



SMT power inductors

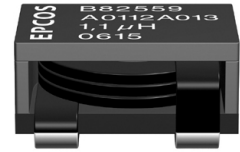
HPI 13, helically wound

Series/Type: **B82559*A013**

Date: **March 2008**

SMD

Rated inductance 0.5 μ H to 3.9 μ H
Saturation current 12 A to 30 A



Construction

- Ferrite core
- Magnetically shielded
- Winding: enamel copper flat wire
- Self-leaded construction under body termination

Features

- Very high rated current
- Extremely low DC resistance
- Very low profile and smallest possible footprint
- Suitable for pick and place processes

Applications

Energy storage chokes for

- DC/DC converters
- VRM modules
- POL converters

Terminals

Lead-free tinned

Marking

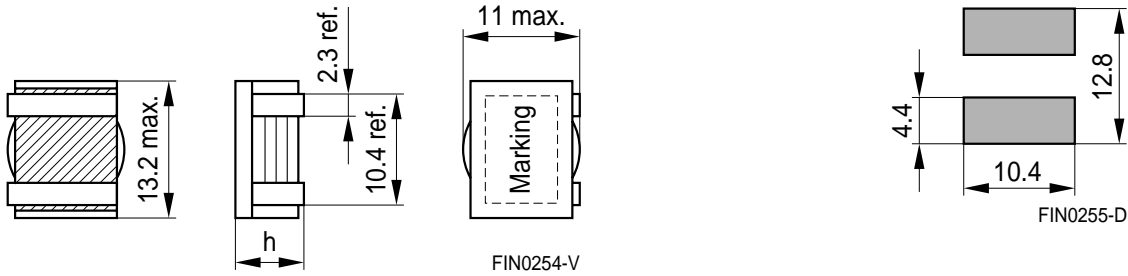
Manufacturer, ordering code, inductance,
date of manufacture, coded (YYWW)

Delivery mode and packing units

- 24-mm blister tape, wound on 330-mm dia. reel
- 4.95 mm height = 750 pcs./reel
- 5.95 mm height = 500 pcs./reel

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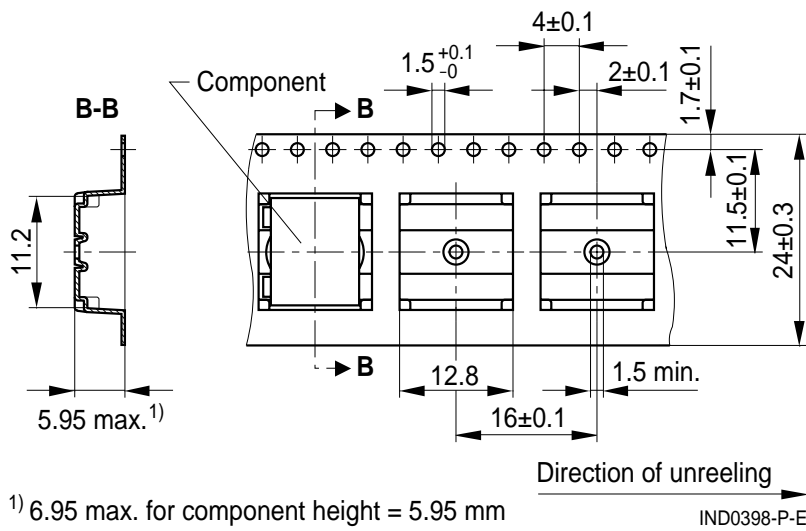
Dimensional drawing and layout recommendation



Dimensions in mm

Taping and packing

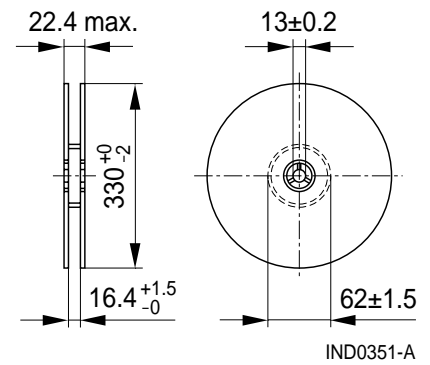
Blister tape



¹⁾ 6.95 max. for component height = 5.95 mm

Dimensions in mm

Reel



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Technical data and measuring conditions

Rated inductance L_R	Measured with Wayne-Kerr 3260A/3265B at 10 kHz, 0.1 V, 20 °C
Inductance tolerance	±10%
Saturation current I_{sat}	Current that will result in approx. 20% drop in inductance value. Temperature response needs to be verified in specific applications. Test results on request.
DC resistance R_{typ}	Measured at 20 °C, tolerance ±10% (closer tolerances on request), typical values
Solderability	235 °C, 5 s, wetting >90% (IEC 60068-2-58)
Resistance to soldering heat	To JEDEC J-STD 020C
Operating temperature	−40 °C ... +130 °C
Storage conditions (packaged)	−25 °C ... +40 °C, ≤ 75% RH
Weight	2.2 g (height = 4.95 mm), 2.6 g (height = 5.95 mm)

Characteristics and ordering codes

L_R μH	I_{sat} A	R_{typ} mΩ	Height h max. mm	Ordering code
0.50	30	0.78	4.95	B82559A0501A013
0.95	25	1.12	5.95	B82559A0951A013
1.1	20	1.72	4.95	B82559A0112A013
1.4	22	1.50	5.95	B82559A0142A013
2.15	15	3.20	4.95	B82559A0222A013
2.4	16.5	2.76	5.95	B82559A0242A013
3.0	13	4.00	4.95	B82559A0302A013
3.9	12	4.80	5.95	B82559A0392A013

Sample kit available. Ordering code: B82559X001
 For more information refer to chapter "Sample kits".

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:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**.

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2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
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