ERU Chokes

ERU 33, PTH High Current Flat Wire Inductors

Series/Type: **B82559A*A033**
Ordering code:

Date: August 2026

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Rated inductance 3.2 ... 10.0 µH
Saturation current 32 ... 83 A

Construction

- High temperature ferrite core
- Magnetically shielded
- Helical winding
- Self-leaded construction

Features

- High rated current
- Extremely low DC resistance
- Very low profile and extremely small footprint
- RoHS-compatible
- Easily customized
- AEC-Q200 qualified

Applications

Energy storage chokes for

- Buck/boost choke for 48 V boardnet converter
- DC-DC converters

Terminals

- Lead-free tinned

Assembly

- Additional fixation to the PCB required to fulfil the requirements of AEC-Q200

Remark

- To keep the maximum limited component temperature it might be necessary to connect the choke to a cooling system or to establish other means of additional cooling.

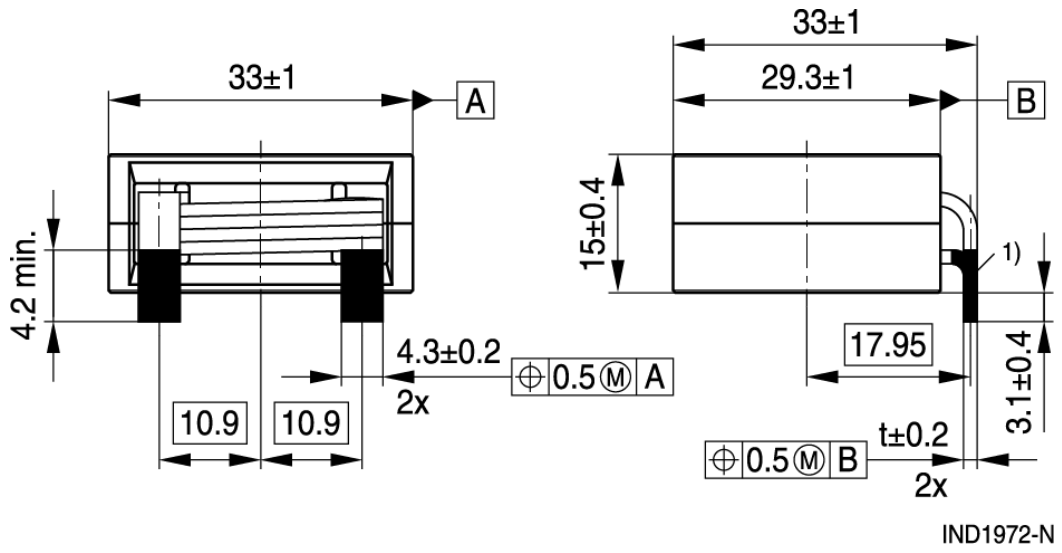
Marking

- Manufacturer, ordering code, date of manufacture and production place (YYWWD/X), plant internal coding, Pin 1 marker

Delivery mode and packing units

- Blister tray

Dimensional drawing



1) Tinned in this area.

Part tolerances to ISO 2768-cL / ISO 8015.
Size ISO 14405 E
All dimensions in mm

IND1276-L-E

- Dimensions without tolerance are typical.
- () Dimensions for reference.
- All dimensions in mm.
- Chamfer (w/o) on the core edges allowed.

Technical data and measuring conditions

Inductance L	Measured at 100 kHz, 1 V, +25 °C
Inductance tolerance	±12%
Saturation current I_{Sat}	Current that will result in an approximately 20% drop in the inductance values at the specified temperature.
Rated current I_R	Current that will cause a Δ40K self-heating at room temperature
DC resistance R_{DC}	Measured at +25 °C, typical
Self-resonant frequency	< 2 MHz
High voltage: N1 – core	200 V DC, 1 s
Solderability (test of wettability of the pins)	(245 ±5) °C, (3 ±0.3) s, Wetting of soldering area ≥95% (based on IEC 60068-2-20, solder bath method)
Operating temperature	– 40 °C … +150 °C (component)
Storage conditions (packaged)	– 25 °C … +40 °C, ≤ 75% RH

