Leaded Inductors

Series/Type: B78108S

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B78108S1824J009		2025-08-22	2026-08-31	2027-02-28
B78108S1824J000		2025-08-22	2026-08-31	2027-02-28
B78108S1823J009		2025-08-22	2026-08-31	2027-02-28

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B78108S1823J000		2025-08-22	2026-08-31	2027-02-28
B78108S1822K009		2025-08-22	2026-08-31	2027-02-28
B78108S1822K000		2025-08-22	2026-08-31	2027-02-28
B78108S1684J009		2025-08-22	2026-08-31	2027-02-28
B78108S1684J000		2025-08-22	2026-08-31	2027-02-28
B78108S1683J009		2025-08-22	2026-08-31	2027-02-28
B78108S1683J000		2025-08-22	2026-08-31	2027-02-28
B78108S1682K009		2025-08-22	2026-08-31	2027-02-28
B78108S1682K000		2025-08-22	2026-08-31	2027-02-28
B78108S1564J009		2025-08-22	2026-08-31	2027-02-28
B78108S1564J000		2025-08-22	2026-08-31	2027-02-28
B78108S1563J009		2025-08-22	2026-08-31	2027-02-28
B78108S1563J000		2025-08-22	2026-08-31	2027-02-28
B78108S1562K009		2025-08-22	2026-08-31	2027-02-28
B78108S1562K000		2025-08-22	2026-08-31	2027-02-28
B78108S1475J009		2025-08-22	2026-08-31	2027-02-28
B78108S1475J000		2025-08-22	2026-08-31	2027-02-28
B78108S1474J009		2025-08-22	2026-08-31	2027-02-28
B78108S1474J000		2025-08-22	2026-08-31	2027-02-28
B78108S1473J009		2025-08-22	2026-08-31	2027-02-28
B78108S1473J000		2025-08-22	2026-08-31	2027-02-28
B78108S1472K009		2025-08-22	2026-08-31	2027-02-28
B78108S1472K000		2025-08-22	2026-08-31	2027-02-28
B78108S1395J009		2025-08-22	2026-08-31	2027-02-28
B78108S1395J000		2025-08-22	2026-08-31	2027-02-28
B78108S1394J009		2025-08-22	2026-08-31	2027-02-28
B78108S1394J000		2025-08-22	2026-08-31	2027-02-28
B78108S1393K009		2025-08-22	2026-08-31	2027-02-28
B78108S1393K000		2025-08-22	2026-08-31	2027-02-28
B78108S1392K009		2025-08-22	2026-08-31	2027-02-28
B78108S1392K000		2025-08-22	2026-08-31	2027-02-28
B78108S1335J009		2025-08-22	2026-08-31	2027-02-28
B78108S1335J000		2025-08-22	2026-08-31	2027-02-28
B78108S1334J009		2025-08-22	2026-08-31	2027-02-28
B78108S1334J000		2025-08-22	2026-08-31	2027-02-28
B78108S1333K009		2025-08-22	2026-08-31	2027-02-28
B78108S1333K000		2025-08-22	2026-08-31	2027-02-28
B78108S1332K009		2025-08-22	2026-08-31	2027-02-28

