



## **Power line chokes**

**1.8  $\mu$ H / 1 MHz, 21 A, +125 °C**

**Ordering code: B82116B1224A010**

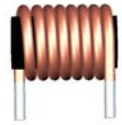
Date: 2016-07-07

Version: 01

**Rod core choke**

**Rated current:** 21 A / +125 °C

**Rated inductance:** 1.8  $\mu$ H / 1 MHz


**Construction**

- Rod core choke
- Ferrite core
- Single layer winding
- Core and winding glued

**Features**

- High resonance frequency
- Enameled wire in accordance to EN 60317-13, Grade 1
- Wire class 200, UL listed
- Suitable for wave soldering or welding
- RoHS compatible

**Applications**

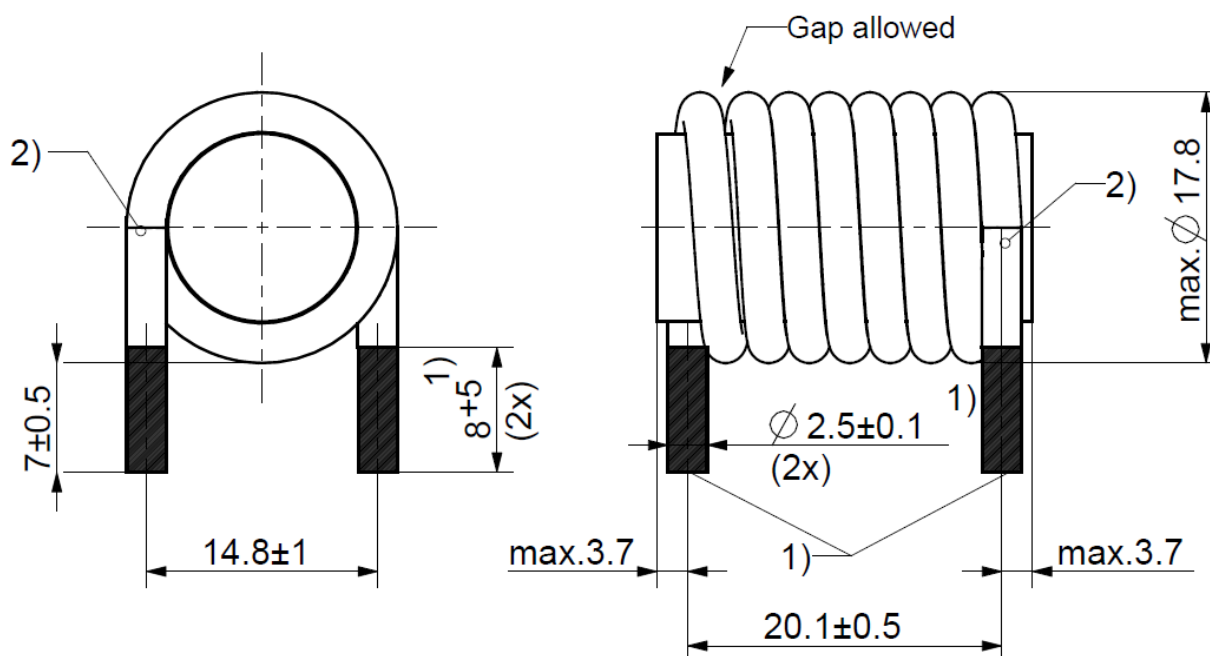
- EMC choke

**Terminals**

- Ends of winding wire
- Pins hot dip tinned with Sn99Cu

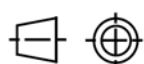
**Delivery mode**

- Trays in cardboard box

**Dimensional drawing**


- 1) Solderable tinned with Sn99Cu.  
Bare copper wire above the tinned area is permissible.
- 2) At this position a little press mark on the first turn appears caused by wire holder of winding machine.  
An additional hole in the wire coating may appear.

Longitudinal axis of core is not central to the winding.



