Leaded Inductors

Series/Type: B82141A, B82141B

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B82141B1824J009	B78148S1824J009	2016-02-26	2016-08-31	2017-02-28
B82141B1824J000	B78148S1824J000	2016-02-26	2016-08-31	2017-02-28
B82141B1823J009	B78148S1823J009	2016-02-26	2016-08-31	2017-02-28

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Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B82141B1823J000	B78148S1823J000	2016-02-26	2016-08-31	2017-02-28
B82141B1822K009	B78148S1822K009	2016-02-26	2016-08-31	2017-02-28
B82141B1822K000	B78148S1822K000	2016-02-26	2016-08-31	2017-02-28
B82141B1684J009	B78148S1684J009	2016-02-26	2016-08-31	2017-02-28
B82141B1684J000	B78148S1684J000	2016-02-26	2016-08-31	2017-02-28
B82141B1683J009	B78148S1683J009	2016-02-26	2016-08-31	2017-02-28
B82141B1683J000	B78148S1683J000	2016-02-26	2016-08-31	2017-02-28
B82141B1682K009	B78148S1682K009	2016-02-26	2016-08-31	2017-02-28
B82141B1682K000	B78148S1682K000	2016-02-26	2016-08-31	2017-02-28
B82141B1564J009	B78148S1564J009	2016-02-26	2016-08-31	2017-02-28
B82141B1564J000	B78148S1564J000	2016-02-26	2016-08-31	2017-02-28
B82141B1563J009	B78148S1563J009	2016-02-26	2016-08-31	2017-02-28
B82141B1563J000	B78148S1563J000	2016-02-26	2016-08-31	2017-02-28
B82141B1562K009	B78148S1562K009	2016-02-26	2016-08-31	2017-02-28
B82141B1562K000	B78148S1562K000	2016-02-26	2016-08-31	2017-02-28
B82141B1474J009	B78148S1474J009	2016-02-26	2016-08-31	2017-02-28
B82141B1474J000	B78148S1474J000	2016-02-26	2016-08-31	2017-02-28
B82141B1473J009	B78148S1473J009	2016-02-26	2016-08-31	2017-02-28
B82141B1473J000	B78148S1473J000	2016-02-26	2016-08-31	2017-02-28
B82141B1472K009	B78148S1472K009	2016-02-26	2016-08-31	2017-02-28
B82141B1472K000	B78148S1472K000	2016-02-26	2016-08-31	2017-02-28
B82141B1394J009	B78148S1394J009	2016-02-26	2016-08-31	2017-02-28
B82141B1394J000	B78148S1394J000	2016-02-26	2016-08-31	2017-02-28
B82141B1393K009	B78148S1393K009	2016-02-26	2016-08-31	2017-02-28
B82141B1393K000	B78148S1393K000	2016-02-26	2016-08-31	2017-02-28
B82141B1392K009	B78148S1392K009	2016-02-26	2016-08-31	2017-02-28
B82141B1392K000	B78148S1392K000	2016-02-26	2016-08-31	2017-02-28
B82141B1334J009	B78148S1334J009	2016-02-26	2016-08-31	2017-02-28
B82141B1334J000	B78148S1334J000	2016-02-26	2016-08-31	2017-02-28
B82141B1333K009	B78148S1333K009	2016-02-26	2016-08-31	2017-02-28
B82141B1333K000	B78148S1333K000	2016-02-26	2016-08-31	2017-02-28
B82141B1332K009	B78148S1332K009	2016-02-26	2016-08-31	2017-02-28
B82141B1332K000	B78148S1332K000	2016-02-26	2016-08-31	2017-02-28
B82141B1274J009	B78148S1274J009	2016-02-26	2016-08-31	2017-02-28
B82141B1274J000	B78148S1274J000	2016-02-26	2016-08-31	2017-02-28
B82141B1273K009	B78148S1273K009	2016-02-26	2016-08-31	2017-02-28
B82141B1273K000	B78148S1273K000	2016-02-26	2016-08-31	2017-02-28
B82141B1272K009	B78148S1272K009	2016-02-26	2016-08-31	2017-02-28