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B78108S1332K000		2025-08-22	2026-08-31	2027-02-28
B78108S1275J009		2025-08-22	2026-08-31	2027-02-28
B78108S1275J000		2025-08-22	2026-08-31	2027-02-28
B78108S1274J009		2025-08-22	2026-08-31	2027-02-28
B78108S1274J000		2025-08-22	2026-08-31	2027-02-28
B78108S1273K009		2025-08-22	2026-08-31	2027-02-28
B78108S1273K000		2025-08-22	2026-08-31	2027-02-28
B78108S1272K009		2025-08-22	2026-08-31	2027-02-28
B78108S1272K000		2025-08-22	2026-08-31	2027-02-28
B78108S1225J009		2025-08-22	2026-08-31	2027-02-28
B78108S1225J000		2025-08-22	2026-08-31	2027-02-28
B78108S1224J009		2025-08-22	2026-08-31	2027-02-28
B78108S1224J000		2025-08-22	2026-08-31	2027-02-28
B78108S1223K009		2025-08-22	2026-08-31	2027-02-28
B78108S1223K000		2025-08-22	2026-08-31	2027-02-28
B78108S1222K009		2025-08-22	2026-08-31	2027-02-28
B78108S1222K000		2025-08-22	2026-08-31	2027-02-28
B78108S1185J009		2025-08-22	2026-08-31	2027-02-28
B78108S1185J000		2025-08-22	2026-08-31	2027-02-28
B78108S1184J009		2025-08-22	2026-08-31	2027-02-28
B78108S1184J000		2025-08-22	2026-08-31	2027-02-28
B78108S1183K009		2025-08-22	2026-08-31	2027-02-28
B78108S1183K000		2025-08-22	2026-08-31	2027-02-28
B78108S1182K009		2025-08-22	2026-08-31	2027-02-28
B78108S1182K000		2025-08-22	2026-08-31	2027-02-28
B78108S1155J009		2025-08-22	2026-08-31	2027-02-28
B78108S1155J000		2025-08-22	2026-08-31	2027-02-28
B78108S1154J009		2025-08-22	2026-08-31	2027-02-28
B78108S1154J000		2025-08-22	2026-08-31	2027-02-28
B78108S1153K009		2025-08-22	2026-08-31	2027-02-28
B78108S1153K000		2025-08-22	2026-08-31	2027-02-28
B78108S1152K009		2025-08-22	2026-08-31	2027-02-28
B78108S1152K000		2025-08-22	2026-08-31	2027-02-28
B78108S1125J009		2025-08-22	2026-08-31	2027-02-28
B78108S1125J000		2025-08-22	2026-08-31	2027-02-28
B78108S1124J009		2025-08-22	2026-08-31	2027-02-28
B78108S1124J000		2025-08-22	2026-08-31	2027-02-28
B78108S1123K009		2025-08-22	2026-08-31	2027-02-28

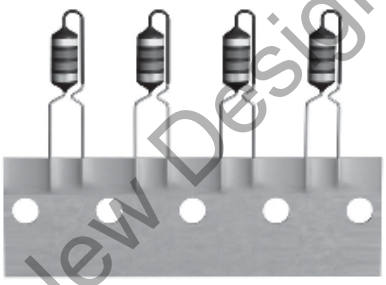
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B78108S1123K000		2025-08-22	2026-08-31	2027-02-28
B78108S1122K009		2025-08-22	2026-08-31	2027-02-28
B78108S1122K000		2025-08-22	2026-08-31	2027-02-28
B78108S1105J009		2025-08-22	2026-08-31	2027-02-28
B78108S1105J000		2025-08-22	2026-08-31	2027-02-28
B78108S1104J009		2025-08-22	2026-08-31	2027-02-28
B78108S1104J000		2025-08-22	2026-08-31	2027-02-28
B78108S1103K009		2025-08-22	2026-08-31	2027-02-28
B78108S1103K000		2025-08-22	2026-08-31	2027-02-28
B78108S1102K009		2025-08-22	2026-08-31	2027-02-28
B78108S1102K000		2025-08-22	2026-08-31	2027-02-28

Please contact your nearest TDK sales office if you need support in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.tdk-electronics.tdk.com/sales.