All dimensions in mm  
ISO 2768-cL

Tolerance  
ISO 8015

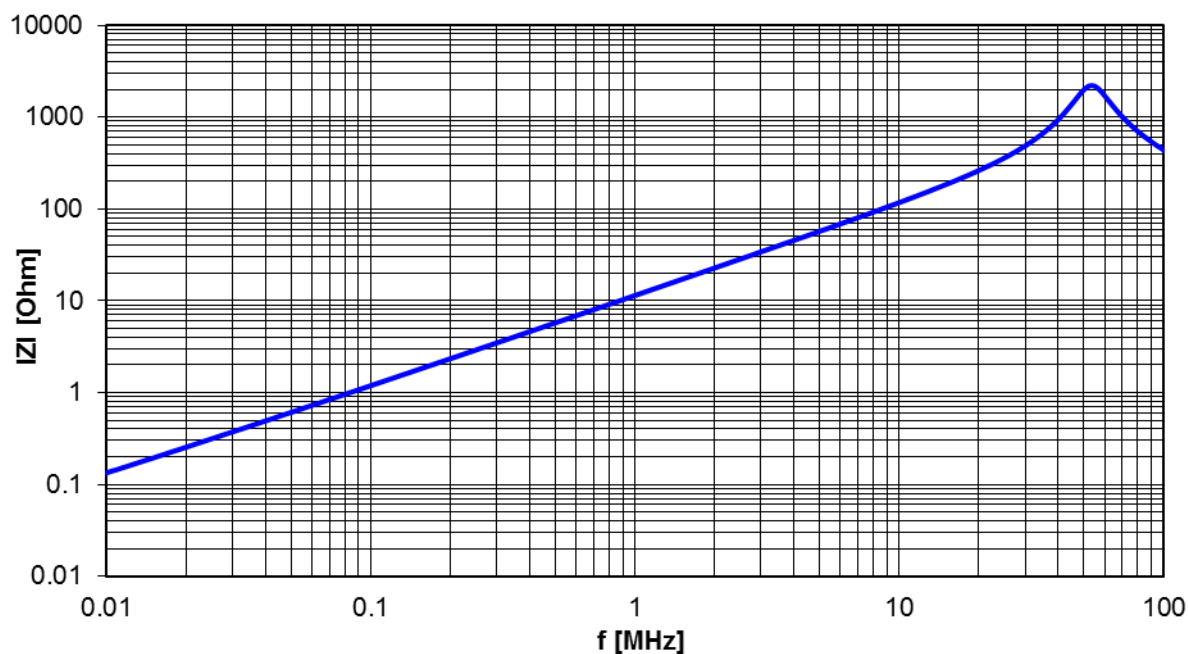
Dimensions  
ISO 14405

**Rod core choke**
**Technical data and measuring conditions**

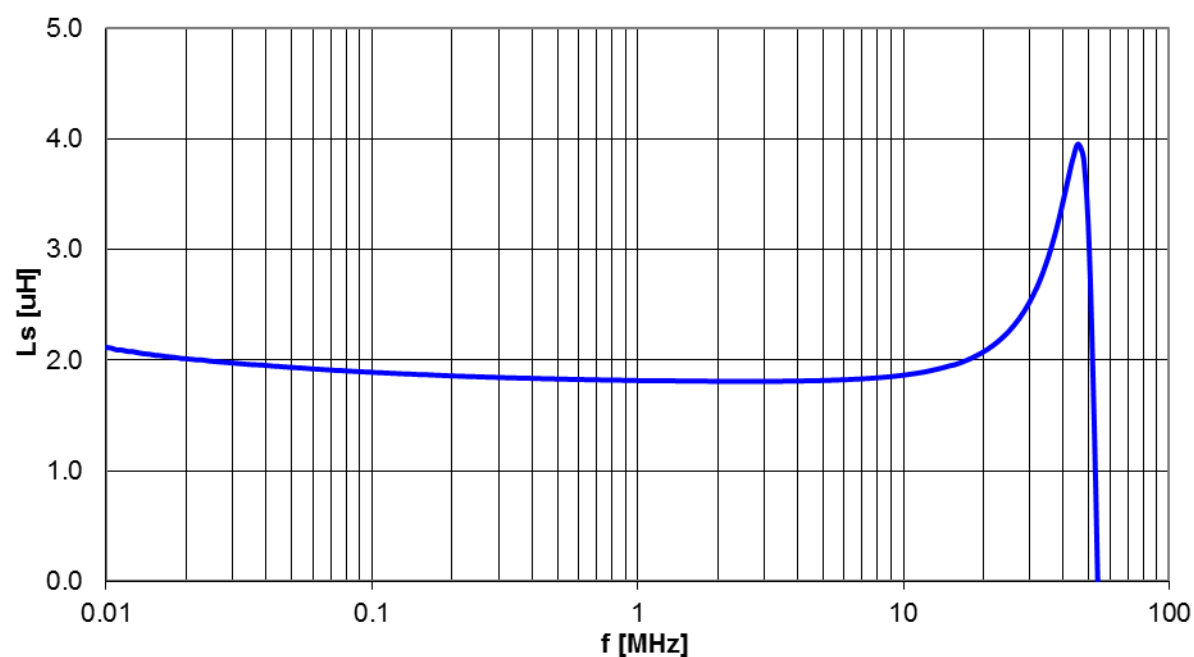
Rated temperature $T_R$	+125 °C
Rated current $I_R$	21 A Referred to DC current and rated temperature.
Rated inductance $L_R$	1.8 $\mu$ H / 1 MHz Measured with Agilent 4284A, 1 mA, at +20 °C
Inductance $L_{(1\text{ kHz})}$ (only for information)	2.3 $\mu$ H / 1kHz Measured with Agilent 4284A, 1 mA, at +20 °C
Inductance tolerance	$\pm 20\%$ at +20 °C
Inductance decrease $\Delta L/L_0$	$\leq 10\%$ at DC magnetic bias with 110 A, +20 °C