Characteristics and ordering codes

L µH	$I_{Sat,25°C}$ A	$I_{Sat,100°C}$ A	I_R A	R_{DC} (typ.) mΩ	Pin thickness (t) 	Approx. weight g	Ordering code
3.2	95.0	83.0	58.0	0.85	1.50 ±0.20	60	B82559A4322A033
3.5	87.0	77.0	57.5	0.85	1.50 ±0.20	60	B82559A4352A033
4.7	81.0	71.0	45.5	1.20	1.25 ±0.20	60	B82559A5472A033
6.0	62.0	55.0	50.0	1.20	1.25 ±0.20	60	B82559A5602A033
6.8	56.0	47.0	47.5	1.20	1.25 ±0.20	60	B82559A5682A033
10.0	36.0	32.0	46.0	1.20	1.25 ±0.20	60	B82559A5103A033

Inductance L versus DC load current I_{DC}

The temperature rise ΔT is measured at an ambient temperature of +25 °C. A current is applied for 30 minutes and the temperature is measured on top of the inductor which is mounted on a printed circuit board. No forced air cooling is applied.

The inductance vs current curves are generated by measuring the inductors at +25 °C and +100 °C.

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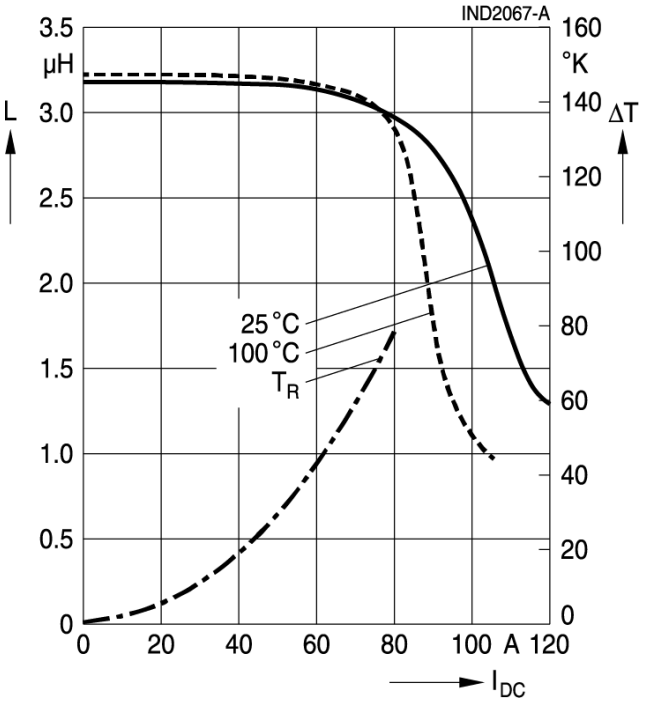

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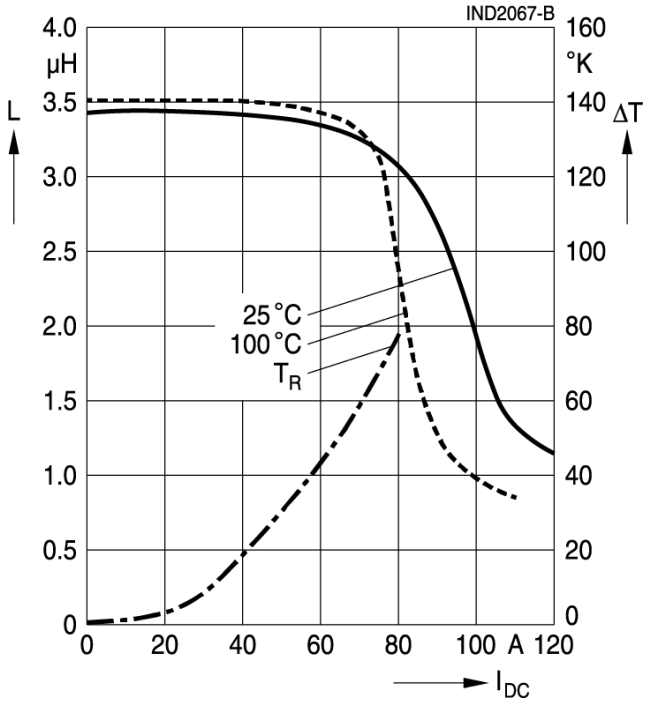