BC chokes (Bobbin Core)
Rated inductance 1 ... 4700 µH
Rated current 55 ... 1200 mA



B78108S



B78148S

Construction

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

Features

- Wide inductance range
- Suitable for general-purpose application
- Special versions available
- Suitable for wave soldering
- RoHS-compatible

Applications

- RF blocking and filtering
- Decoupling and interference suppression
- For antenna systems, automotive electronics, energy-saving lamps, entertainment electronics

Terminals

- Central axial leads (B78108S)
- Radially bent to 5 mm lead spacing (B78148S)
- Base material Cu
- 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:

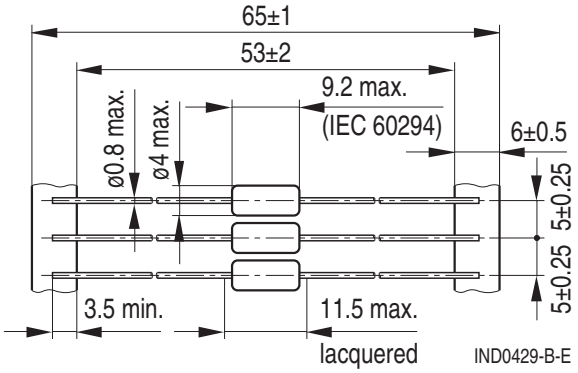
	Ammo (pcs./pack.)	Reel (pcs./reel)
Axial	2500	5000
Radial	2500	2000

Not Recommended for New Design

Dimensional drawings

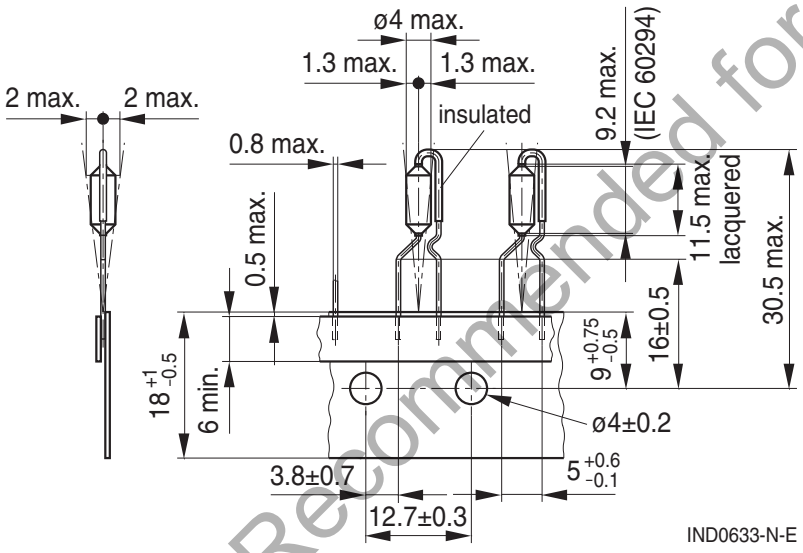
B78108S (axial leads, taped)

Dimensions in mm

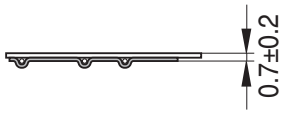


Minimum lead spacing 12.5 mm

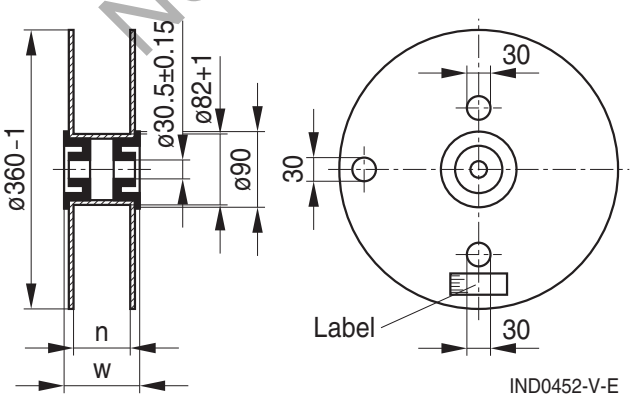
B78148S (central radial leads, taped)

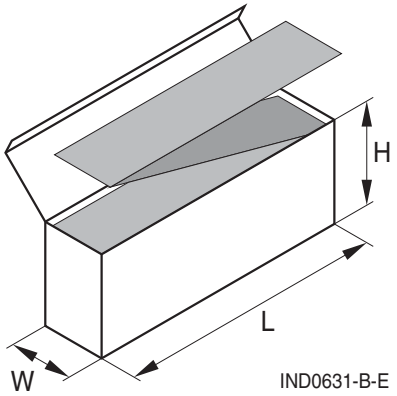


Thickness of tape



Packing





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

L × W × H (max. mm):
Axial: 275 × 80 × 140, radial: 340 × 50 × 210

Not Recommended for New Design

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. 0.38 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.

