



Würth Elektronik iBE

Automotive solutions





Our product range



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Rod Core Chokes SMD

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High Current Inductors THT

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Chip Beads Automotive

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Balun and Cylinder Cores

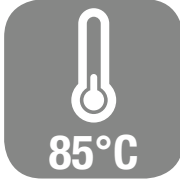
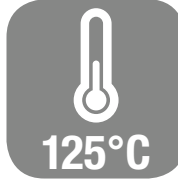
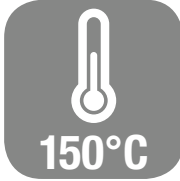
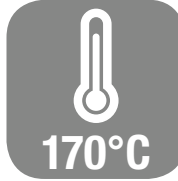
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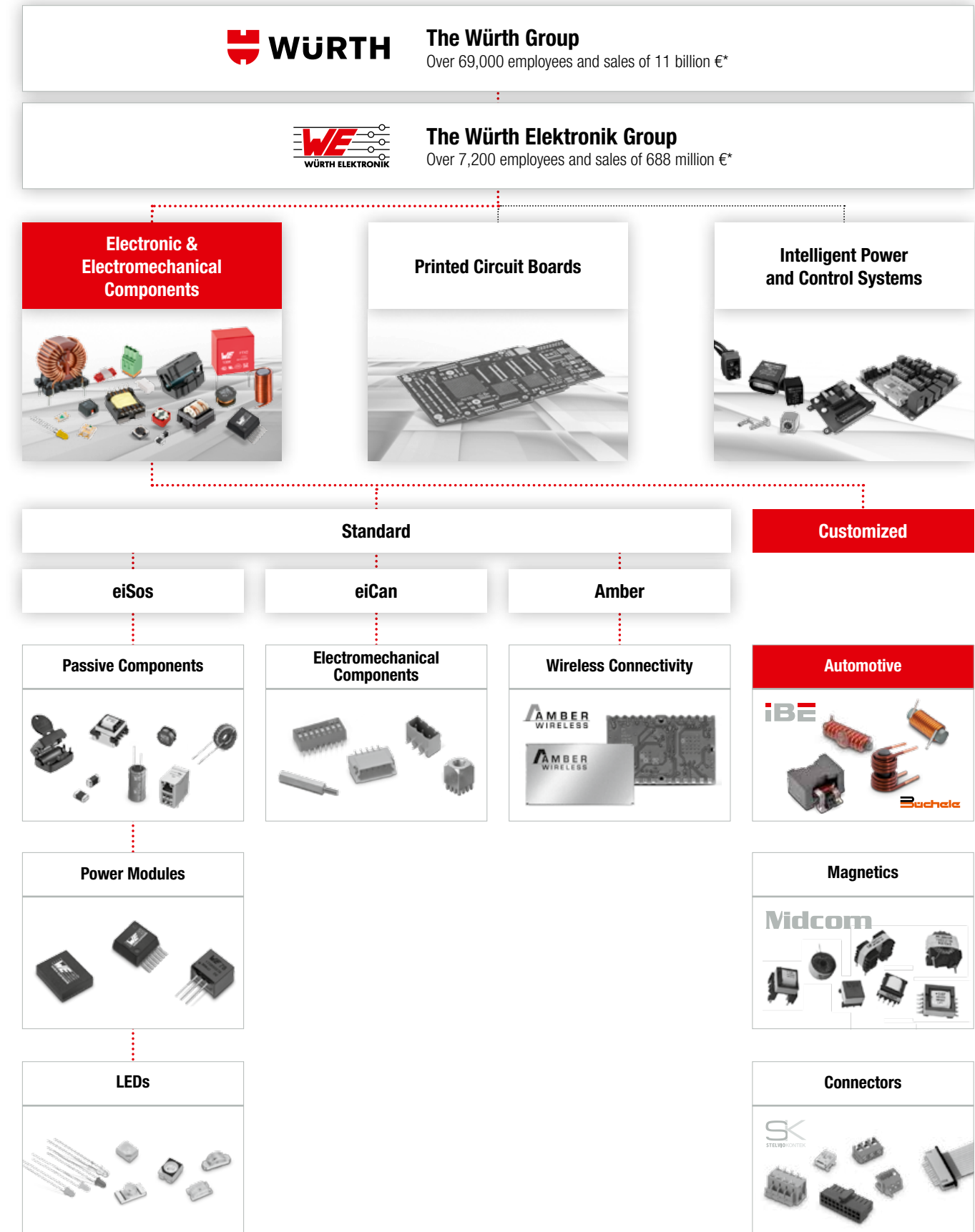
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Information in this brochure is subject to change. The process of continually improving our product range leads to changes in content.
For new designs please contact our product management. © 10/2016

Product values

Operating temperature range: -40°C to +85°C			Operating temperature range: -40°C to +125°C
Operating temperature range: -40°C to +150°C			Operating temperature range: -40°C to +170°C
Product validation according to AEC-Q 200 standard			Product validation according to AEC-Q 200 standard with extended testing conditions
Simulation data available upon request			Capable for Automated Optical Inspection (AOI)
Recommended processing: reflow			duraTIN®: thick layer tinning for excellent solderability
			Automated processable by pick & place area

The Würth Group



The iBE Group – a global footprint

**think globally –
act locally**

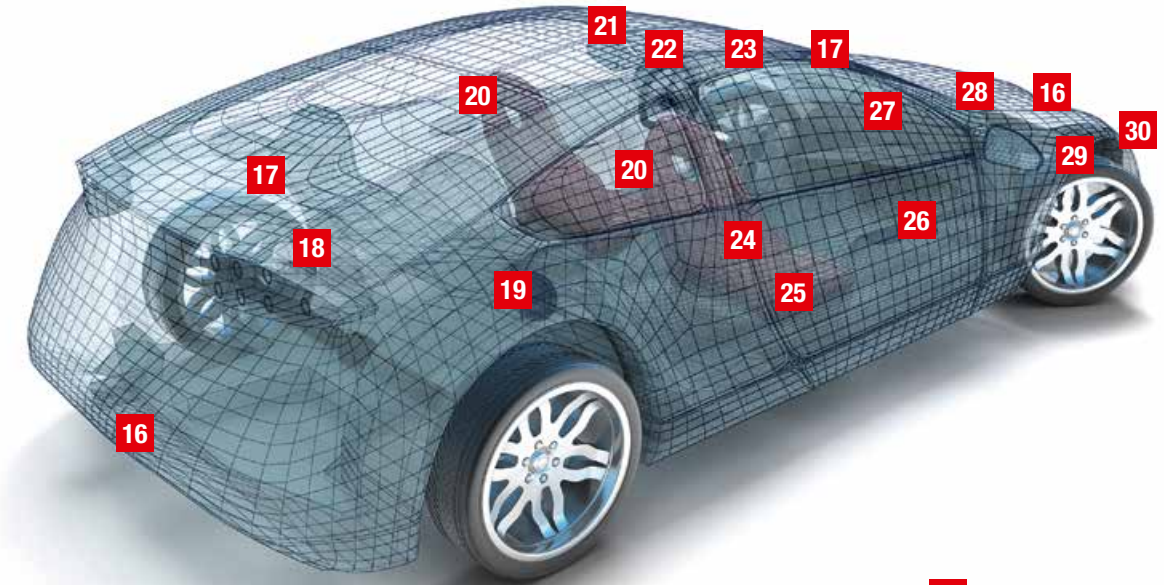
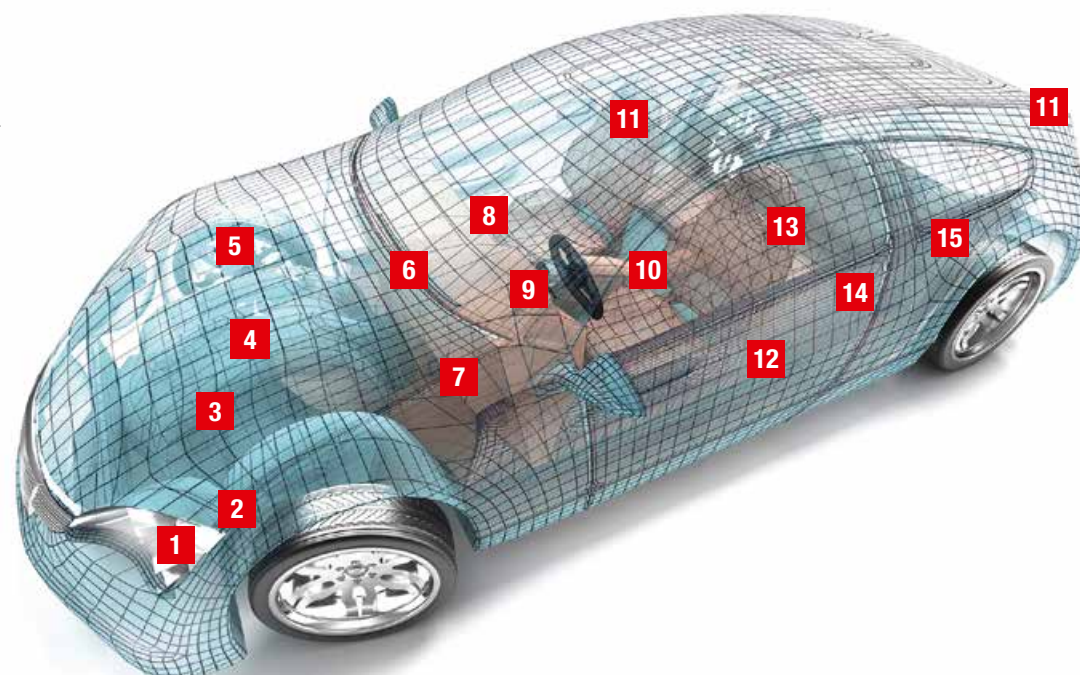
Over 1,200 employees and sales of 48 million €*
*



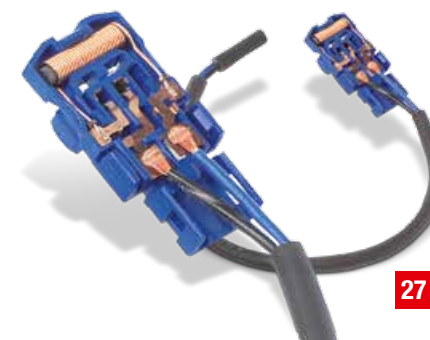
Applications

An automobile and nothing electronic? Unthinkable!