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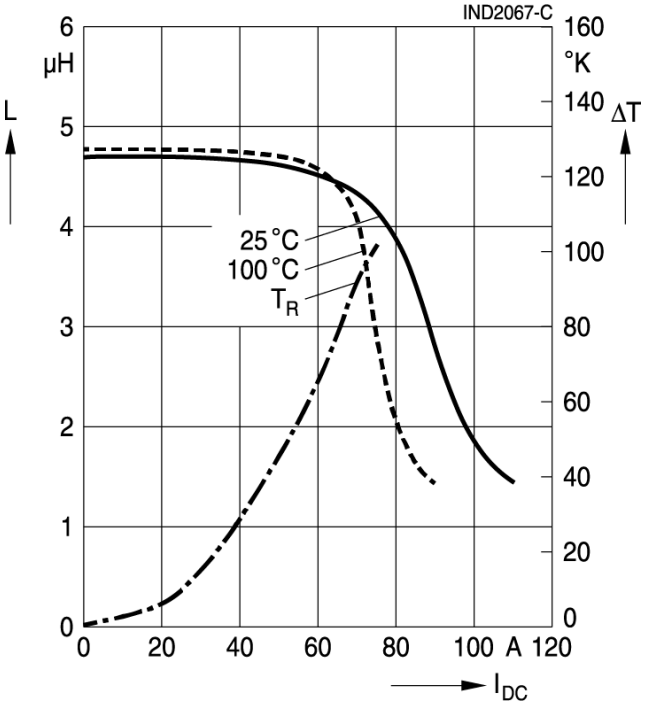

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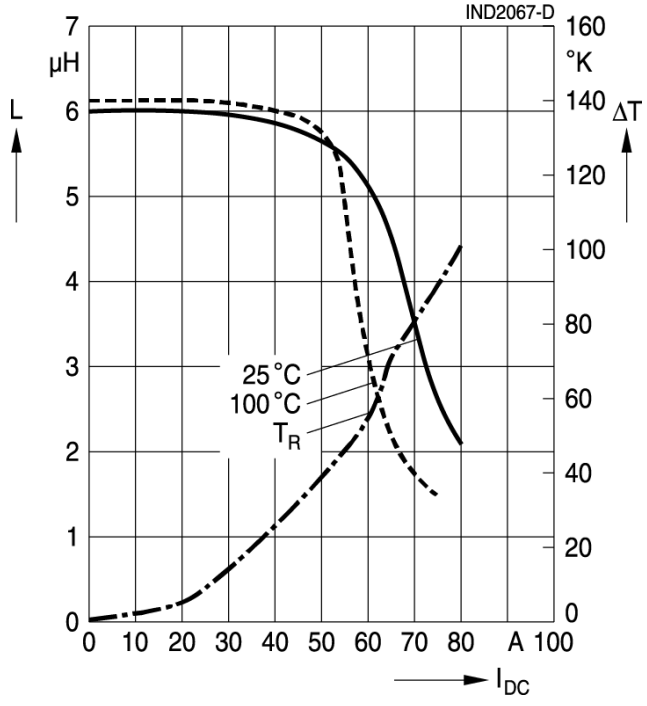

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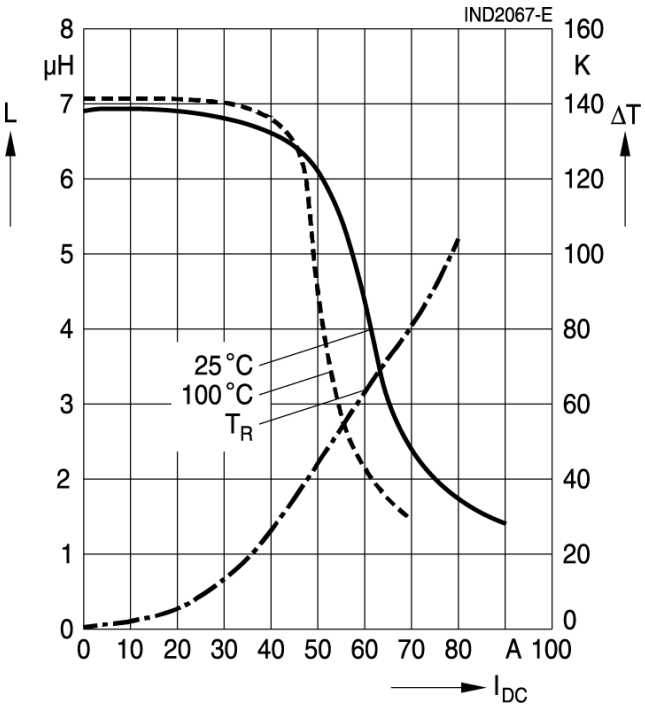