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Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B82141B1272K000	B78148S1272K000	2016-02-26	2016-08-31	2017-02-28
B82141B1224J009	B78148S1224J009	2016-02-26	2016-08-31	2017-02-28
B82141B1224J000	B78148S1224J000	2016-02-26	2016-08-31	2017-02-28
B82141B1223K009	B78148S1223K009	2016-02-26	2016-08-31	2017-02-28
B82141B1223K000	B78148S1223K000	2016-02-26	2016-08-31	2017-02-28
B82141B1222K009	B78148S1222K009	2016-02-26	2016-08-31	2017-02-28
B82141B1222K000	B78148S1222K000	2016-02-26	2016-08-31	2017-02-28
B82141B1184J009	B78148S1184J009	2016-02-26	2016-08-31	2017-02-28
B82141B1184J000	B78148S1184J000	2016-02-26	2016-08-31	2017-02-28
B82141B1183K009	B78148S1183K009	2016-02-26	2016-08-31	2017-02-28
B82141B1183K000	B78148S1183K000	2016-02-26	2016-08-31	2017-02-28
B82141B1182K009	B78148S1182K009	2016-02-26	2016-08-31	2017-02-28
B82141B1182K000	B78148S1182K000	2016-02-26	2016-08-31	2017-02-28
B82141B1154J009	B78148S1154J009	2016-02-26	2016-08-31	2017-02-28
B82141B1154J000	B78148S1154J000	2016-02-26	2016-08-31	2017-02-28
B82141B1153K009	B78148S1153K009	2016-02-26	2016-08-31	2017-02-28
B82141B1153K000	B78148S1153K000	2016-02-26	2016-08-31	2017-02-28
B82141B1152K009	B78148S1152K009	2016-02-26	2016-08-31	2017-02-28
B82141B1152K000	B78148S1152K000	2016-02-26	2016-08-31	2017-02-28
B82141B1124J009	B78148S1124J009	2016-02-26	2016-08-31	2017-02-28
B82141B1124J000	B78148S1124J000	2016-02-26	2016-08-31	2017-02-28
B82141B1123K009	B78148S1123K009	2016-02-26	2016-08-31	2017-02-28
B82141B1123K000	B78148S1123K000	2016-02-26	2016-08-31	2017-02-28
B82141B1122K009	B78148S1122K009	2016-02-26	2016-08-31	2017-02-28
B82141B1122K000	B78148S1122K000	2016-02-26	2016-08-31	2017-02-28
B82141B1105J009	B78148S1105J009	2016-02-26	2016-08-31	2017-02-28
B82141B1105J000	B78148S1105J000	2016-02-26	2016-08-31	2017-02-28
B82141B1104J009	B78148S1104J009	2016-02-26	2016-08-31	2017-02-28
B82141B1104J000	B78148S1104J000	2016-02-26	2016-08-31	2017-02-28
B82141B1103K009	B78148S1103K009	2016-02-26	2016-08-31	2017-02-28
B82141B1103K000	B78148S1103K000	2016-02-26	2016-08-31	2017-02-28
B82141B1102K009	B78148S1102K009	2016-02-26	2016-08-31	2017-02-28
B82141B1102K000	B78148S1102K000	2016-02-26	2016-08-31	2017-02-28

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.

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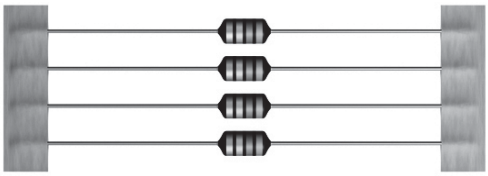
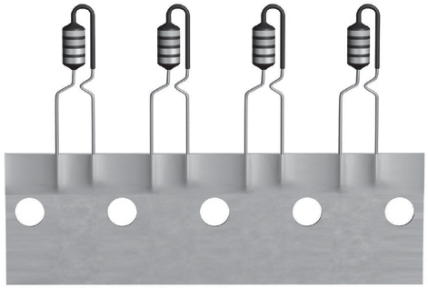
SBC choke (Small Bobbin Core)
Rated inductance 1 ... 1000 µH
Rated current 55 ... 725 mA



