SMT Flat Wire Common Mode Chokes

Current-compensated SMD flat wire double chokes EP 21
160 … 640 µH, 20.3 … 35 A / +70 °C

Series/Type: **B82552J*J021**

Date: January 2026

Rated current 20.3 ... 35 A / +70 °C
Nominal inductance 160 ... 640 µH

Construction

- MnZn ferrite
- Flat wire winding
- Self-leaded construction
- 4 pins for improved reliability
- Colors of material may vary

Features

- High rated current
- High nominal inductance
- Compact size due to underbody termination
- Extremely low DC resistance
- RoHS-compatible
- Magnetically shielded

Applications

- Common Mode Choke used in DC/DC converters
- Low voltage EMC protection

Terminals

- Lead-free hot tin dipped
- SMD under body terminals

Marking

- Manufacturer, ordering code, date of manufacture, production place (YYWWD/X), pin one marker

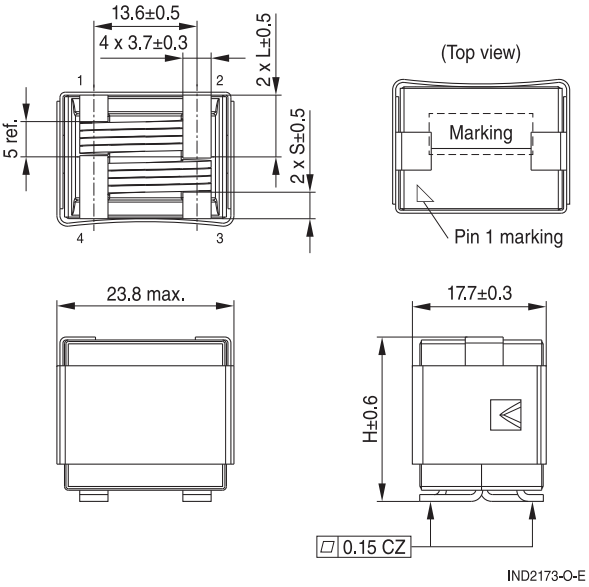
Delivery mode

- Blister tray in cardboard box

Remark

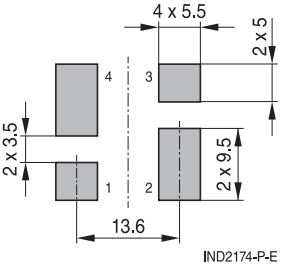
- Part meets the reliability requirements of IEC 62211, due to the component weight additional mechanical fixation is required.

Dimensional drawing
(mm)



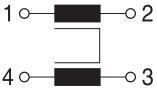
Ordering Code	H	L	S
B82552J2164J021	22.3	8	4.3
B82552J2284J021	21.9	8	4
B82552J2444J021	21.7	7.5	3.5
B82552J2644J021	21.6	7.5	3.5

Recommended PCB layout
(Top view)