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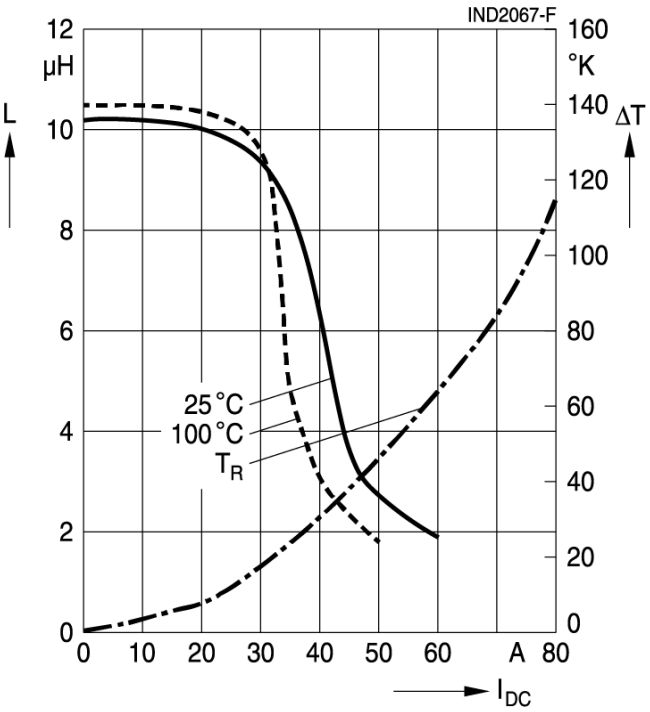
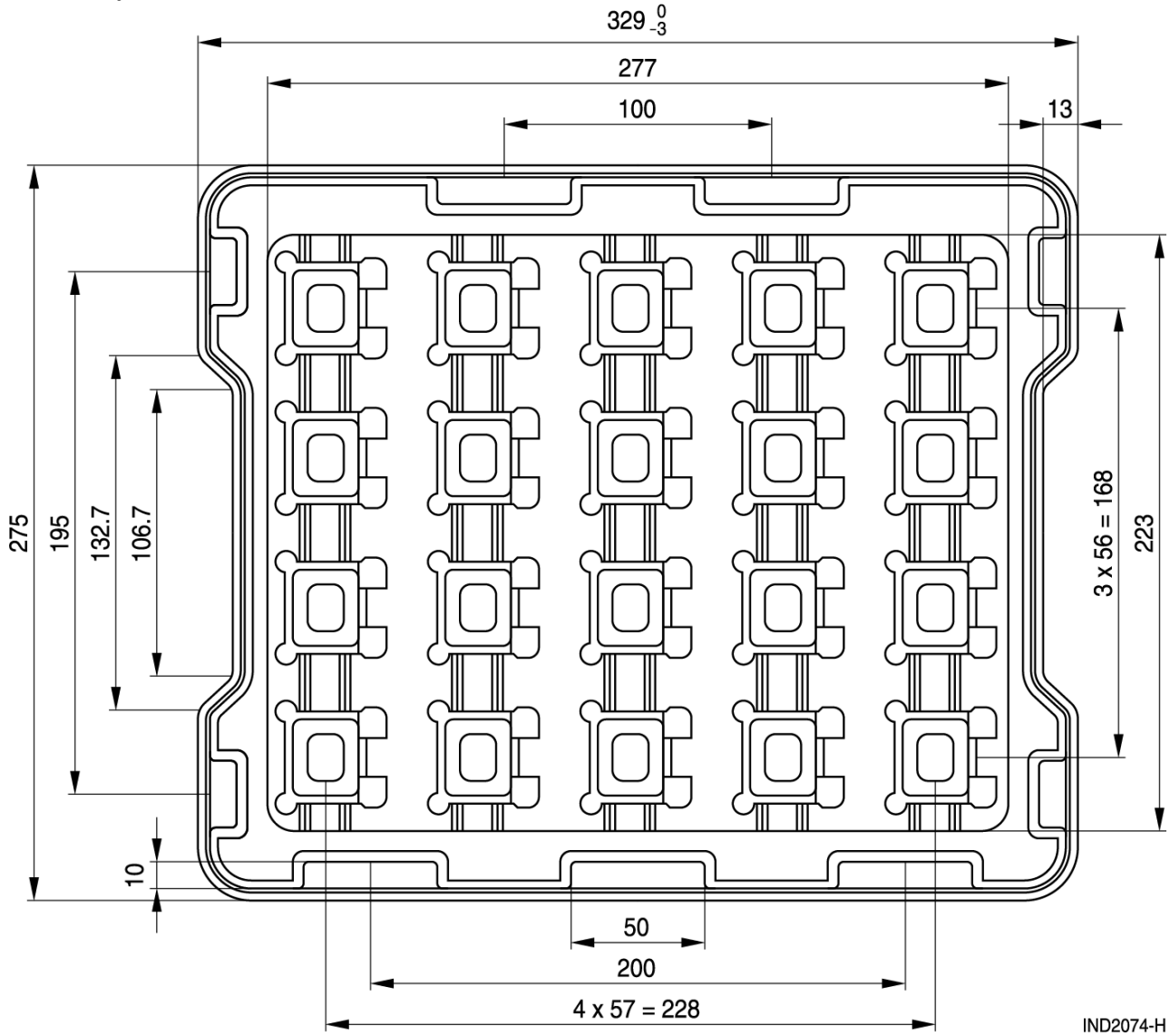
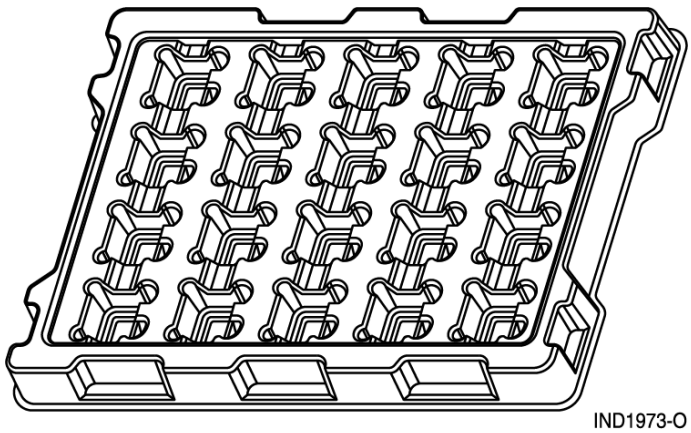


