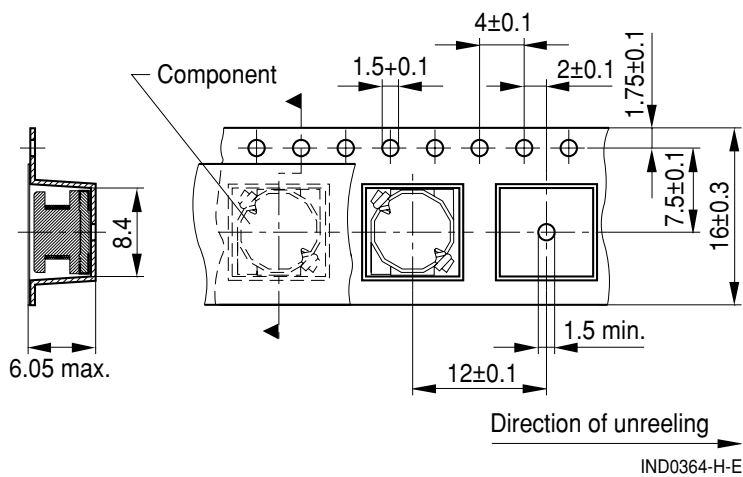
Component tolerances  $\pm 0.2$  mm unless otherwise noted.

1) Soldering area

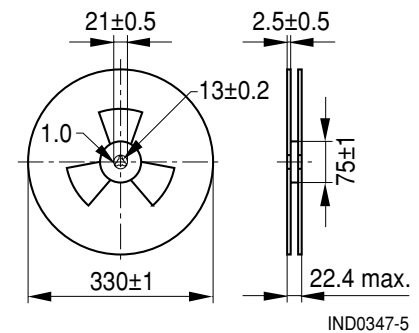
IND0482-K-E

Taping and packing

Blister tape



Reel



Dimensions in mm

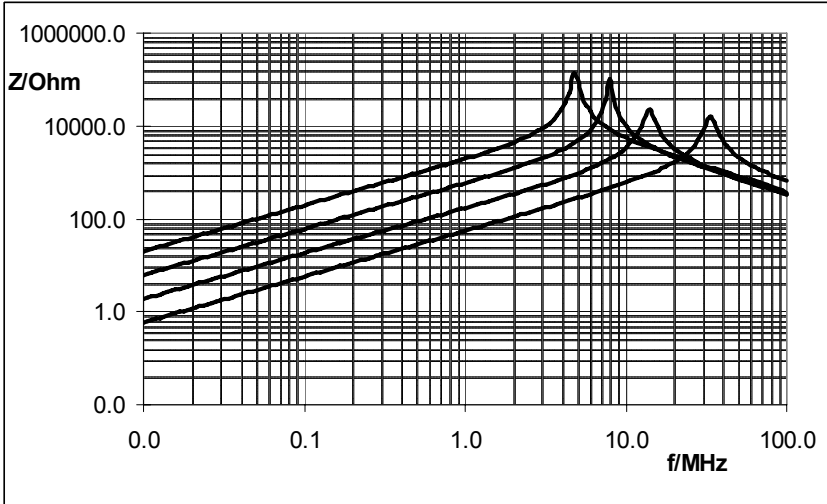
**Technical data and measuring conditions**

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 $\leq 40$ K at rated temperature
Saturation current $I_{Sat}$	Max. permissible DC with inductance decrease $\Delta L/L_0$ of approx. 10%,
DC resistance $R_{typ}$	Measured at 20 °C
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, 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

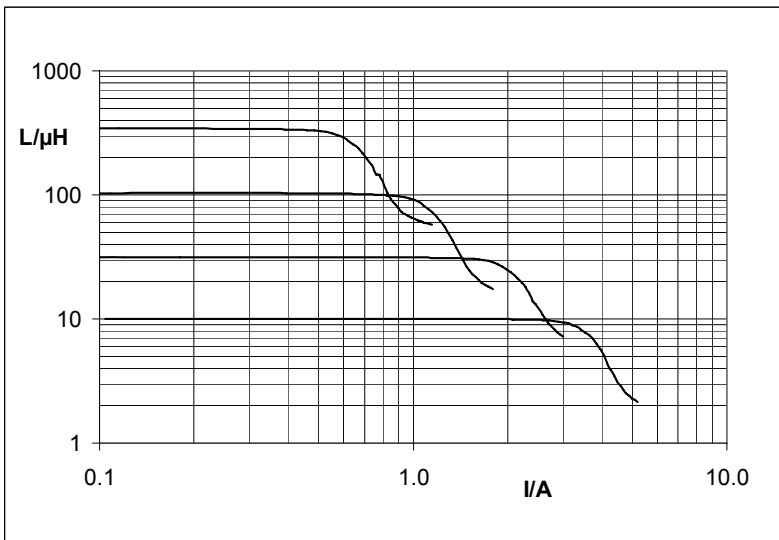
**Characteristics and ordering codes**

$L_R$ $\mu\text{H}$	Tolerance	$f_L$ MHz	$I_R$ A	$I_{sat}$ A	$R_{max}$ $\Omega$	Ordering code
10	10% = K	0.1	2.30	2.50	0.07	B82473M1103K000
15		0.1	1.80	2.00	0.09	B82473M1153K000
22		0.1	1.50	1.60	0.11	B82473M1223K000
33		0.1	1.20	1.30	0.13	B82473M1333K000
47		0.1	1.10	1.20	0.18	B82473M1473K000
68		0.1	0.85	0.90	0.28	B82473M1683K000
100		0.1	0.72	0.80	0.43	B82473M1104K000
150		0.1	0.58	0.65	0.64	B82473M1154K000
220		0.1	0.49	0.55	0.96	B82473M1224K000
330		0.1	0.40	0.45	1.26	B82473M1334K000
470		0.1	0.34	0.40	1.96	B82473M1474K000

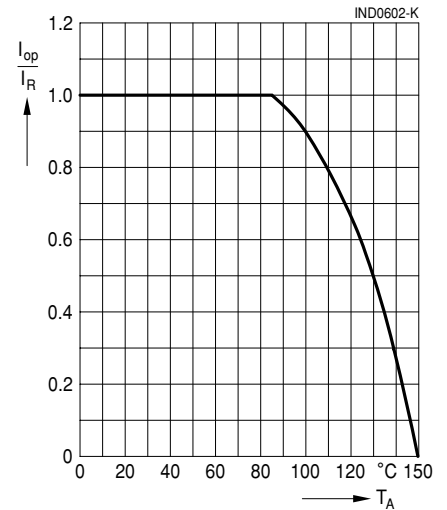
**Impedance versus frequency (typical curve)**



**Inductance derating versus load current (typical curve)**



**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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