B82141A



B82141B

Construction

- Mini ferrite drum core
- Winding: enamel copper wire
- Flame-retardant lacquer coating

Features

- Small size
- Relatively high rated current
- Suitable for wave soldering
- RoHS-compatible

Applications

- RF blocking and filtering
- Decoupling and interference suppression
- For electronic household appliances, automotive and entertainment electronics

Terminals

- Central axial leads (B82141A)
- Radially bent to 5 mm lead spacing (B82141B)
- Base material CuAg0.1
- Electroplated with nickel and pure tin

Marking

Inductance indicated by color bands to IEC 60062

Delivery mode and packing units

- Taped, Ammo and reel packing
- Packing units:

	Ammo (pcs./pack.)	Reel (pcs./reel)
Axial	5000	5000
Radial	2500	2000

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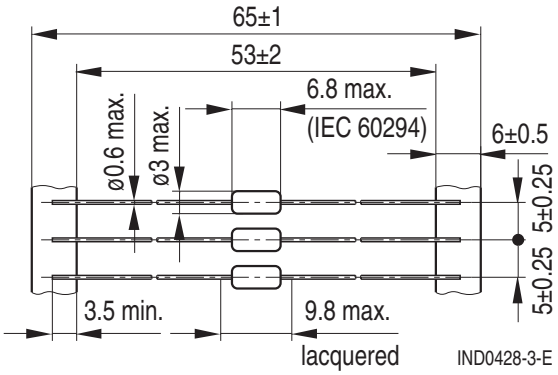
Dimensional drawings

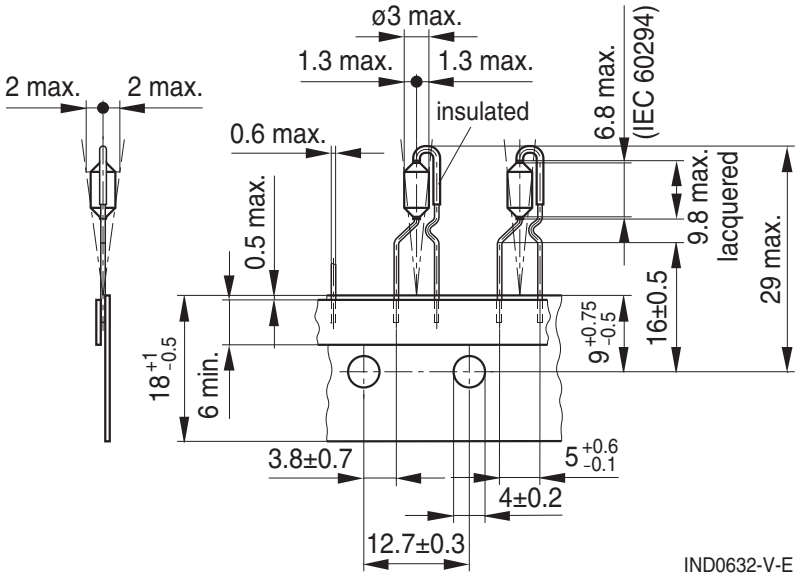
B82141A (axial leads, taped)

Dimensions in mm



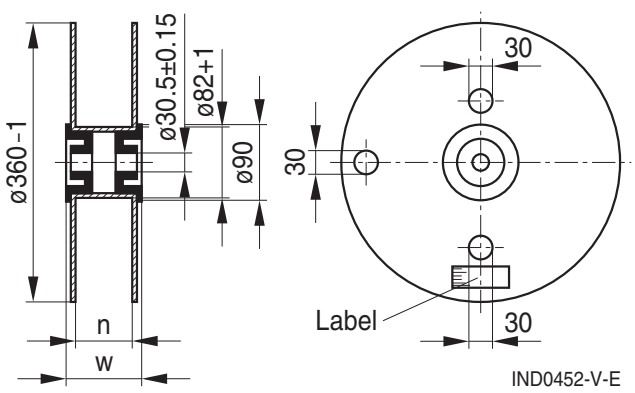
Minimum lead spacing 10 mm

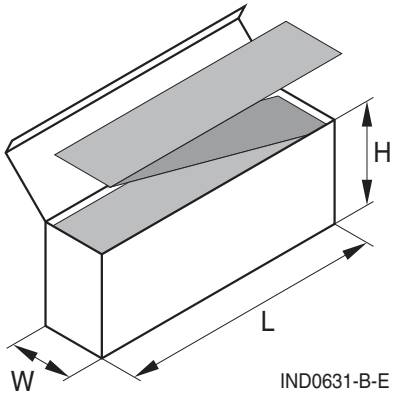
B82141B (central radial leads, taped)