Packing

Blister tray





Packaging unit: 20 pcs / blister tray; 5 trays; 100 pcs / carton box

Cautions and warnings

- Please note the recommendations in our Inductors data book (latest edition), online catalogs and in the data sheets.
  - Particular attention should be paid to the derating curves, if given. Derating applies in the case the ambient temperature in application exceeds the rated temperature of the component.
  - Ensure the operation temperature of the component in application not to exceed the maximum specified value or the upper climatic category temperature.
  - The soldering conditions should also be observed. Temperatures quoted in relation to wave soldering refer to the pins only. Temperatures specified in relation to reflow soldering can also refer to the pins or terminals for products with larger thermal mass, as in such cases, the temperature difference to the top of the component is too big (e.g., high proportion of core within the component).
- 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. 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, sealed, or varnished in customer applications:
  - Many potting, sealing, or varnishing 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, sealing or varnishing materials used attack or destroy the wire insulation, plastics, or glue.
  - The effect of the potting, sealing, or varnishing materials may change the high−frequency behavior of the components.
- Magnetic core materials such as ferrites are sensitive to direct impact. This can cause the core material to flake or lead to breakage of the magnetic core material.
- Any type of tension or pressure on the product may result in damage and affect its functionality and reliability.
  - The products are only to be attached to fixings or mounting holes provided for this purpose in accordance with the data sheet.
  - If additional mechanical forces are applied to the component, e.g., application of gap pads, it is necessary to check whether they attack or destroy any part of the component.
  - It is not permitted for the product specified in the data sheet to assume a mechanical function in the final application.
- Inductance value can drop if external metallic or magnetic parts will be put close to the coil or into the air gap of the coil or core or magnetic material.
- 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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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**. As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.

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.

3. **The warnings, cautions and product-specific notes must be observed**.

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