



## **SMT power inductors**

Size 12.3 × 12.3 × 6.0 (mm)

**Series/Type:** B82477G2

**Date:** March 2008

SMD

Rated inductance 1  $\mu\text{H}$  to 1000  $\mu\text{H}$

Rated current 0.4 A to 9 A

**Construction**

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



**Features**

- Temperature range up to 125 °C
- High rated current
- Low DC resistance
- Suitable for lead-free reflow soldering
- Qualification based on AEC-Q200
- RoHS-compatible

**Applications**

- Filtering of supply voltages
- Coupling, decoupling
- DC/DC converters
- Industrial electronics
- EDP (Electronic Data Processing)
- Consumer electronics

**Terminals**

- Base material  
Cu ( $L \leq 10 \mu\text{H}$ ), CuSn6P ( $L \geq 15 \mu\text{H}$ )
- Layer composition Ni, Sn (lead-free)
- Electro-plated

**Marking**

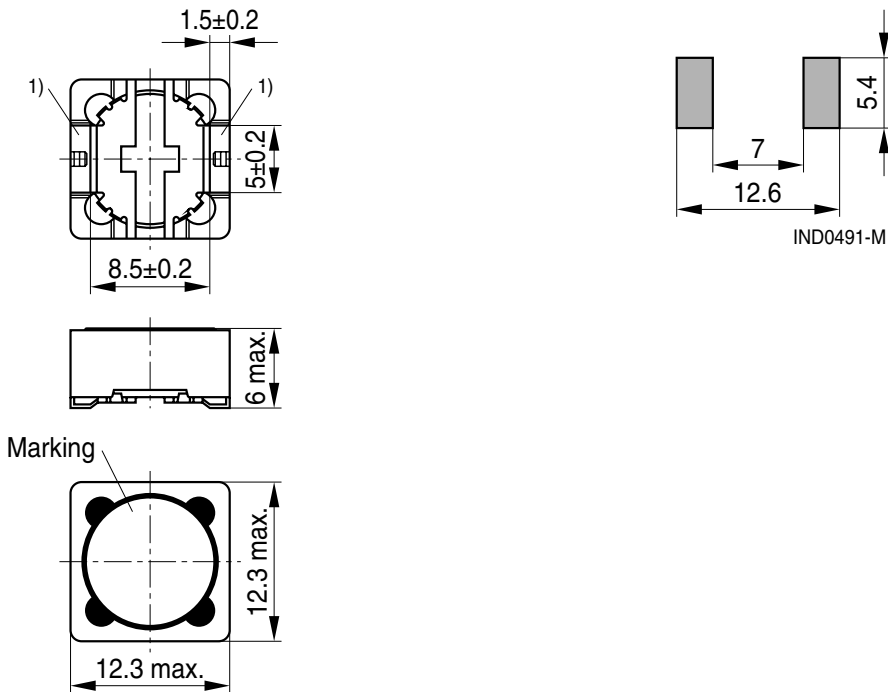
- Marking on component:  
Manufacturer, L value ( $\mu\text{H}$ , coded),  
manufacturing date (YWWD)
- Minimum data on reel:  
Manufacturer, ordering code, L value,  
quantity, date of packing

**Delivery mode and packing unit**

- 24-mm blister tape, wound on 330-mm  $\varnothing$  reel.
- Packing unit: 600 pcs./reel

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Dimensional drawing and layout recommendation



