

## SMT power inductors

ERU 13, helically wound

**Series/Type:** B82559\*A013  
**Date:** November 2012

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**SMD**

**Rated inductance 0.5 ... 3.9  $\mu$ H**  
**Saturation current 12 ... 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**

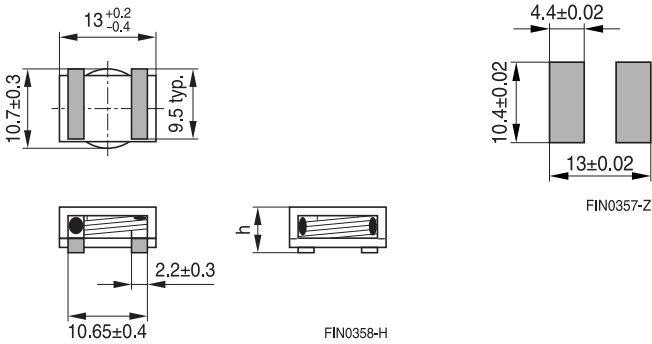
Manufacturer, middle block of ordering code, inductance, date code (YYWW)

**Delivery mode and packing units**

- 24-mm blister tape, wound on 330-mm dia. reel
- 4.95 mm height = 750 pcs./reel
- 5.95/6.00 mm height = 500 pcs./reel

**SMD**

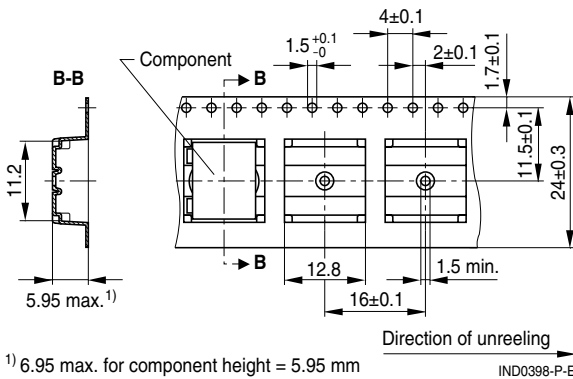
**Dimensional drawing and layout recommendation**



Dimensions in mm

**Taping and packing**

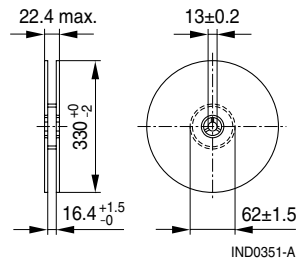
Blister tape



<sup>1)</sup> 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 020D
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 = 5.95/6.00 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	6.00	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.

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 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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