

Common-mode chokes, ring core 4.7 ... 10 mH, 200 ... 300 mA, 60 °C

Series/Type: B82794C2

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B82794C2

Common-mode chokes, ring core

SMD

Rated voltage 42 V AC/80 V DC Rated inductance 4.7 mH to 10 mH Rated current 200 mA to 300 mA

Construction

- Current-compensated ring core quad choke
- Ferrite core
- LCP case (UL 94 V-0)
- Silicone potting
- Bifilar winding

Features

- Suitable for reflow soldering
- RoHS-compatible

Function

Suppression of asymmetrical interference coupled in on lines, whereas data signals up to some MHz can pass unaffectedly

Applications

- Telecom interfaces
- ISDN systems

Terminals

- Base material CuSn6
- Layer composition Ni, Sn
- Hot-dipped

Marking

- Marking on component:
 Manufacturer, ordering code inductance, graphic symbol, date of manufacture (YYWWD)
- Minimum data on reel:
 Manufacturer, ordering code,
 L value, current, quantity, date of packing

Delivery mode and packing unit

- 24-mm blister tape, wound on 330-mm Ø reel
- Packing unit: 250 pcs./reel



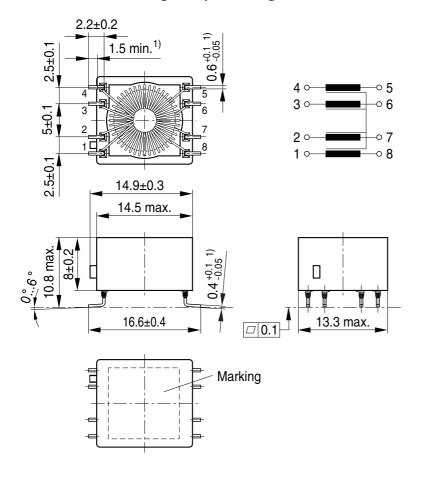


B82794C2

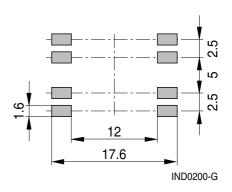
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Dimensional drawing and pin configuration



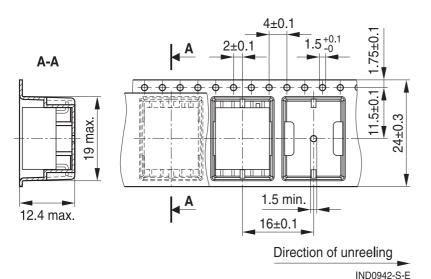
Layout recommendation



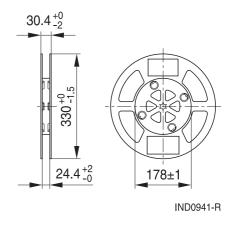
1) Soldering area IND0199-K-E Dimensions in mm

Taping and packing

Blister tape



Reel



Dimensions in mm



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Technical data and measuring conditions

Rated voltage V _R	42 V AC (50/60 Hz) / 80 V DC			
Rated temperature T _R	60 °C			
Rated current I _R	Referred to 50 Hz and rated temperature			
Rated inductance L _R	Measured with Agilent 4284A at 10 kHz, 50 mV, 20 °C Inductance is specified per winding.			
Inductance tolerance	-30%/+50% at 20 °C			
Inductance decrease ΔL/L ₀	< 10% at DC magnetic bias with I _R , 20 °C			
Stray inductance L _{stray,typ}	Measured with Agilent 4284A at 10 kHz, 50 mV, 20 °C, typical values			
DC resistance R _{typ}	Measured at 20 °C, typical values, specified per winding			
Solderability (lead-free)	Sn96.5Ag3.0Cu0.5: (245 \pm 5) °C, (3 \pm 0.3) s Wetting of soldering area \geq 95% (to IEC 60068-2-58)			
Resistance to soldering heat	(260 ±5) °C, (10 ±1) s (to IEC 60068-2-58)			
Climatic category	40/125/56 (to IEC 60068-1)			
Storage conditions (packaged)	–25 °C +40 °C, ≤75% RH			
Weight	Approx. 2.5 g			

Characteristics and ordering codes

L _R	L _{stray,typ}	I _R	R _{typ}	V _{test}	Ordering code	
mH	nH	mA	mΩ	V DC, 2 s		
4.7	350	300	900	750	B82794C2475N465	
10	900	200	1400	750	B82794C2106N465	

Common-mode chokes, ring core

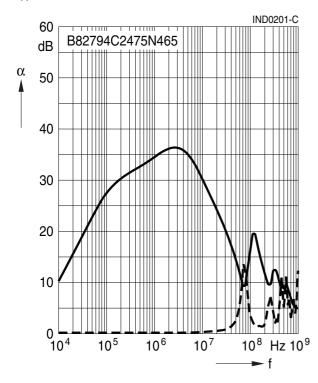
SMD

Insertion loss α (typical values at $|Z| = 50 \Omega$, 20 °C)

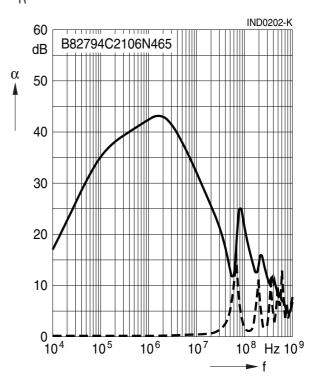
asymmetrical, all branches in parallel (common mode)

---- symmetrical (differential mode)

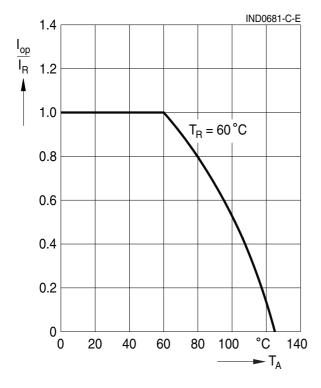
$$L_{R} = 4.7 \text{ mH}$$



$$L_R = 10 \text{ mH}$$



Current derating I_{op}/I_R versus ambient temperature





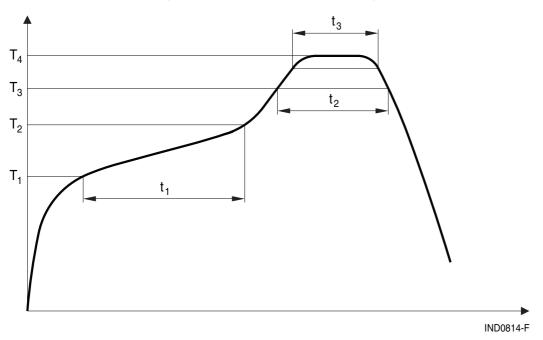
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Recommended reflow soldering curve

Pb-free solder material (based on JEDEC J-STD 020C)



T ₁	T ₂	T ₃	T ₄	t ₁	t ₂	t ₃
°C	°C	°C	°C	s	s	S
150	200	217	245	< 110	< 90	< 30 @ T ₄ –5 °C

Time from 25 °C to T₄: max 300 s Maximal numbers of reflow cycles: 3



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.
- 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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