Thickness of tape

Packing





n (mm): Axial 72 +1, radial 42 +1
w (mm): Axial 84 max., radial 54 max.

L × W × H (max. mm):
Axial: 310 × 75 × 120, radial: 340 × 50 × 210

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Technical data and measuring conditions

Rated inductance L_R	Measured with LCR meter Agilent 4284A or impedance analyzer Agilent 4294A Measuring frequency: $L_R \leq 10\ \mu H$ = 1 MHz $10\ \mu H < L_R \leq 4700\ \mu H$ = 100 kHz Measuring current: ≤ 1 mA Measuring temperature: +20 °C
Q factor Q_{min}	Measured with precision impedance analyzer Agilent 4294A, +20 °C
Rated temperature T_R	+40 °C
Rated current I_R	Maximum permissible DC current at rated temperature
Inductance decrease $\Delta L/L_0$	≤ 10% (referred to initial value) at I_R, +20 °C
DC resistance R_{max}	Measured at +20 °C
Resonance frequency $f_{res,min}$	Measured with Agilent 4294A or 8753ES, +20 °C
Solderability (lead-free)	Sn95.5Ag3.8Cu0.7: +(245 ±5) °C, (3 ±0.3) s Wetting of soldering area ≥ 90% (to IEC 60068-2-20, test Ta)
Resistance to soldering heat	+(260 ±5) °C, 10 s (to IEC 60068-2-20, test Tb)
Tensile strength of leads	≥ 20 N (to IEC 60068-2-21, test Ua)
Climatic category	55/125/56 (to IEC 60068-1)
Storage conditions	Mounted: –55 °C … +125 °C Packaged: –25 °C … +40 °C, ≤ 75% RH
Weight	Approx. 0.22 g

⚠ Mounting information

When bending the leads, take care that the start-of-winding areas at the face ends (protected by glue and lacquer) are not subjected to any mechanical stress.

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Characteristics and ordering codes

L_R µH	Tolerance[1]	Q_{min}	f_Q MHz	I_R mA	R_{max} Ω	$f_{res, min}$ MHz	Ordering code[2] (reel packing)[3]
1.0	±10% ≙ K	40	7.96	725	0.19	180	B82141+1102K000
1.2		40	7.96	700	0.20	160	B82141+1122K000
1.5		40	7.96	670	0.22	155	B82141+1152K000
1.8		45	7.96	660	0.23	145	B82141+1182K000
2.2		45	7.96	630	0.25	130	B82141+1222K000
2.7		45	7.96	610	0.27	110	B82141+1272K000
3.3		50	7.96	580	0.30	90	B82141+1332K000
3.9		50	7.96	560	0.32	70	B82141+1392K000
4.7		50	7.96	530	0.36	60	B82141+1472K000
5.6		50	7.96	510	0.38	50	B82141+1562K000
6.8		50	7.96	480	0.43	40	B82141+1682K000
8.2		50	7.96	450	0.52	30	B82141+1822K000
10		55	2.52	410	0.60	25	B82141+1103K000
12		55	2.52	385	0.67	20	B82141+1123K000
15		55	2.52	365	0.74	17	B82141+1153K000
18		55	2.52	350	0.81	14	B82141+1183K000
22		55	2.52	335	0.90	12	B82141+1223K000
27		55	2.52	315	1.00	11	B82141+1273K000
33		55	2.52	300	1.12	10	B82141+1333K000
39		55	2.52	285	1.21	8.5	B82141+1393K000

1) Closer tolerances on request.
2) Replace the + by code letter »A« for axial taping or by »B« for radial taping.
3) For Ammo pack the last digit has to be a »9«. Example: B82141A1102K009