Not Recommended for New Design

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	55	7.96	1200	0.16	205	B781⋆8S1102K000
1.2		55	7.96	1150	0.18	185	B781⋆8S1122K000
1.5		55	7.96	1100	0.20	165	B781⋆8S1152K000
1.8		55	7.96	1030	0.22	155	B781⋆8S1182K000
2.2		55	7.96	1000	0.25	140	B781⋆8S1222K000
2.7		60	7.96	940	0.26	125	B781⋆8S1272K000
3.3		60	7.96	900	0.29	115	B781⋆8S1332K000
3.9		60	7.96	850	0.31	105	B781⋆8S1392K000
4.7		60	7.96	820	0.34	95	B781⋆8S1472K000
5.6		60	7.96	780	0.38	85	B781⋆8S1562K000
6.8		65	7.96	670	0.51	75	B781⋆8S1682K000
8.2		65	7.96	690	0.48	50	B781⋆8S1822K000
10		70	2.52	680	0.49	35	B781⋆8S1103K000
12		70	2.52	650	0.55	30	B781⋆8S1123K000
15		60	2.52	610	0.60	20	B781⋆8S1153K000
18		60	2.52	580	0.67	17	B781⋆8S1183K000
22		55	2.52	560	0.74	13	B781⋆8S1223K000
27		55	2.52	530	0.83	10	B781⋆8S1273K000
33		55	2.52	500	0.92	9.0	B781⋆8S1333K000
39		50	2.52	470	1.02	8.0	B781⋆8S1393K000

BC chokes with temperature range up to +140 °C on request.
BC chokes up to 33 µH with higher resonance frequency on request.

Not Recommended for New Design

1) Closer tolerances on request.
2) Replace the ⋆ by code number »0« for axial taping or by »4« for radial taping.
3) For Ammo pack the last digit has to be a »9«. Example: B78108S1102K009