- 1** LED/Xenon control
- 2** Headlight leveling
- 3** Radiator fan motor/cooling water pump
- 4** Transmission control
- 5** Electric power steering (EPS)
- 6** Interval switch for windscreen wipers
- 7** Pedal adjustment
- 8** Air-conditioning control
- 9** Electric steering wheel adjustment and lock
- 10** Gear shift
- 11** Front and rear camera
- 12** Fuel pump
- 13** Electric seatbelt presenter
- 14** Keyless entry
- 15** Electronic parking brake



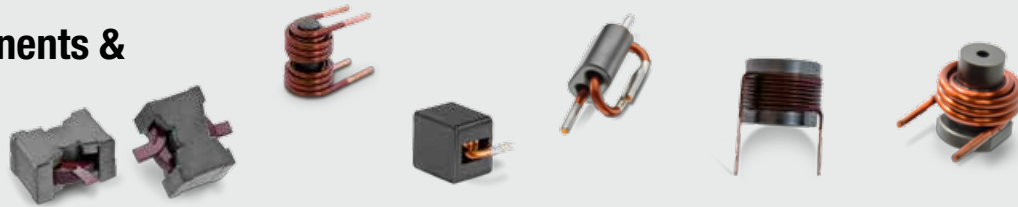
- 16** Rear and front radar sensors
- 17** Rear and front window wipers
- 18** Electric hatch flap
- 19** EMC filter applications
- 20** Electric sun visors of rear window and side doors
- 21** Antenna wavetrap
- 22** Electric sunroof
- 23** Steering angle sensor
- 24** Seat heating
- 25** Electric seat adjustment
- 26** Electric window
- 27** Airbag
- 28** Electric braking system (EBS)
- 29** Adaptive body control (ABC/DCC)
- 30** Anti-blocking system (ABS)



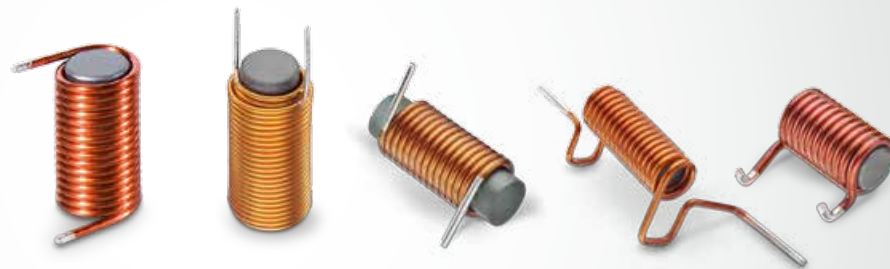
we
drive
solutions

Product versatility

Customized components &
special parts
15 million pcs.



Rod Core Chokes
450 million pcs.
225 million pcs.



Subsystems
30 million pcs.



SMD Components
140 million pcs.



On the way to
1 billion components

■ iBE Group
■ Büchele

Reference customers



BOSCH

Nidec

Valeo



PIERBURG

DELPHI



LEAR
CORPORATION



KATHREIN
Automotive

MAGNETI
MARELLI

brose
Technik für Automobile

ECKERLE
GRUPPE
Immer eine Lösung

DENSO

Continental

Bühler
Motor



Application fields

WE drive solutions



What drives us are the technical challenges of our customers...



Brush cards



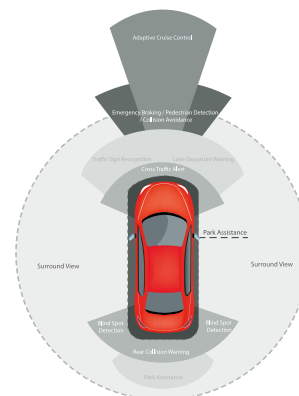
Powertrain



Electrification of ancillary units

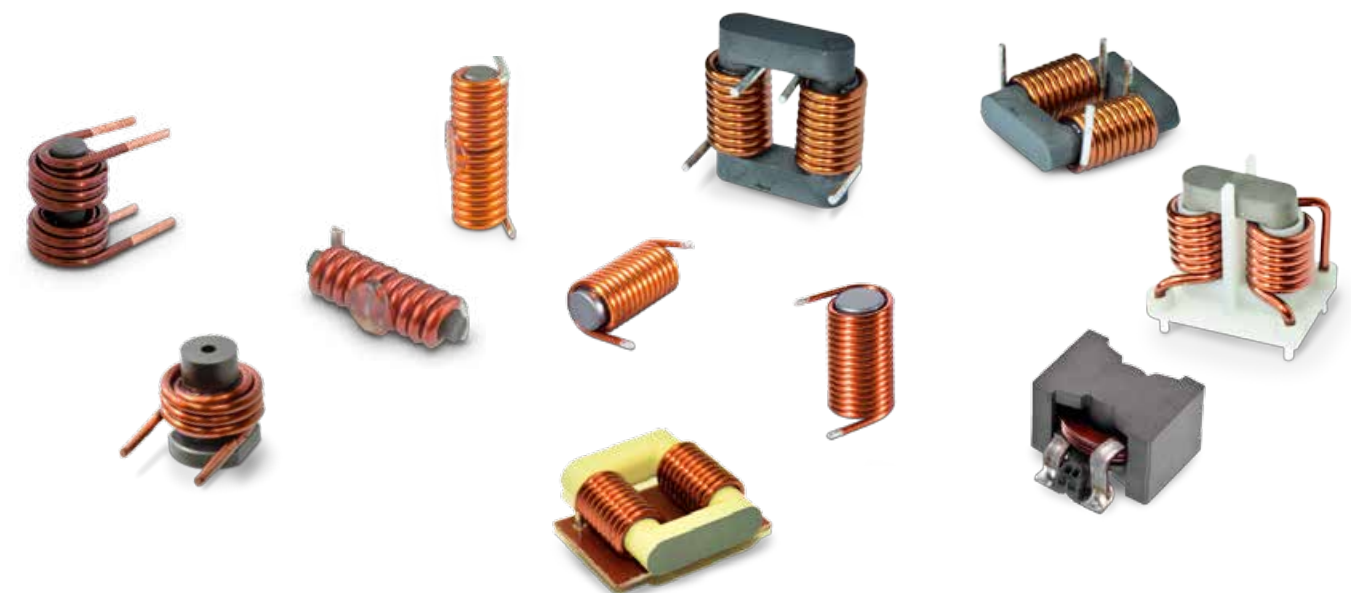


Hybrid and electrical drive



ADAS and comfort

Standard components mixed with customized products for:
EMC-filter- and noise suppression applications, DC/DC converters, inverters



e-mobility hybrid electrical
vehicles car connectivity car
to car car to x48V on-board po-
wer supply energy manage-
ment recuperation charging
technologies electrification

Key technologies and product validation

Winding:

- Winding of air coils
- Winding on ferrites and bobbins
- Round wire from $\varnothing$ 0.28 mm up to $\varnothing$ 4.0 mm
- Flat wire (vertical and horizontal)
- Different type of litz wire, self bonding wire
- Single and multilayer winding

Tin coating:

- duraTIN®: continuous tinning process (thick layer tinning)
- Dip tinning
- Lead free / leaded / custom solder material

Connection technology:

- Electric resistance welding of round wire, flat wire, litz wire
- Welding to contact pin, lead frame, carbon brush
- High-frequency soldering
- Spiroflame® soldering

Gluing:

- 1k and 2k gluing (epoxy / anaerob / thermal bonding)
- UV bonding
- Fully automated equipment (micro dispensing)

Testing:

- 100 % **EOL** test incl. binning (L / R_{DC} / etc.)
- 100 % **AOI** test incl. binning (dimensions / angle / tolerance / missing parts / burrs / cracks)
- Spot test (test gauge / destructive test / 3D measurement)

Printing / marking:

- Inkjet technology
- Pad printing
- Laser marking

Product validation*:

- Pre- and post electrical stress test
- High temperature exposure (storage)
- Temperature cycling
- Biased humidity
- Operational life
- External visual
- Physical dimensions
- Resistance to solvents and to soldering heat
- Mechanical and thermal shock
- Bump test
- Vibration
- ESD
- Solderability
- Electrical characterization
- Flammability
- Board flex
- Terminal strength



Technical equipment



Metallography (materials testing)



Reflow testing



© Helmut Fischer GmbH

Measurement of layer thickness



Tensile, compression, flexure, shear and torsion tests (environmental tests, validation of components)



Climate chamber and temperature-shock chamber for environmental testing



Impedance analyzer for measurement and characterization of components

WE-SDT Rod Core Chokes THT



Design kit WE-SDT Rod Core Chokes THT



- Characteristics
- High current capability
 - Very reliable mechanical design
 - Very high saturation performance