1) Soldering area

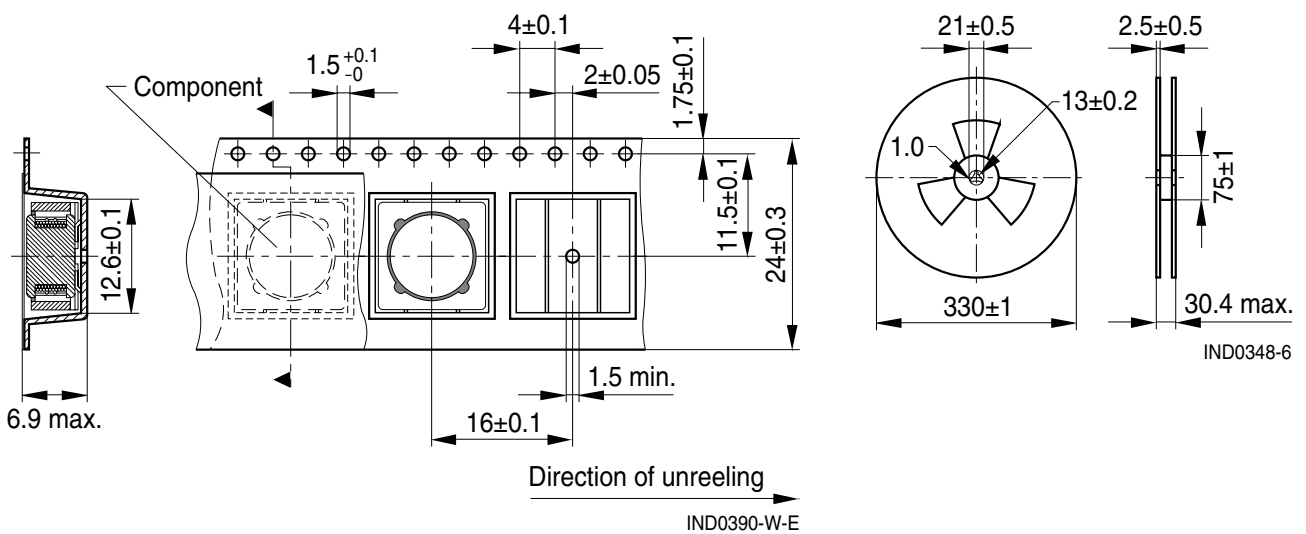
Dimensions in mm

IND0490-H-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
DC resistance $R_{max}$	Measured at 20 °C
Solderability (lead-free)	Dip and look method Sn95.5Ag3.8Cu0.7: (245 $\pm$ 5) °C, (5 $\pm$ 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. 4 g

**Characteristics and ordering codes**

$L_R$ $\mu$ H	Tolerance	$f_L$ MHz	$I_R$ A	$R_{max}$ $\Omega$	Ordering code
1.0	$\pm 20\% \triangleq M$	0.001	9.0	0.009	B82477G2102M000
1.3		0.001	8.7	0.010	B82477G2132M000
2.2		0.001	7.0	0.014	B82477G2222M000
3.3		0.001	6.0	0.017	B82477G2332M000
4.7		0.001	5.0	0.020	B82477G2472M000
6.8		0.001	4.4	0.022	B82477G2682M000
7.5		0.001	4.2	0.023	B82477G2752M000
10		0.001	4.0	0.025	B82477G2103M000
12		0.001	3.5	0.027	B82477G2123M000
15		0.001	3.3	0.030	B82477G2153M000
22		0.001	2.8	0.036	B82477G2223M000
33		0.001	2.1	0.057	B82477G2333M000
47		0.001	1.8	0.075	B82477G2473M000
68		0.001	1.5	0.120	B82477G2683M000
100		0.001	1.3	0.160	B82477G2104M000

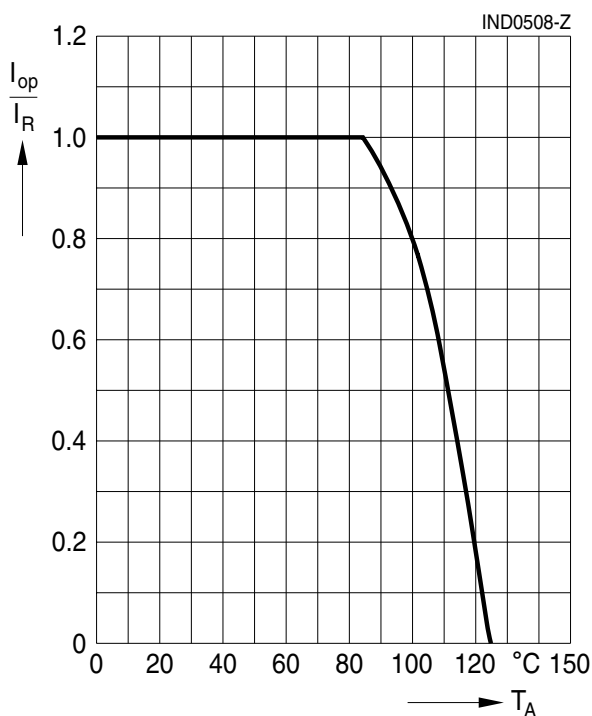


**Characteristics and ordering codes**

$L_R$ $\mu\text{H}$	Tolerance	$f_L$ MHz	$I_R$ A	$R_{\text{max}}$ $\Omega$	Ordering code
150	$\pm 20\% \triangleq M$	0.001	1.0	0.23	B82477G2154M000
220		0.001	0.80	0.40	B82477G2224M000
330		0.001	0.68	0.51	B82477G2334M000
470		0.001	0.58	0.77	B82477G2474M000
680		0.001	0.48	1.20	B82477G2684M000
1000		0.001	0.40	1.53	B82477G2105M000

Sample kit available. Ordering code: B8247XX001  
 For more information refer to chapter "Sample kits".

**Current derating  $I_{\text{op}}/I_R$   
 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.

## Important notes

The following applies to all products named in this publication:

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