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Characteristics and ordering codes

L_R µH	Tolerance[1]	Q_{min}	f_Q MHz	I_R mA	R_{max} Ω	$f_{res, min}$ MHz	Ordering code[2] (reel packing)[3]
47	±5% ≙ J	55	2.52	200	2.40	7.7	B82141+1473J000
56		55	2.52	195	2.60	6.8	B82141+1563J000
68		55	2.52	185	2.90	5.7	B82141+1683J000
82		55	2.52	175	3.20	5.5	B82141+1823J000
100		60	0.796	170	3.50	5.3	B82141+1104J000
120		60	0.796	160	3.80	5.0	B82141+1124J000
150		60	0.796	150	4.30	4.6	B82141+1154J000
180		60	0.796	135	5.30	4.2	B82141+1184J000
220		60	0.796	130	5.80	3.8	B82141+1224J000
270		60	0.796	115	7.80	3.2	B82141+1274J000
330		60	0.796	105	9.10	3.0	B82141+1334J000
390		60	0.796	95	11.0	2.7	B82141+1394J000
470		60	0.796	90	12.0	2.3	B82141+1474J000
560		60	0.796	75	16.5	2.2	B82141+1564J000
680		60	0.796	65	22.0	2.0	B82141+1684J000
820		60	0.796	60	25.0	1.8	B82141+1824J000
1000		60	0.796	55	33.0	1.5	B82141+1105J000

1) Closer tolerances on request.
2) Replace the + by code letter »A« for axial taping or by »B« for radial taping.
3) For Ammo pack the last digit has to be a »9«. Example: B82141B1473J009

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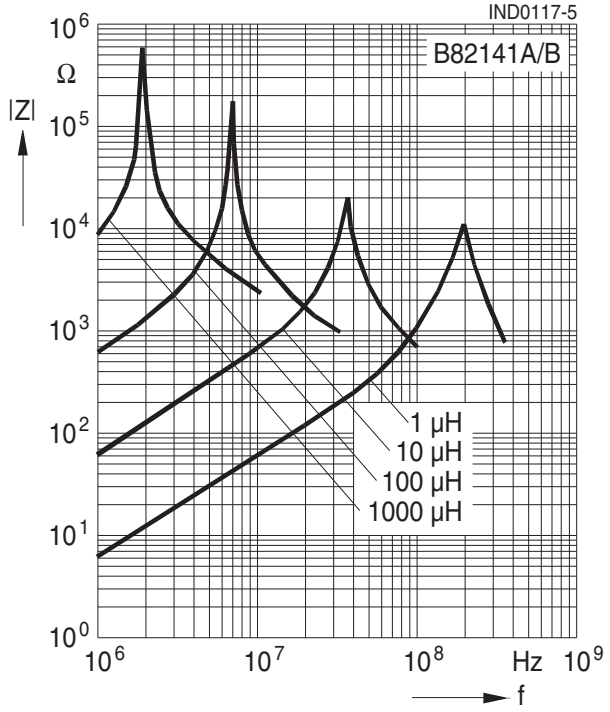
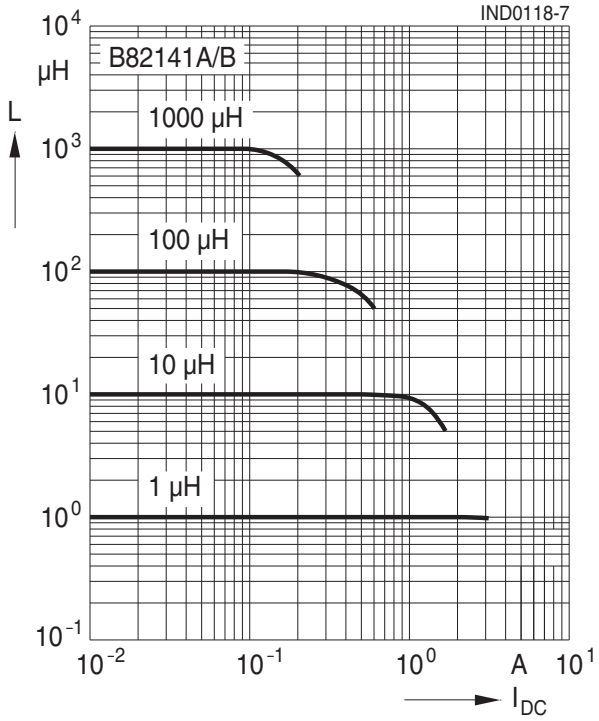
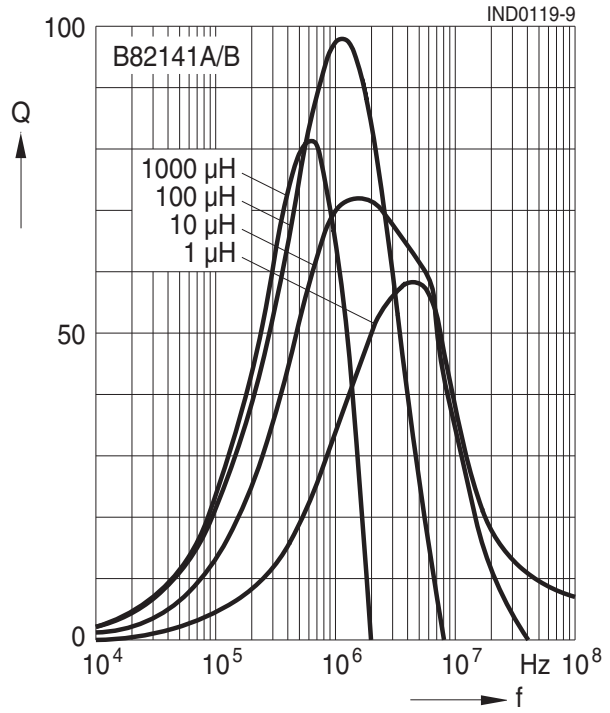
Impedance |Z| versus frequency f
measured with impedance analyzer Agilent 4294A or S-parameter network analyzer Agilent 8753ES, typical values at +20 °C