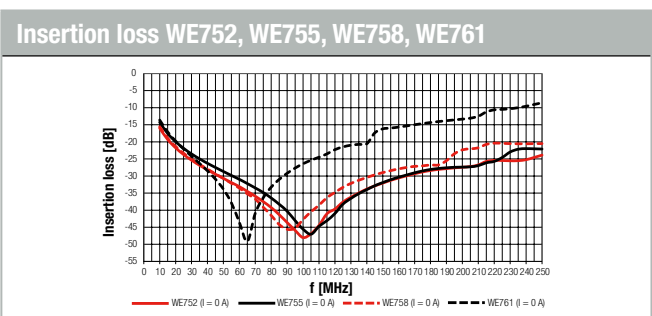
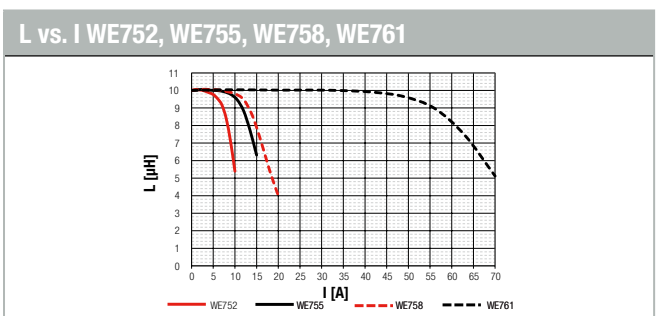
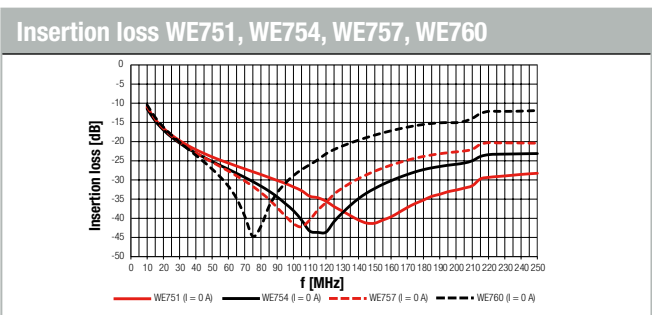
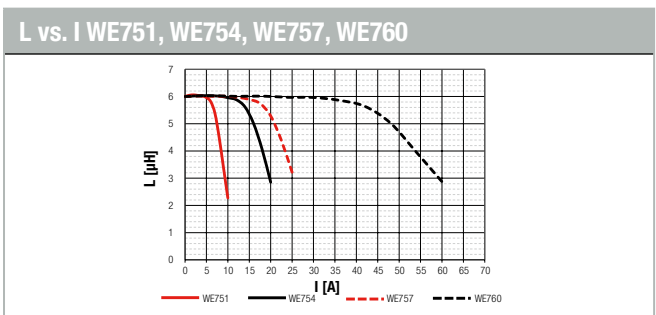
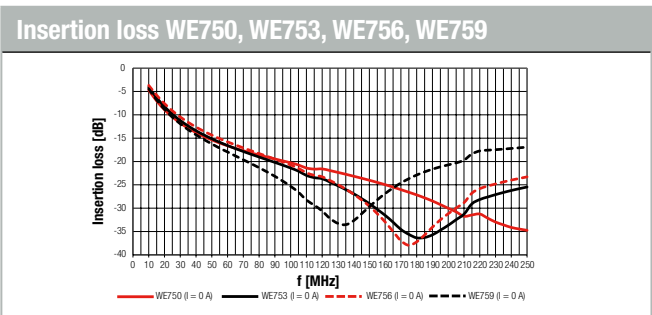
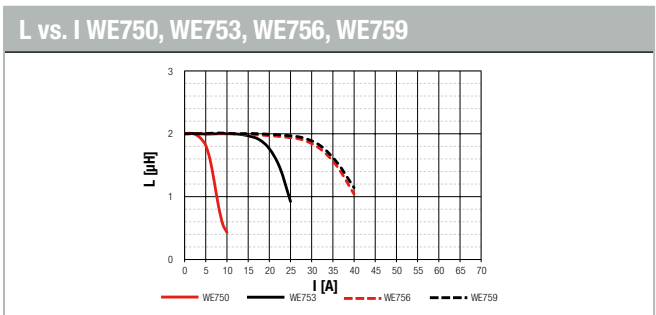
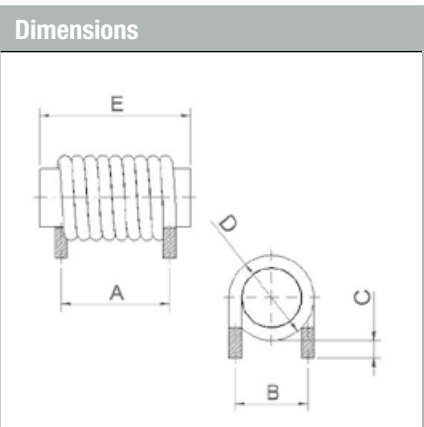
Design kit, free samples and customized designs available upon request



Order code 744 002, Version 3.0

Electrical properties					
Order Code	L_0 @ 20°C [μH]	R_{DC} @ 20°C [mΩ]	I_R max. [A]	I_{sat} typ. [A]	Operating temperature range [°C]
Test condition	100 kHz/0.5 V		40 K self heating	$ \Delta L/L < 10\%$	including self heating
WE750	2.0 ±20 %	11.0 ±20 %	2.5	5.0	-40 to +170
WE753	2.0 ±20 %	6.5 ±20 %	5.0	18.0	
WE756	2.0 ±20 %	3.8 ±20 %	10.0	32.0	
WE759	2.0 ±20 %	1.7 ±20 %	15.0	34.0	
WE751	6.0 ±20 %	22.0 ±20 %	2.5	6.5	
WE754	6.0 ±20 %	11.7 ±20 %	5.0	15.0	
WE757	6.0 ±20 %	15.3 ±20 %	10.0	19.0	
WE760	6.0 ±20 %	3.5 ±20 %	15.0	45.0	
WE752	10.0 ±20 %	33.0 ±20 %	2.5	7.0	
WE755	10.0 ±20 %	15.1 ±20 %	5.0	11.5	
WE758	10.0 ±20 %	8.8 ±20 %	10.0	13.0	
WE761	10.0 ±20 %	5.7 ±20 %	15.0	56.0	

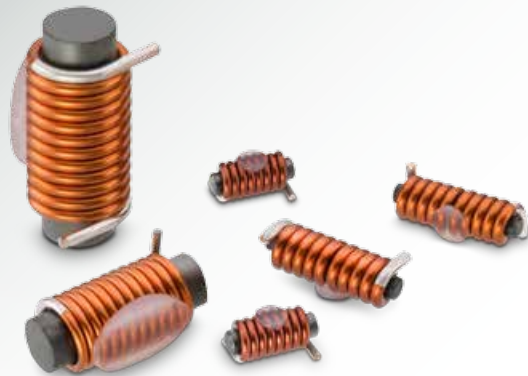
Dimensions							
Order Code	Number of turns	Wire Ø [mm]	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
WE750	14.5 clockwise	Ø0.5	7.7 ±0.5	2.6 ±0.5	3 ±0.5	max. Ø3.2	12 ±0.3
WE751	21.5 clockwise	Ø0.5	11.5 ±0.5	3.6 ±0.5	3 ±0.5	max. Ø4.2	15 ±0.4
WE752	25.5 clockwise	Ø0.5	13.5 ±0.5	4.6 ±0.5	3 ±0.5	max. Ø5.2	18 ±0.5
WE753	11.5 clockwise	Ø0.8	9.7 ±0.5	4.9 ±0.5	3 ±0.5	max. Ø5.9	13.7 -0.6
WE754	17.5 clockwise	Ø0.8	14.8 ±0.5	5.94 ±0.5	3 ±0.5	max. Ø6.9	20 ±0.5
WE755	22.5 clockwise	Ø0.8	19 ±0.5	5.9 ±0.5	3 ±0.5	max. Ø6.9	22 ±0.5
WE756	10.5 clockwise	Ø1.12	12.2 ±0.5	6.3 ±0.5	3 ±0.5	max. Ø7.6	15 ±0.4
WE757	15.5 clockwise	Ø1.12	18 ±0.5	7.3 ±0.5	3 ±0.5	max. Ø8.6	25 ±0.7
WE758	21.5 clockwise	Ø1.12	24.9 ±0.5	7.3 ±0.5	3 ±0.5	max. Ø8.6	30 -0.6
WE759	9.5 clockwise	Ø1.8	17.5 ±0.5	8 ±0.5	3 ±0.5	max. Ø10	25 ±0.7
WE760	13.5 clockwise	Ø1.8	24.9 ±0.5	12 ±0.5	3 ±0.5	max. Ø14	30 -2
WE761	16.5 clockwise	Ø1.7	29.2 ±0.5	14 ±0.5	3 ±0.5	max. Ø16	30 ±0.8



WE-SDP Rod Core Chokes SMD



Design kit WE-SDP Rod Core Chokes SMD



Characteristics

- High current capability
- Very high saturation performance
- High insertion loss at FM band
- Broadband suppression
- Robust mechanical design
- Packaging: tape & reel/pick & place

Design kit, free samples and customized designs available upon request

Electrical properties

Order code	L_0 @ 20°C [μH]	R_{DC} @ 20°C [mΩ]	I_R max. [A]	I_{sat} typ. [A]	Operating temperature range [°C]
Test condition	100 kHz/0.5 V		40 K self heating	$ \Delta L/L < 10\%$	including self heating
110 001 100	1.00 ±20%	2.0 max.	22.5	29.0	-40 to +150
110 001 150	1.41 ±20%	1.1 ±20%	18.5	14.0	
110 001 200	1.96 ±20%	2.4 ±15%	15.0	39.0	
110 001 270	2.72 ±20%	6.4 ±15%	10.0	18.0	
110 001 450	4.45 ±10%	3.8 ±10%	12.0	45.0	
110 001 101	10.40 ±20%	33.0 ±20%	2.5	7.5	

Dimensions 1

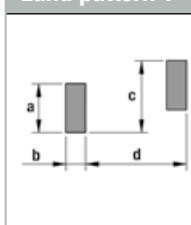
Order Code	a [mm]	b [mm]	c [mm]	d [mm]	Land pattern
110 001 100	9.2	3.4	14.2	11.6	2
110 001 150	9.0	4.0	12.0	21.2	2
110 001 200	8.0	3.0	12.0	15.5	1
110 001 270	8.5	3.0	11.6	13.1	2
110 001 450	10.5	3.5	17.0	18.6	1
110 001 101	5.0	2.0	8.6	14.0	1

Dimensions 2

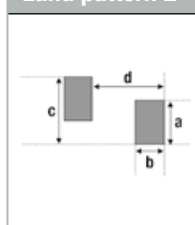
Order Code	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]
110 001 100	11.6 ±0.5	15.0 ±0.4	5.0 ±0.7	Ø max. 7.1	Ø min. 4.0	max. 7.80
110 001 150	21.2 ±1.0	25.0 ±0.1	4.4 ±0.5	Ø max. 9.2	Ø min. 5.0	max. 8.60
110 001 200	15.5 ±0.5	18.0 ±0.5	4.5 ±0.6	Ø max. 9.3	Ø min. 7.0	max. 10.00
110 001 270	13.1 ±0.5	15.0 ±0.4	4.5 ±0.6	Ø max. 6.5	Ø min. 3.0	max. 7.00
110 001 450	18.6 ±0.5	25.0 ±0.8	6.5 ±0.6	Ø max. 1.5	Ø min. 6x10*	max. 12.35
110 001 101	14.0 ±0.5	18.0 ±0.5	3.0 ±0.5	Ø max. 5.4	Ø min. 3.5	max. 5.80