Characteristics and ordering codes

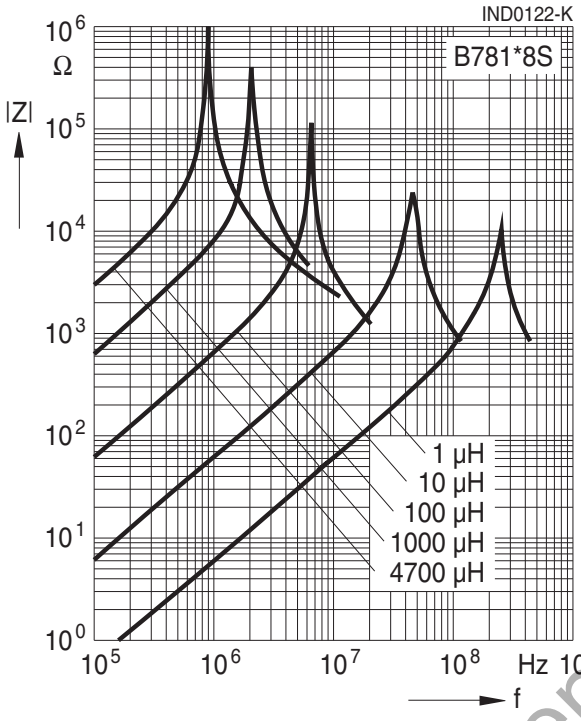
L_R µH	Tolerance[1]	Q_{min}	f_Q MHz	I_R mA	R_{max} Ω	$f_{res, min}$ MHz	Ordering code[2] (reel packing)[3]
47	±5% ≙ J	45	2.52	450	1.10	7.5	B781⋆8S1473J000
56		40	2.52	430	1.23	7.0	B781⋆8S1563J000
68		40	2.52	410	1.35	6.5	B781⋆8S1683J000
82		35	2.52	390	1.54	6.0	B781⋆8S1823J000
100		70	0.796	370	1.70	5.0	B781⋆8S1104J000
120		70	0.796	300	2.40	4.5	B781⋆8S1124J000
150		70	0.796	280	2.80	4.2	B781⋆8S1154J000
180		70	0.796	270	3.00	3.9	B781⋆8S1184J000
220		70	0.796	250	3.30	3.7	B781⋆8S1224J000
270		70	0.796	200	5.70	2.8	B781⋆8S1274J000
330		70	0.796	190	6.40	2.7	B781⋆8S1334J000
390		70	0.796	180	7.00	2.4	B781⋆8S1394J000
470		70	0.796	170	7.90	2.2	B781⋆8S1474J000
560		60	0.796	160	8.80	2.0	B781⋆8S1564J000
680		55	0.796	150	10.0	1.9	B781⋆8S1684J000
820		50	0.796	140	12.0	1.6	B781⋆8S1824J000
1000		50	0.252	130	14.0	1.6	B781⋆8S1105J000
1200		50	0.252	115	17.5	1.3	B781⋆8S1125J000
1500		50	0.252	100	23.0	1.25	B781⋆8S1155J000
1800		50	0.252	95	26.0	1.2	B781⋆8S1185J000
2200		40	0.252	80	34.7	1.1	B781⋆8S1225J000
2700		40	0.252	75	40.0	1.0	B781⋆8S1275J000
3300		40	0.252	62	59.5	0.9	B781⋆8S1335J000
3900		40	0.252	59	66.0	0.8	B781⋆8S1395J000
4700		35	0.252	55	78.0	0.7	B781⋆8S1475J000

BC chokes with temperature range up to +140 °C on request.

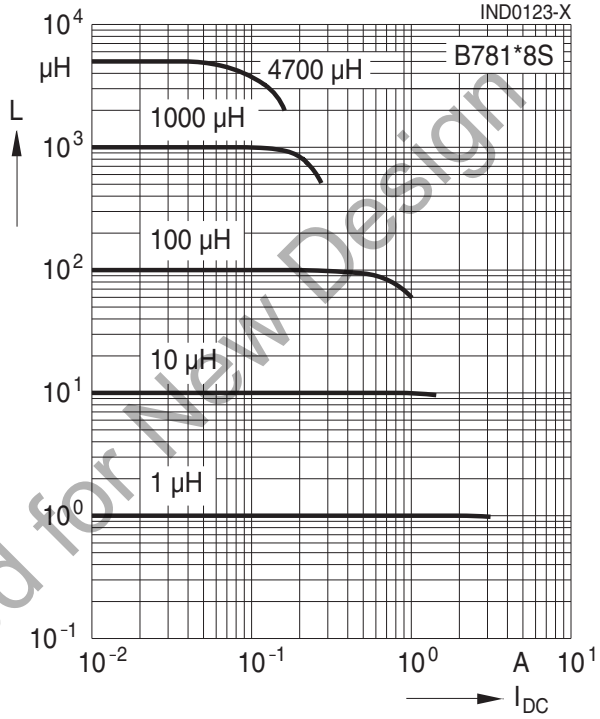
Not Recommended for New Design

1) Closer tolerances on request.
2) Replace the ⋆ by code number »0« for axial taping or by »4« for radial taping.
3) For Ammo pack the last digit has to be a »9«. Example: B78108S1473J009