DC resistance $R_{typ}$	1.4 m $\Omega$ typical value, measured at +20 °C
Operating temperature range	-40°C ... +150°C
Weight	Approx. 29 g
Wire insulation	Leaks in insulation of wire in accordance to EN 60317-0-1 allowed
Ferrite core surface irregularities	The standard IEC 60424-4 is the basis for the visual inspection of surface irregularities. These surface irregularities have no impact regarding function, manufacture ability and reliability of the component. No further spalling of core material permissible.

Rod core choke

**Impedance |Z| versus frequency**  
(Typical values measured at +20 °C)



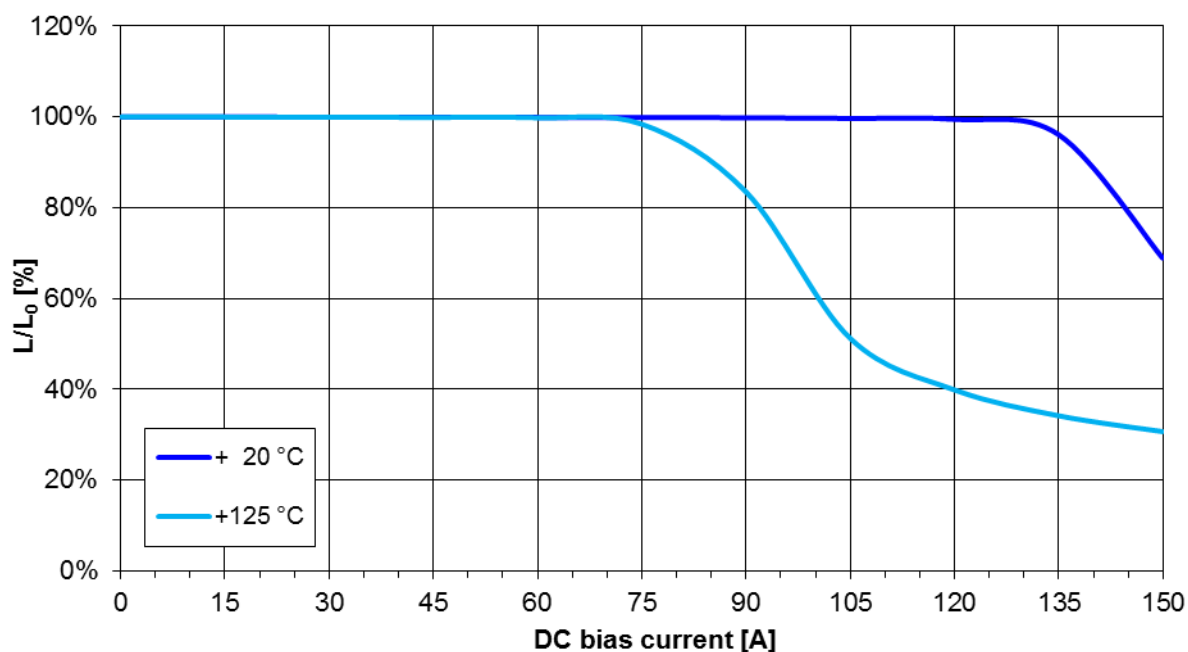
**Inductance Ls versus frequency**  
(Typical values measured at +20 °C)