* oval

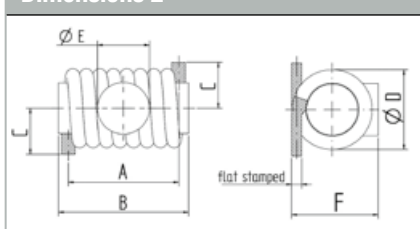
Land pattern 1



Land pattern 2

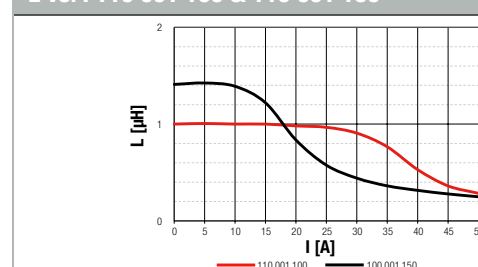


Dimensions 2

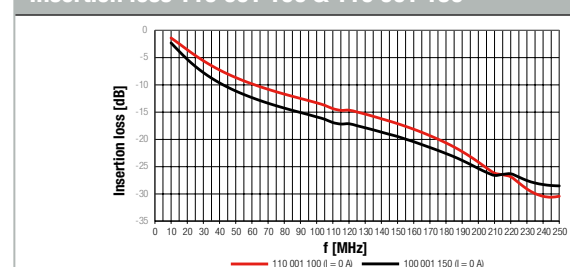


Order code 999 001, Version 3.0

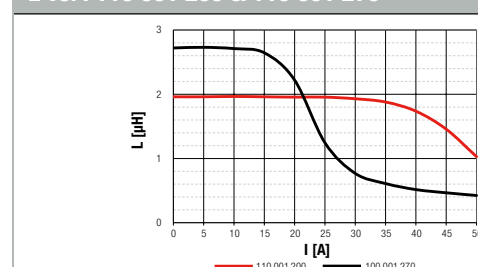
L vs. I 110 001 100 & 110 001 150



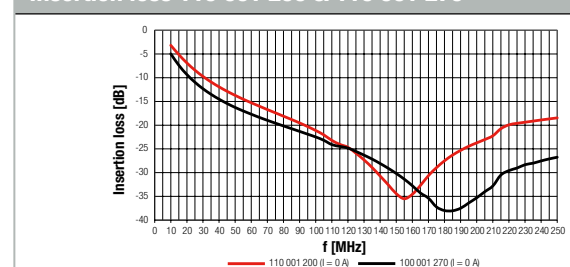
Insertion loss 110 001 100 & 110 001 150



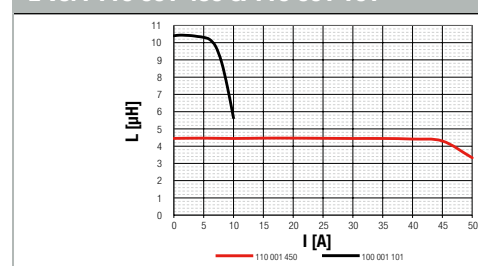
L vs. I 110 001 200 & 110 001 270



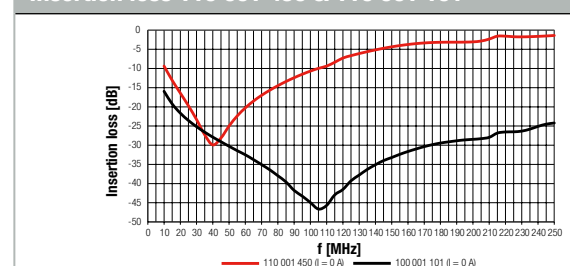
Insertion loss 110 001 200 & 110 001 270



L vs. I 110 001 450 & 110 001 101



Insertion loss 110 001 450 & 110 001 101



WE-FLAT-I®

Flat Wire Power Inductors SMD



Design kit WE-FLAT-I®

Flat Wire Power Inductors SMD



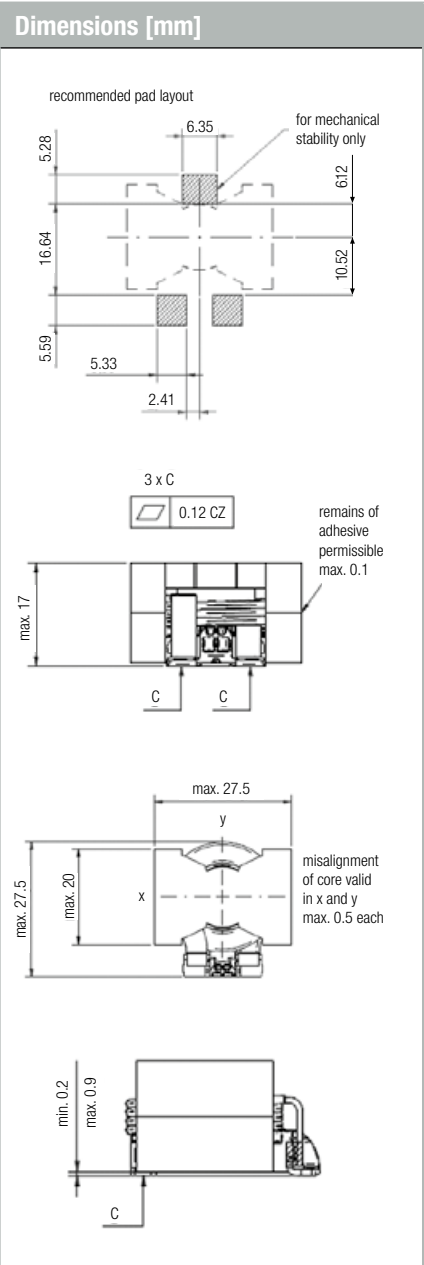
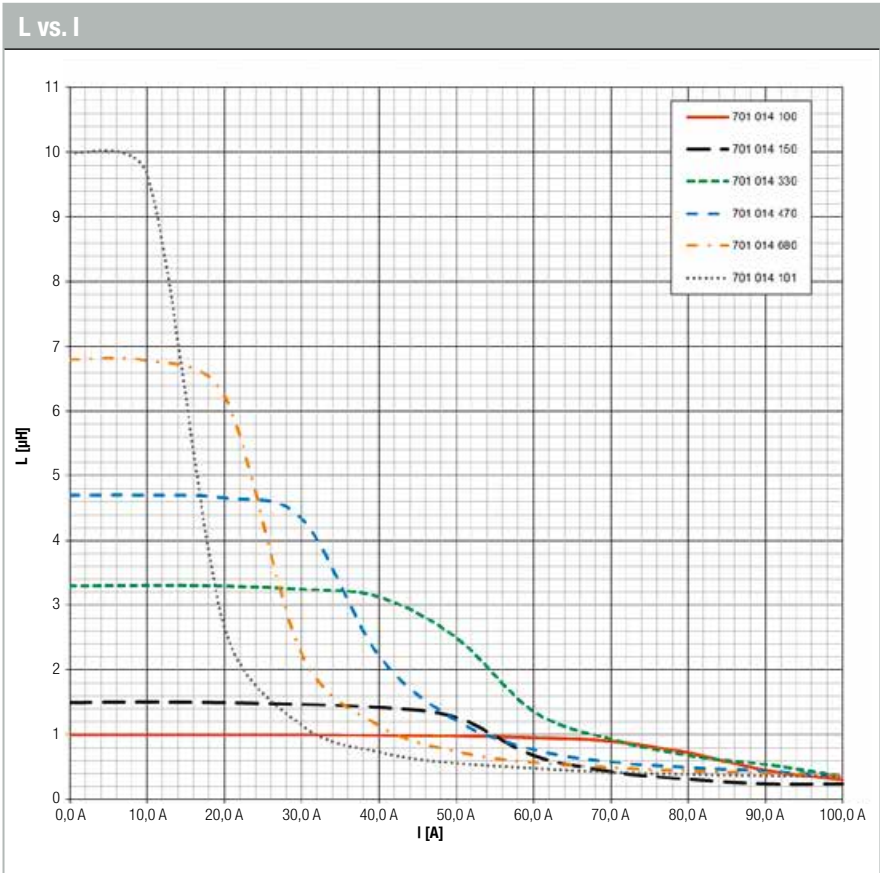
- Characteristics**
- Flat wire design
 - Magnetically shielded design
 - High rated current up to 50A
 - High saturation performance
 - Excellent planarity
 - Optimized for DC/DC converters
 - Optimized for frequency range 0.2 MHz to 1 MHz
 - Packaging: tray or tape & reel

Design kit, free samples and customized designs available upon request



Order code 701 100, Version 1.0

Electrical properties					
Order Code	L_0 @ 20 °C [µH]	R_{DC} @ 20 °C [mΩ]	I_R max. [A]	I_{sat} typ. [A]	Operating temperature range [°C]
Test condition	100 kHz/0.5 V		40 K self heating	$ \Delta L/L < 10\%$	including self heating
701 014 100	1.0 ±25 %	0.6 ±10 %	50	65	-40 to +150
701 014 150	1.5 ±25 %	0.6 ±10 %	50	45	
701 014 330	3.3 ±15 %	1.1 ±10 %	35	40	
701 014 470	4.7 ±15 %	1.1 ±10 %	35	30	
701 014 680	6.8 ±15 %	1.1 ±10 %	35	20	
701 014 101	10.0 ±15 %	1.1 ±10 %	35	10	



WE-PD2
Power Inductors SMD



Characteristics

- Semi-shielded version
- Standard sizes
- High rated current up to 10.8A

Design kit and free samples available upon request

Design kit WE-PD2
Power Inductors SMD



Order code 732 100, Version 3.0

Electrical properties

Size	Order code	L [μH]	R _{DC} typ. [Ω]	R _{DC} max. [Ω]	I _p [A]	I _{sat} [A]
S	732 773 010	1.00 ±20%	0.014	0.049	4.00	5.72
	732 773 022	2.20 ±20%	0.034	0.071	2.50	3.38
	732 773 033	3.30 ±20%	0.041	0.086	2.00	2.88
	732 773 047	4.70 ±20%	0.059	0.110	1.82	2.46
	732 773 056	5.60 ±20%	0.069	0.126	1.58	2.43
	732 773 068	6.80 ±20%	0.076	0.131	1.54	2.10
	732 773 100	10.00 ±20%	0.118	0.182	1.45	1.74
	732 773 150	15.00 ±20%	0.204	0.235	1.20	1.46
	732 773 220	22.00 ±20%	0.261	0.370	1.00	1.22
	732 773 330	33.00 ±10%	0.370	0.540	0.86	0.90
	732 773 470	47.00 ±10%	0.523	0.844	0.68	0.77
	732 773 560	56.00 ±10%	0.714	0.937	0.64	0.75
M	732 773 680	68.00 ±10%	0.754	1.117	0.56	0.68
	732 774 003	0.33 ±20%	0.006	0.008	10.80	15.30
	732 774 022	2.20 ±20%	0.026	0.041	4.60	8.20
	732 774 027	2.70 ±20%	0.032	0.045	4.00	8.00
	732 774 047	4.70 ±20%	0.056	0.071	3.00	5.50
	732 774 068	6.80 ±20%	0.071	0.082	2.40	5.00
	732 774 100	10.00 ±20%	0.078	0.100	2.20	2.16
	732 774 150	15.00 ±20%	0.089	0.140	1.53	1.90
	732 774 220	22.00 ±20%	0.109	0.180	1.28	1.53
	732 774 270	27.00 ±20%	0.133	0.200	1.19	1.40
	732 774 330	33.00 ±20%	0.150	0.230	1.09	1.17
	732 774 470	47.00 ±20%	0.260	0.370	0.86	1.00
L	732 774 680	68.00 ±20%	0.313	0.460	0.64	0.86
	732 774 101	100.00 ±20%	0.510	0.650	0.57	0.68
	732 774 151	150.00 ±20%	0.720	1.100	0.46	0.54
	732 774 221	220.00 ±10%	0.945	1.570	0.42	0.47
	732 775 033	3.30 ±20%	0.012	0.018	4.90	4.90
	732 775 068	6.80 ±20%	0.022	0.026	3.70	3.80
	732 775 100	10.00 ±10%	0.044	0.070	2.30	2.95
	732 775 180	18.00 ±10%	0.053	0.100	1.89	2.14
	732 775 220	22.00 ±10%	0.065	0.110	1.76	1.81
	732 775 330	33.00 ±10%	0.088	0.130	1.35	1.47
	732 775 470	47.00 ±10%	0.134	0.180	1.17	1.24
	732 775 680	68.00 ±10%	0.218	0.280	0.99	1.05
	732 775 820	82.00 ±10%	0.248	0.370	0.90	0.95
	732 775 101	100.00 ±10%	0.208	0.430	0.77	0.86
	732 775 121	120.00 ±10%	0.308	0.470	0.67	0.81
	732 775 151	150.00 ±10%	0.467	0.640	0.60	0.71
	732 775 221	220.00 ±10%	0.614	0.960	0.51	0.56
	732 775 331	330.00 ±10%	0.810	1.260	0.43	0.48
	732 775 471	470.00 ±10%	1.370	1.960	0.36	0.38

