



SMT Power Inductors

Size 12.8 x 12.8 x 8.0 (mm)

Ordering code: **B82477G4473M003**

Date: July 2011

Version: 01

Rated inductance 47 μ H

Construction

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



Features

- High mechanical stability
- Temperature range up to 125 °C
- Increased current handling capability compared to standard device B82477G4473M000 (I_{sat} +30%)
- Low DC resistance
- Suitable for lead-free reflow soldering
- RoHS-compatible

Applications

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

Terminals

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

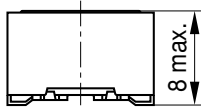
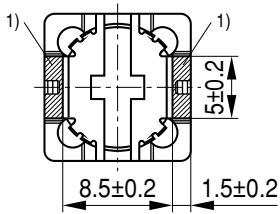
Marking

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

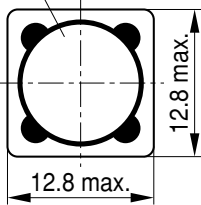
Delivery mode and packing units

- 24-mm blister tape, wound on 330-mm reel
- Packing unit: 400 pcs./reel

Dimensional Drawing and layout recommendation

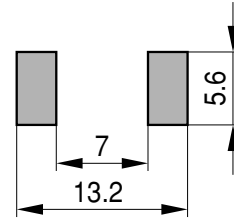


Marking



1) Soldering area

IND0492-V-E

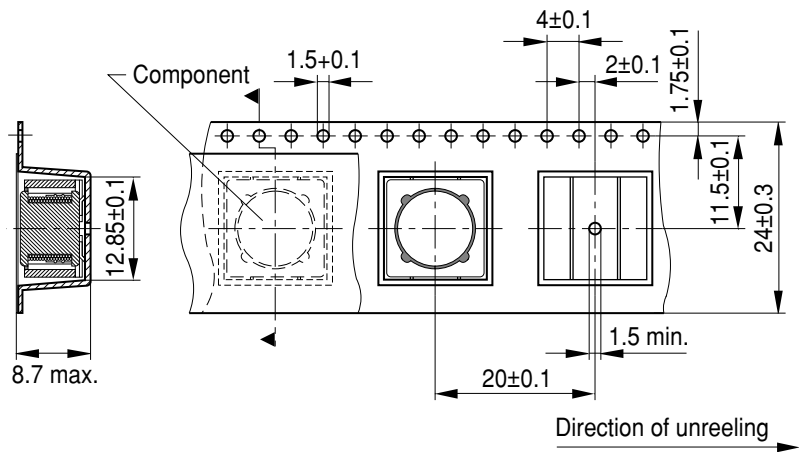


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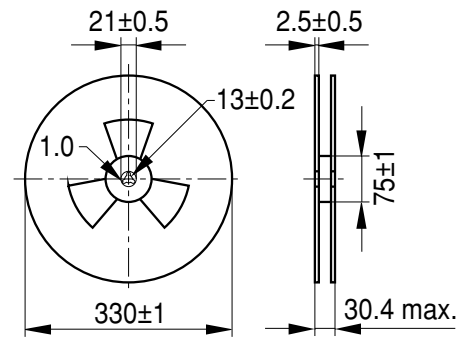
Dimensions in mm

Taping and packing

Blister tape and reel



IND0342-S-E



IND0348-6

Dimensions in mm

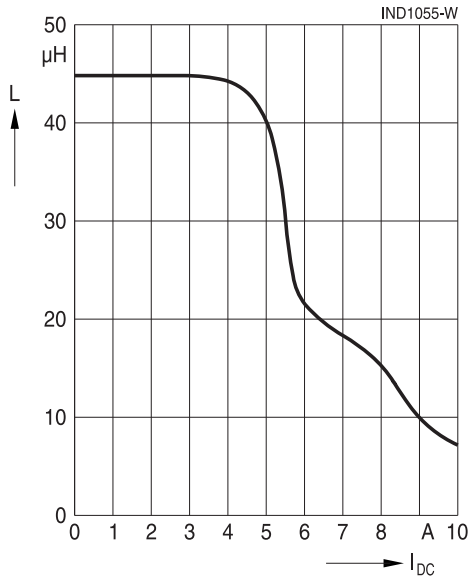
Technical data and measuring conditions

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}	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, 10 s
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

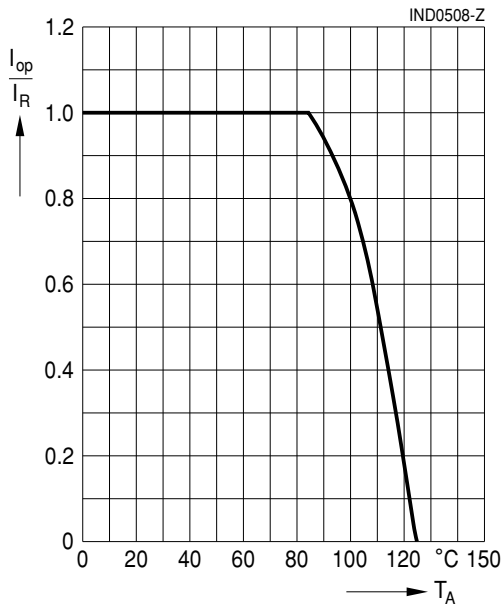
L_R μH	Tolerance	f_L MHz	I_R A	I_{sat} A	R_{typ} Ω	R_{max} Ω	Ordering code
47	20% = M	0.1	3.00	5.00	0.051	0.055	B82477G4473M003

Inductance derating versus DC superposition



Current derating I_{OP}/I_R versus ambient temperature T_A

(rated temperature $T_R = 85^\circ\text{C}$)



Size 12.8 x 12.8 x 8.0 (mm)

- 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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