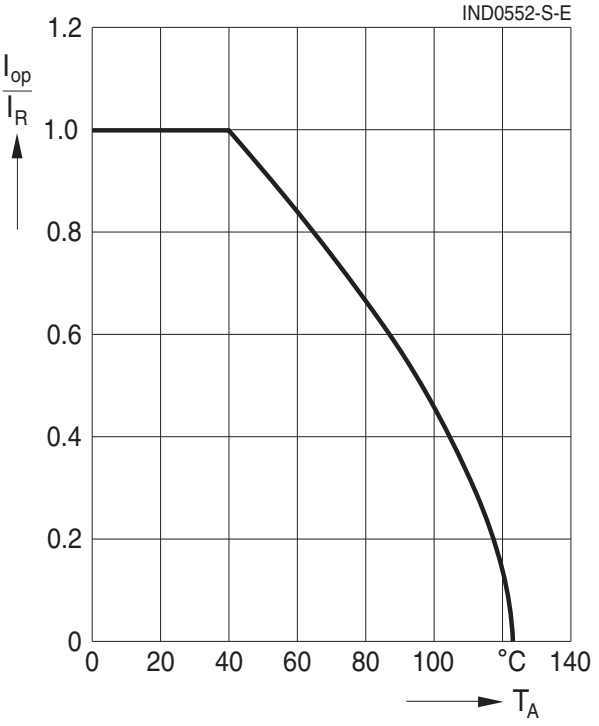
Inductance L versus DC load current I_{DC}
measured with LCR meter Agilent 4284A, typical values at +20 °C



Q factor versus frequency f
measured with impedance analyzer Agilent 4294A, typical values at +20 °C



Current derating I_{op}/I_R versus ambient temperature T_A
(rated temperature T_R = +40 °C)



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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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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.** 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.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.tdk-electronics.tdk.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.

   We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to our General Terms and Conditions of Supply.**
7. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard.** The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements (“CSR”) TDK always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System.** For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.
8. The trade names EPCOS, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.tdk-electronics.tdk.com/trademarks.

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