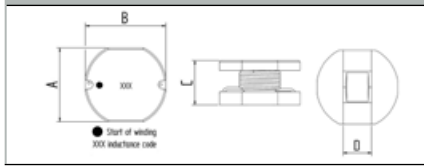
Electrical properties

Size	Order code	L [μH]	R _{DC} typ. [Ω]	R _{DC} max. [Ω]	I _p [A]	I _{sat} [A]
XL	732 776 033	3.3 ±20%	0.009	0.015	6.00	7.00
	732 776 068	6.8 ±20%	0.021	0.025	3.60	4.90
	732 776 100	10.0 ±20%	0.028	0.060	2.98	3.24
	732 776 150	15.0 ±20%	0.034	0.080	2.47	2.88
	732 776 220	22.0 ±20%	0.051	0.100	2.04	2.07
	732 776 270	27.0 ±20%	0.063	0.110	1.95	1.98
	732 776 330	33.0 ±20%	0.083	0.120	1.78	1.89
	732 776 470	47.0 ±10%	0.095	0.170	1.45	1.62
	732 776 680	68.0 ±10%	0.138	0.220	1.19	1.49
	732 776 101	100.0 ±10%	0.200	0.350	1.02	1.10
	732 776 151	150.0 ±10%	0.300	0.470	0.81	0.90
	732 776 221	220.0 ±10%	0.451	0.730	0.67	0.77
XXL	732 776 331	330.0 ±10%	0.750	1.150	0.52	0.59
	732 776 471	470.0 ±10%	0.969	1.480	0.44	0.50
	732 777 050	5.6 ±20%	0.014	0.018	7.70	8.50
	732 777 060	6.5 ±20%	0.016	0.020	7.20	8.00
	732 777 100	10.0 ±20%	0.019	0.023	6.70	7.20
	732 777 150	15.0 ±20%	0.021	0.026	6.40	5.70
	732 777 220	22.0 ±20%	0.037	0.045	4.30	4.50
	732 777 330	33.0 ±20%	0.048	0.058	3.45	3.60
	732 777 470	47.0 ±10%	0.072	0.088	3.00	3.20
	732 777 680	68.0 ±10%	0.088	0.106	2.80	2.75
	732 777 101	100.0 ±10%	0.140	0.170	2.30	2.20
	732 777 151	150.0 ±10%	0.190	0.210	1.90	1.80
	732 777 221	220.0 ±10%	0.263	0.320	1.40	1.45

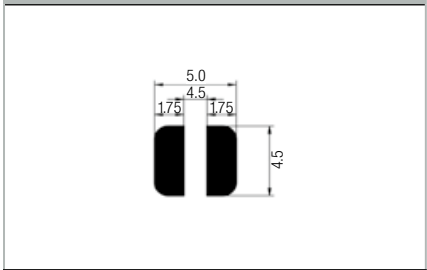
Dimensions

Size	A [mm]	B [mm]	C [mm]	D [mm]
S	4.0 ±0.3	4.5 ±0.3	3.2 ±0.30	1.0
M	5.2 ±0.3	5.8 ±0.3	4.5 ±0.35	2.0
L	7.0 ±0.3	7.8 ±0.3	5.0 ±0.50	3.0
XL	9.0 ±0.4	10.0 ±0.4	5.4 ±0.50	3.5
XXL	11.0 ±0.4	11.7 ±0.5	7.6 ±0.50	3.5

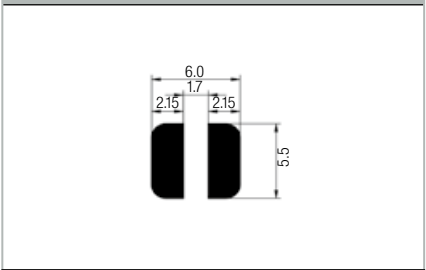
Dimensions



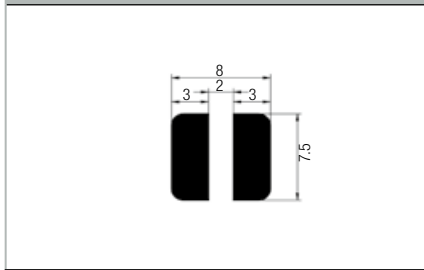
Land pattern S [mm]



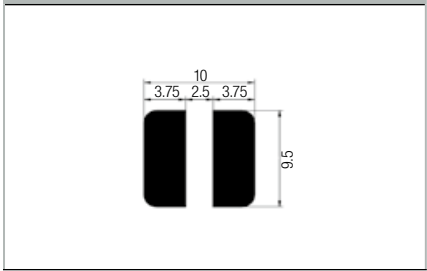
Land pattern M [mm]



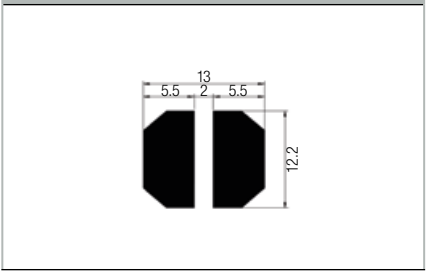
Land pattern L [mm]



Land pattern XL [mm]



Land pattern XXL [mm]



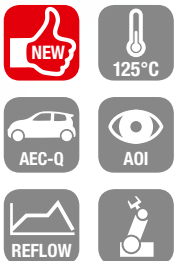
WE-MASH-I

Molded Power Inductors SMD



Design kit WE-MASH-I

Molded Power Inductors SMD



Characteristics

- Standard sizes: 7 x 7 / 10 x 10 / 13 x 13
- Magnetically capsuled design for low magnetic stray field
- High rated current
- High saturation performance
- Inductance value stays stable throughout operating temperature range
- Robust mechanical design
- Packaging: tape & reel

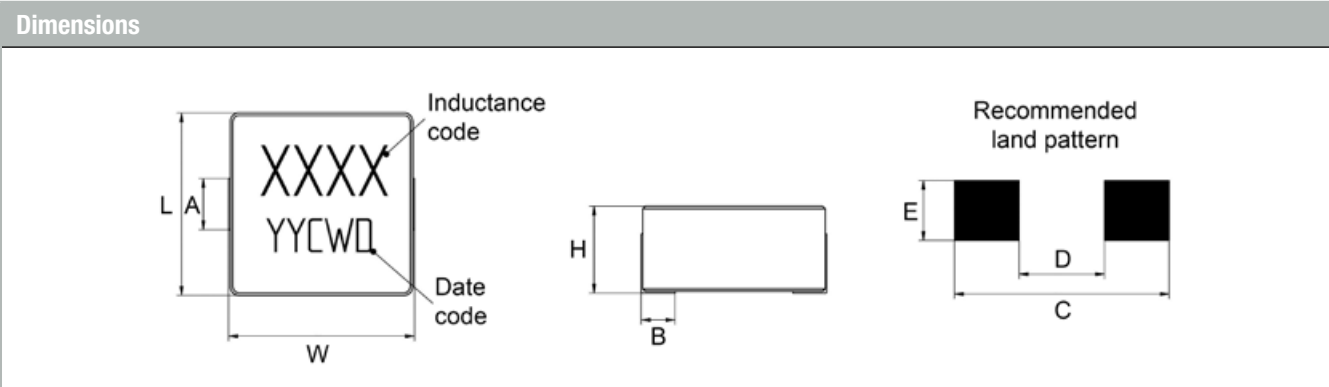
Design kit and free samples available upon request



Order code 831 100, Version 1.0

Electrical properties						
Size	Order code	L_0 @ 20°C [μH]	R_{DC} @ 20°C [mΩ]	I_r max. [A]	I_{sat} typ. [A]	Operating temperature range [°C]
	Test condition	100 kHz / 0.1 V		40 K self heating	$ \Delta L/L < 20\%$	including self heating
7 x 7	831 530 470	0.47 ±20%	3.7	15.0	20.0	-40 to +125
	831 530 680	0.68 ±20%	5.5	15.0	20.0	
	831 531 000	1.00 ±20%	8.0	12.0	18.0	
	831 532 200	2.20 ±20%	15.3	8.0	14.0	
	831 533 300	3.30 ±20%	30.0	6.0	11.0	
	831 534 700	4.70 ±20%	41.0	5.5	8.0	
	831 536 800	6.80 ±20%	53.8	4.5	6.5	
	831 538 200	8.20 ±20%	70.0	4.0	6.0	
	831 531 001	10.00 ±20%	80.0	3.5	5.0	
	831 531 501	15.00 ±20%	120.0	3.0	4.5	
10 x 10	831 651 000	1.00 ±20%	4.0	20.0	30.0	
	831 653 300	3.30 ±20%	13.0	11.5	22.0	
	831 654 700	4.70 ±20%	17.0	10.0	19.5	
	831 651 001	10.00 ±20%	31.1	6.3	15.0	
	831 651 501	15.00 ±20%	67.0	5.0	13.0	
13 x 13	831 750 220	0.22 ±20%	1.4	30.0	60.0	
	831 751 000	1.00 ±20%	2.9	21.0	51.0	
	831 751 500	1.50 ±10%	4.1	20.0	45.0	
	831 752 200	2.20 ±20%	6.0	16.0	35.0	
	831 753 300	3.30 ±20%	9.2	14.0	30.0	
	831 754 700	4.70 ±20%	12.0	11.0	27.0	
	831 756 800	6.80 ±20%	18.5	9.0	20.0	
	831 758 200	8.20 ±10%	22.5	8.5	18.0	
	831 751 001	10.00 ±20%	34.0	7.0	16.0	
	831 751 501	15.00 ±20%	53.0	6.0	15.0	