Rod core choke

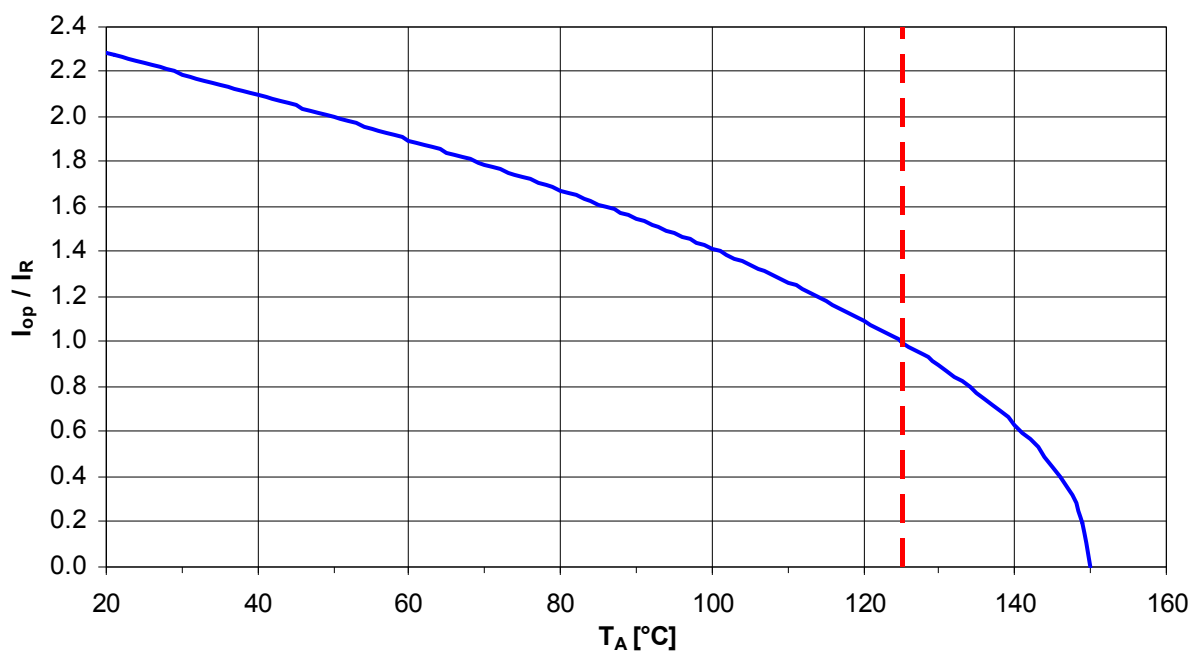
Inductance  $L/L_0$  versus DC bias current  $I$

(Typical values measured at +20 °C, +125 °C Measured with DC BIAS method)



Current derating  $I_{op}/I_R$  versus ambient temperature  $T_A$

(rated temperature  $T_R = +125$  °C)



**Rod core choke**
**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. Derating must be applied in case the ambient temperature in the application exceeds the rated temperature of the component.
  - Ensure the operation temperature (which is the sum of the ambient temperature and the temperature rise caused by losses / self-heating) of the component in the application does not exceed the maximum value specified in operating temperature range.
  - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pin, not to 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.  
 Washing processes may damage the product due to the possible static or cyclic mechanical loads (e.g. ultrasonic cleaning). They may cause cracks to develop on the product and its parts, which might lead to reduced reliability or lifetime.
  
- The following points must be observed if the components are potted in customer application:
  - 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 components in the circuit can only be carried out by the customer.

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