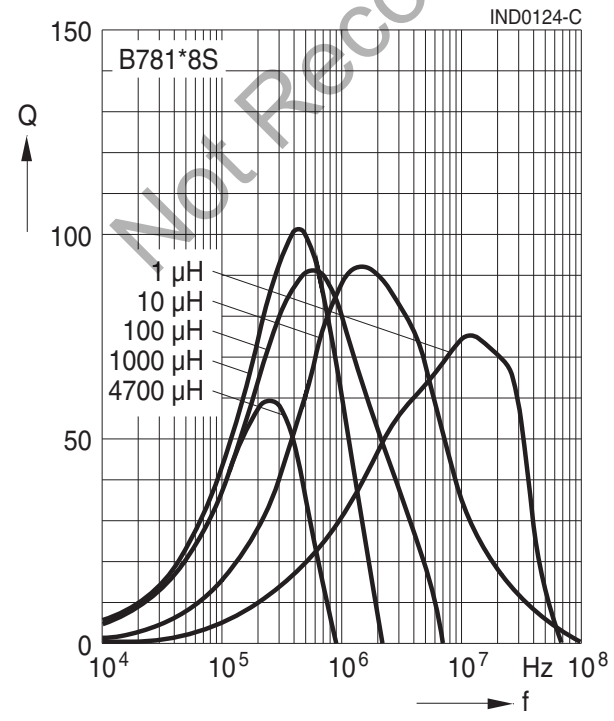
Impedance |Z| versus frequency f
measured with impedance analyzer Agilent 4294A or S-parameter network analyzer Agilent 8753ES, typical values at +20 °C



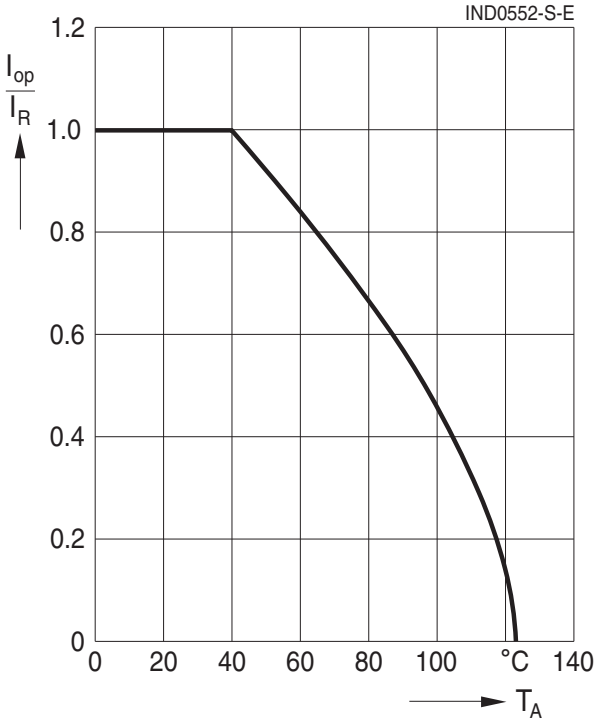
Inductance L versus DC load current I_{DC}
measured with LCR meter Agilent 4284A, typical values at +20 °C



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)



Not Recommended for New Design

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 or varnished it is necessary to check whether the washing or 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 or 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, wire insulation, plastics or glue.
  - The effect of the potting, sealing, or varnishing materials may change the high-frequency behavior of the components.
  - Many coating materials have a negative effect (chemically and mechanically) on the winding wires, insulation materials and connecting points. Customers are always obliged to determine whether and to what extent their coating materials influence the component. Customers are responsible and bear all risk for the use of the coating material. TDK Electronics does not assume any liability for failures of our components that are caused by the coating material.
- 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.

Display of ordering codes for TDK Electronics products

The ordering code for one and the same product can be represented differently in data sheets, data books, other publications, on the company website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet under www.tdk-electronics.tdk.com/orderingcodes.

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, CarXield, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, FilterCap, FormFit, InsuGate, LeaXield, MediPlas, MiniBlue, MiniCell, MKD, MKK, ModCap, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PiezoBrush, PlasmaBrush, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SurfIND, ThermoFuse, WindCap, XieldCap 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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