Dimensions								
Size	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	H [mm]	L [mm]	W [mm]
7 x 7	3.0	2.7	8.0	3.8	3.5	3.0	6.5	7.0
10 x 10	3.0	2.2	12.6	5.0	3.5	5.0	10.0	10.7
13 x 13	3.0 / 4.0	2.2	14.8	8.0	4.5	5.0	12.7	13.5



WE-HCT

High Current Inductors THT



Characteristics

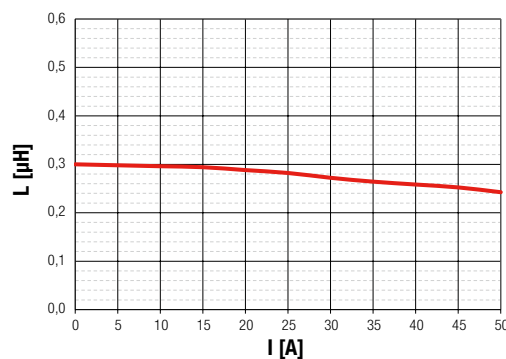
- Magnetically shielded design
- Excellent saturation characteristics
- High quality core material with excellent aging characteristics
- Inductance value stable throughout operating temperature range
- Packaging: tape & reel

Free samples and customized designs available upon request

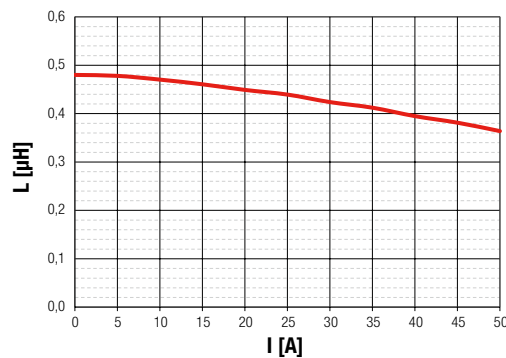
Electrical properties

Order code	L_0 @ 20°C [μH]	R_{DC} @ 20°C [mΩ]	I_R max. [A]	I_{sat} typ. [A]	Operating temperature range [°C]
Test condition	100 kHz / 0.5 V		40 K self heating	$ \Delta L /L < 10\%$	including self heating
WW006	0.30 -15 to +25%	0.440 ±7%	30	27	-40 to +150
WW005	0.50 ±20%	0.875 ±9%	23	25	

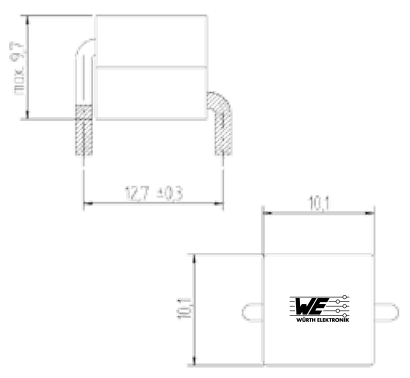
L vs. I WW006



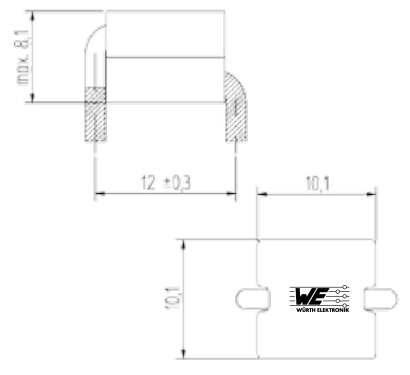
L vs. I WW005



Dimensions WW006 [mm]

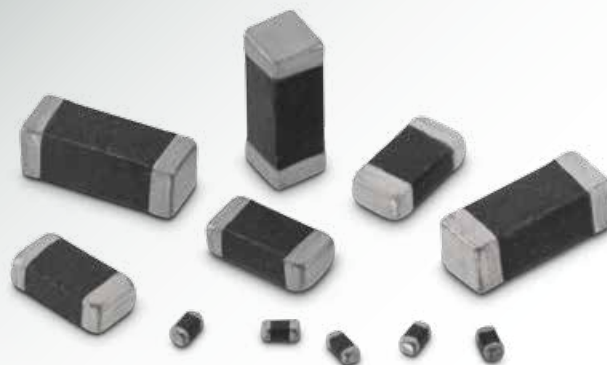


Dimensions WW005 [mm]



WE-CBA

Chip Beads Automotive



Characteristics

- Reliable Ni-Sn electrodes
- Perfect as data line filter and for decoupling of distribution voltage
- High rated current up to 6A

Design kit and free samples available upon request

Electrical properties

Size	Order code	Impedance Z @ 100 MHz [Ω] ±25%	R_{DC} max. [Ω]	I_R max. [mA]	Type
0402	326 342 070	70	0.090	1000	High Current
	326 142 110	100	0.300	300	Wide Band
	326 142 221	220	0.300	400	Wide Band
	326 142 151	510	0.800	200	Wide Band
	326 142 601	600	0.800	200	Wide Band
	326 242 210	1000	1.000	200	Wide Band
0603	326 263 062	62	0.150	500	High Current
	326 363 062	62	0.040	2500	High Speed
	326 263 110	100	0.200	200	High Speed
	326 163 112	120	0.200	500	Wide Band
	326 163 118	180	0.200	500	Wide Band
	326 263 133	330	0.250	200	High Speed
	326 163 151	510	0.350	200	Wide Band
	326 363 160	600	0.200	1000	High Current
	326 163 210	1000	0.500	200	Wide Band
	326 163 218	1800	0.750	100	Wide Band
0805	326 385 020	20	0.008	5000	High Current
	326 385 027	27	0.020	3000	High Current
	326 385 068	68	0.025	3000	High Current
	326 385 091	91	0.100	1000	High Current
	326 385 112	120	0.035	2500	High Current
	326 385 120	200	0.050	2000	High Current
	326 385 156	560	0.100	1500	High Current
	326 185 210	1000	0.450	200	Wide Band
	326 385 211	1100	0.300	800	High Current
	326 185 220	2000	0.450	200	Wide Band
1206	326 396 082	82	0.025	3000	High Current
	326 296 130	300	0.100	300	High Speed
	326 396 162	620	0.100	1500	High Current
	326 396 210	1000	0.300	1000	High Current
1806	326 306 056	56	0.008	5000	High Current
	326 306 060	60	0.010	6000	High Current
	326 306 082	82	0.030	3000	High Current
	326 306 210	1000	0.090	1500	High Current

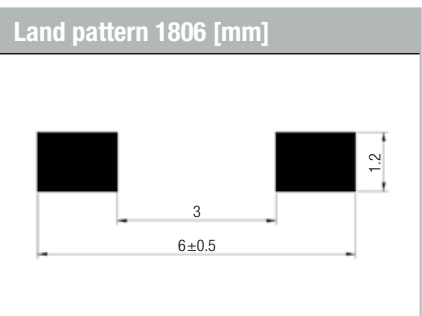
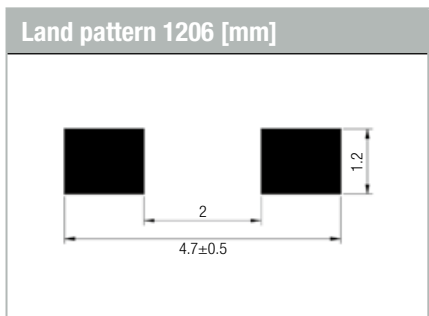
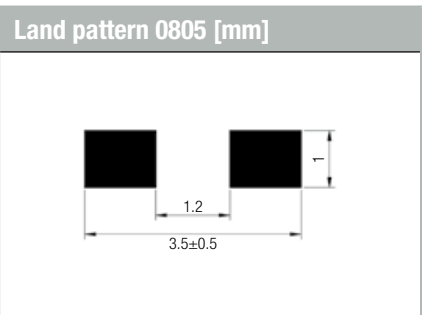
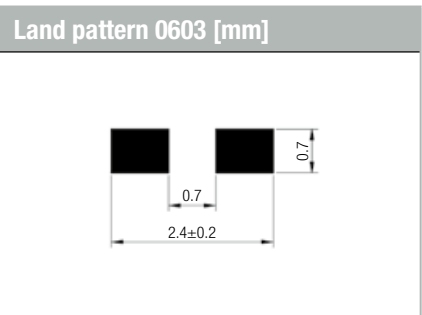
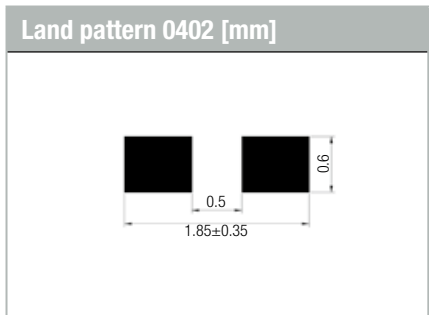
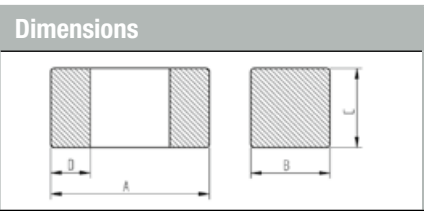
Design kit WE-CBA Chip Beads Automotive