1. Copper exposure at pin end is allowed.
2. Solder paste thickness of minimum 0.15mm is recommended.

Circuit diagram



No polarity

IND2405-Z-E

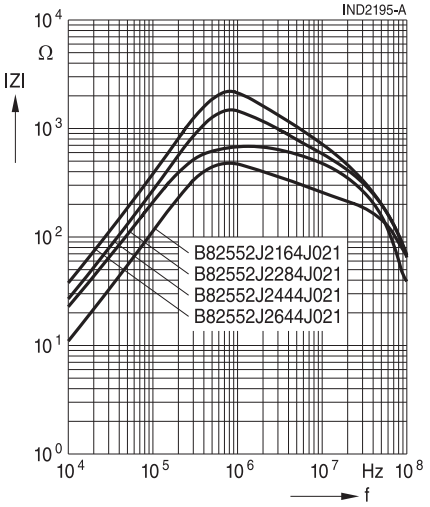
Technical data and measuring conditions

Rated voltage V_R	48 V AC (50/60 Hz) / 80 V DC
Test voltage V_{test}	200 V DC (line/line)
Rated temperature T_R	+70 °C
Rated current I_R	Referred to T_A, both windings in a series connection, free air convection cooling
Nominal inductance L_N	Measured at 100 kHz, 100 mV, +20 °C [inductance is specified per winding]
Inductance tolerance	–40/+50% at +20 °C
Stray inductance $L_{stray,typ}$	Measured at 5 mA, 100 kHz, +20 °C
Inductance decrease $\Delta L/L_R$	<10% at a DC magnetic bias of I_R, +20 °C
DC resistance R_{typ}	+/-10%, specified per winding, +20 °C
Solderability (lead-free)	Sn96.5Ag3.3Cu0.5: +(245 ±3) °C, (3 ±0.3) s Wetting of soldering area ≥ 95% (to IEC 60068-2-58, test Td1, method 1)
Resistance to reflow heat	In accordance with JEDEC J-STD 020F; T_{peak} = +245 °C (T_{peak} –5 °C for 30 seconds)
Climatic category	40/125/56 (to IEC 60068-1)
Storage conditions (packaged)	–25 °C … +40 °C, ≤ 75% RH
Weight	approx. 38 g

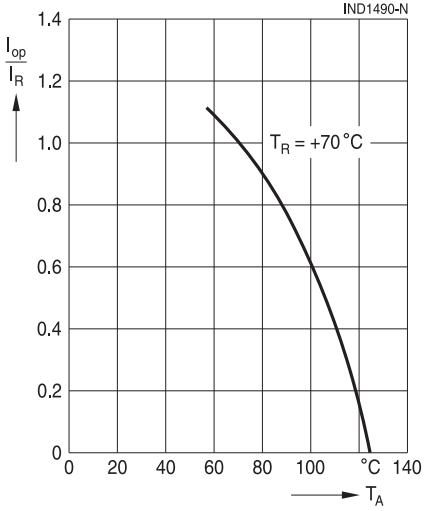
Characteristics and ordering codes

I_R A	L_N µH	R_{typ} mΩ	$L_{stray\ typ}$ nH	Height [h] mm	Ordering code
35.0	160	0.44	200	22.3	B82552J2164J021
30.8	280	0.80	390	21.9	B82552J2284J021
23.5	440	1.25	500	21.7	B82552J2444J021
20.3	640	1.75	900	21.6	B82552J2644J021

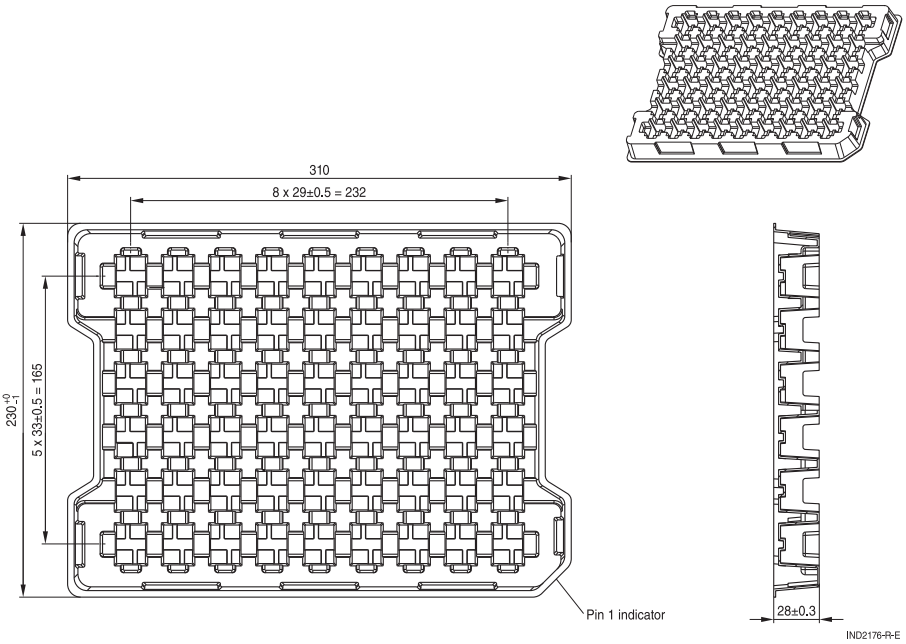
Impedance |Z| versus frequency f
measured with windings in parallel at +20 °C, typical values



Current derating I_{op}/I_R versus temperature T_A
rated temperature = +70 °C



Blister Tray
(mm)



Packing unit

- 54 pcs/ tray
- 6 trays/carton box
- 324 pcs/ 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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