WE-CBA Impedance curves

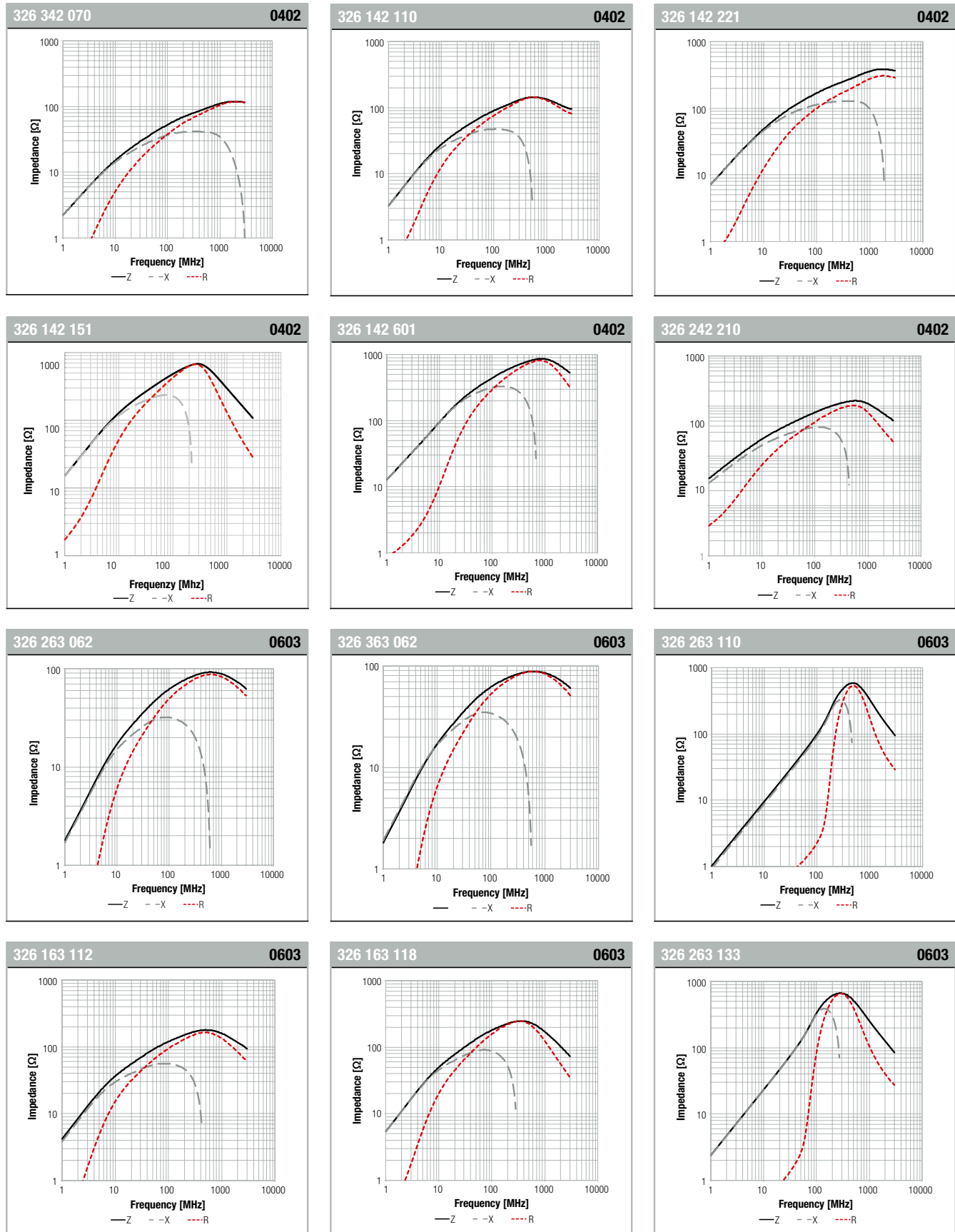


Order code 326 100, Version 3.0

Dimensions				
Size	A [mm]	B [mm]	C [mm]	D [mm]
0402	1.00 ±0.05	0.50 ±0.05	0.50 ±0.05	0.20 ±0.10
0603	1.60 ±0.15	0.80 ±0.15	0.80 ±0.15	0.40 ±0.20
0805	2.00 ±0.20	1.25 ±0.20	0.90 ±0.20	0.50 ±0.30
1206	3.20 ±0.20	1.60 ±0.20	1.10 ±0.20	0.70 ±0.30
1806	4.50 ±0.20	1.60 ±0.20	1.60 ±0.20	0.80 ±0.30

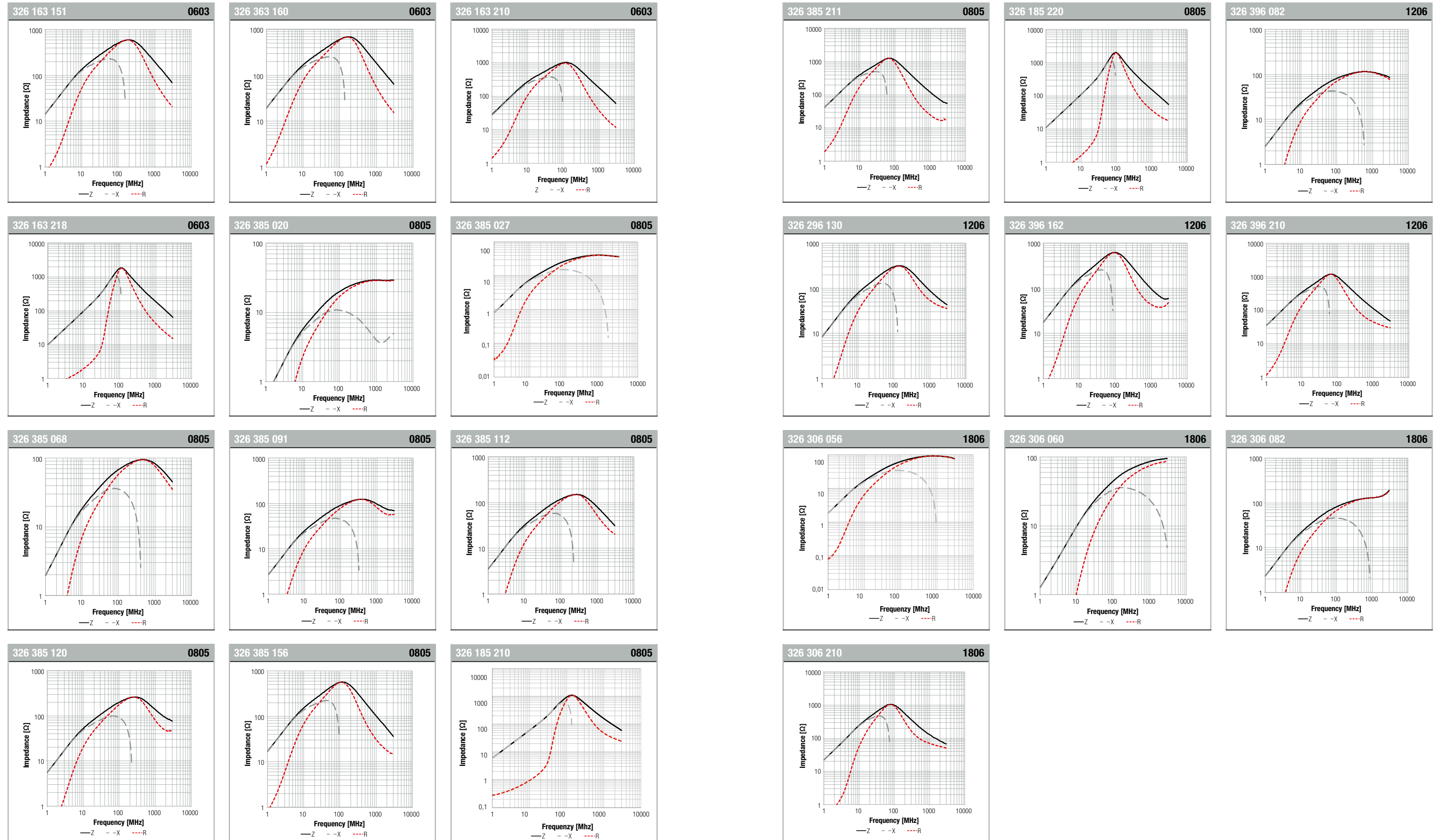


Size code conversion table inch/mm	
inch	mm
0402	1005
0603	1608
0805	2012
1206	3216
1806	4516



WE-CBA

Impedance curves



WE-BAL

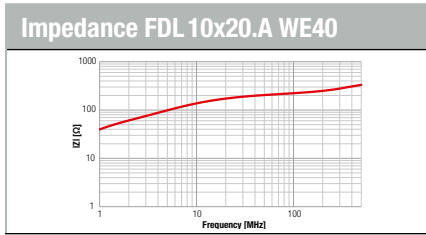
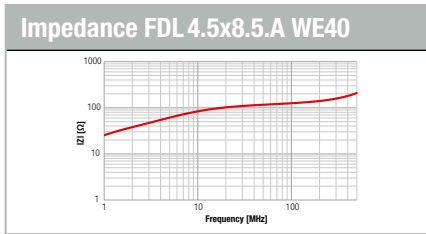
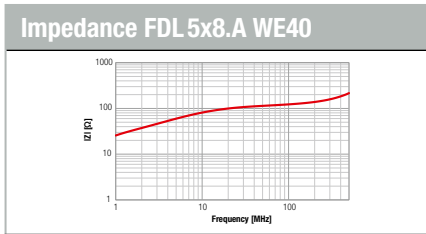
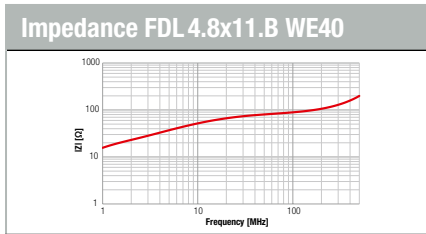
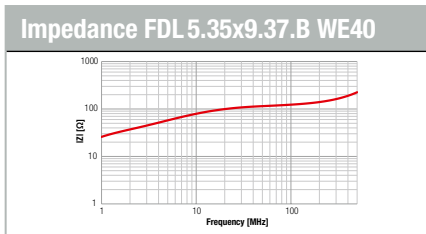
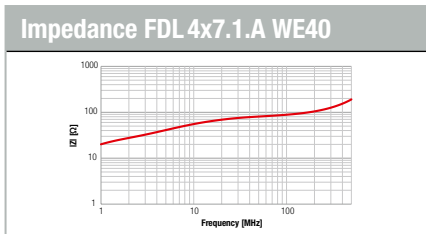
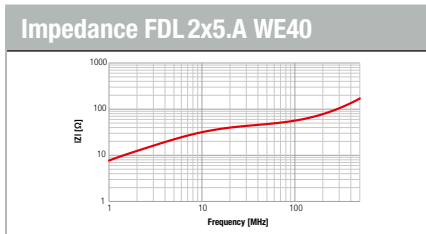
Balun Cores



- Characteristics
- NiZn Ferrite for a broadband frequency range
 - Different dimensions available ex stock

Design kit, free samples and customized designs available upon request

Electrical parameter											
Parameter	Width W [mm]	Length L [mm]	Height H [mm]	Diameter D [mm]	Spacing P [mm]	Shape	Impedance Z @ 23 °C [Ω]	Tolerance	Impedance Z @ 23 °C [Ω]	Tolerance	Resistivity r @ 23 °C [Ωcm]
Test condition							Z @ 25 MHz		Z @ 100 MHz		
FDL2x5.A WE40	2.0	5.0	2.8	1.1	2.4	A	30	min.	40	min.	≥10 ⁻⁸
FDL4x7.1.A WE40	4.0	7.1	8.0	2.1	3.1	A	50		60		
FDL5.35x9.37.B WE40	5.4	9.4	8.0	2.6	5.2	B	70		85		
FDL4.8x11.B WE40	4.8	11.0	7.2	3.1	4.5	B	49		60		
FDL5x8.A WE40	5.0	8.0	8.0	2.1	4.0	A	70		85		
FDL4.5x8.5.A WE40	4.5	8.5	8.0	2.1	4.0	A	74		87		
FDL10x20.A WE40	10.0	20.0	15.0	5.1	10.0	A	120		145		-40 to +85



WE-CYL

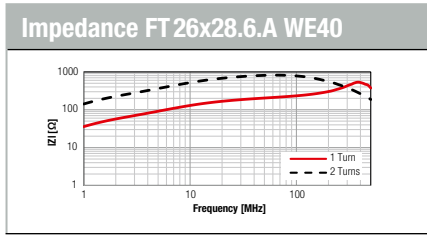
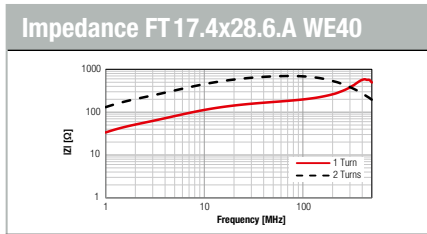
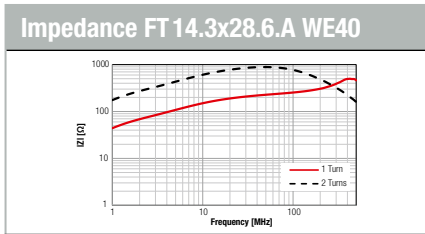
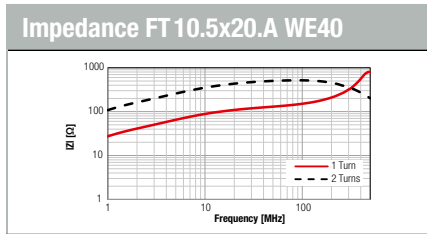
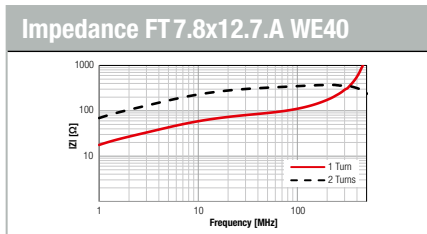
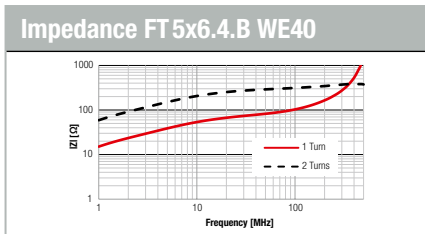
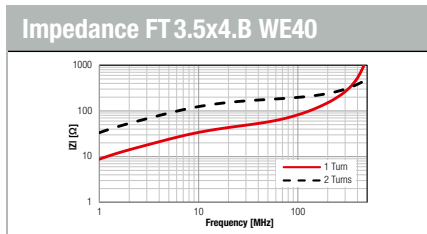
Cylinder Cores



- Characteristics
- NiZn Ferrite for a broadband frequency range
 - Different dimensions available ex stock

Design kit, free samples and customized designs available upon request

Electrical parameter											
Parameter	Outer Ø O.D. [mm]	Inner Ø I.D. [mm]	Length L [mm]	Impedance Z @ 23 °C [Ω]	Tolerance	Impedance Z @ 23 °C [Ω]	Tolerance	Impedance Z @ 23 °C [Ω]	Tolerance	Impedance Z @ 23 °C [Ω]	Operating temperature range [°C]
Test condition				Z @ 25 MHz 1 Turn		Z @ 100 MHz 1 Turn		Z @ 25 MHz 2 Turns		Z @ 100 MHz 2 Turns	
FT3.5x4.B WE40	3.5	1.2	4.0	46	typ.	81	typ.	160.00	typ.	198.00	-40 to +85
FT5x6.4.B WE40	5.0	1.5	6.4	71		104		267.01		319.95	
FT7.8x12.7.A WE40	7.8	4.0	12.7	77		110		291.00		348.00	
FT10.5x20.A WE40	10.5	5.5	20.0	116		153		458.00		520.00	
FT14.3x28.6.A WE40	14.3	6.4	28.6	200		254		819.00		779.95	
FT17.4x28.6.A WE40	17.4	9.5	28.6	153		201		614.00		690.00	
FT26x28.6.A WE40	26.0	13.0	28.6	176		234		715.00		784.00	



Design kit WE-CORE Balun and Cylinder Cores

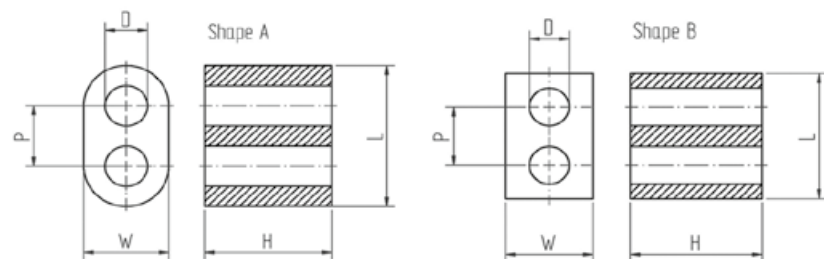


Order code 999 002, Version 2.0

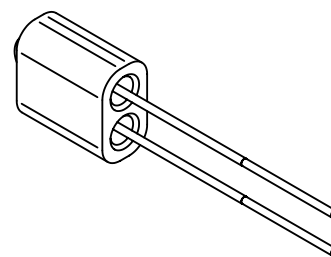
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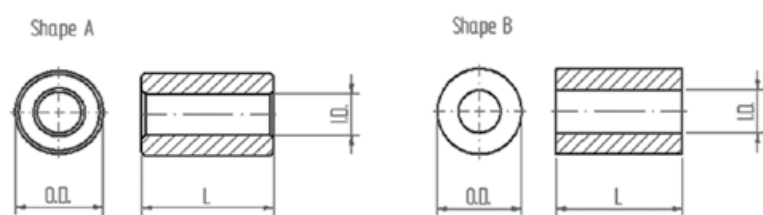
Dimensions Balun Cores



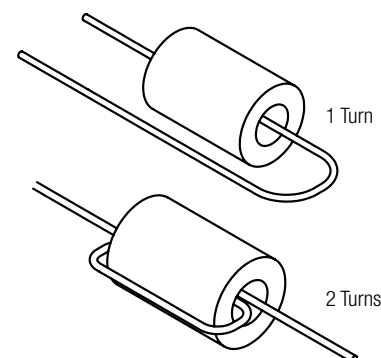
Test winding Balun Cores



Dimensions Cylinder Cores

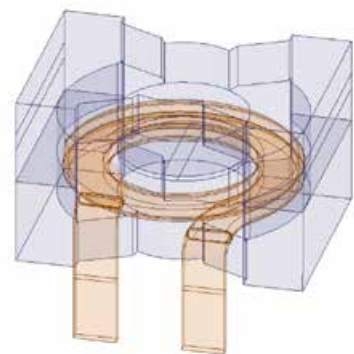
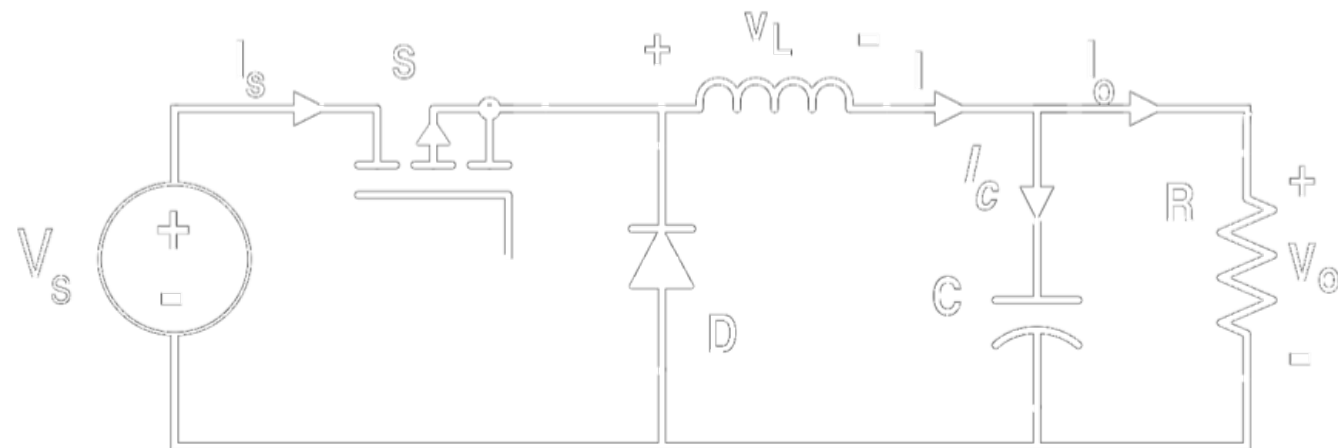
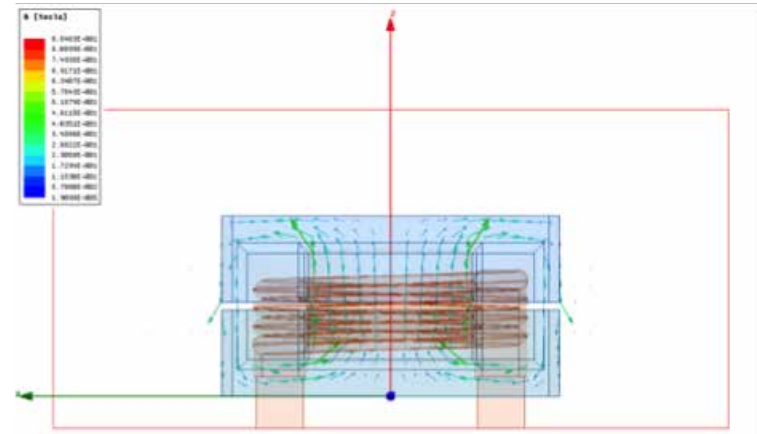


Test winding Cylinder Cores

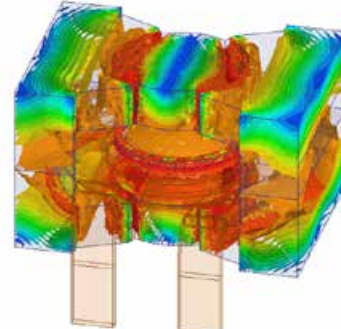
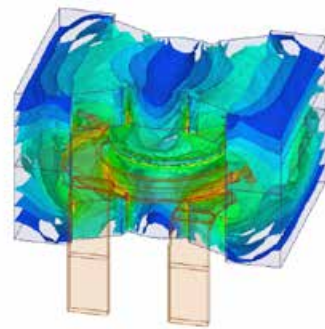


Electromagnetic simulation

Design support up to final component

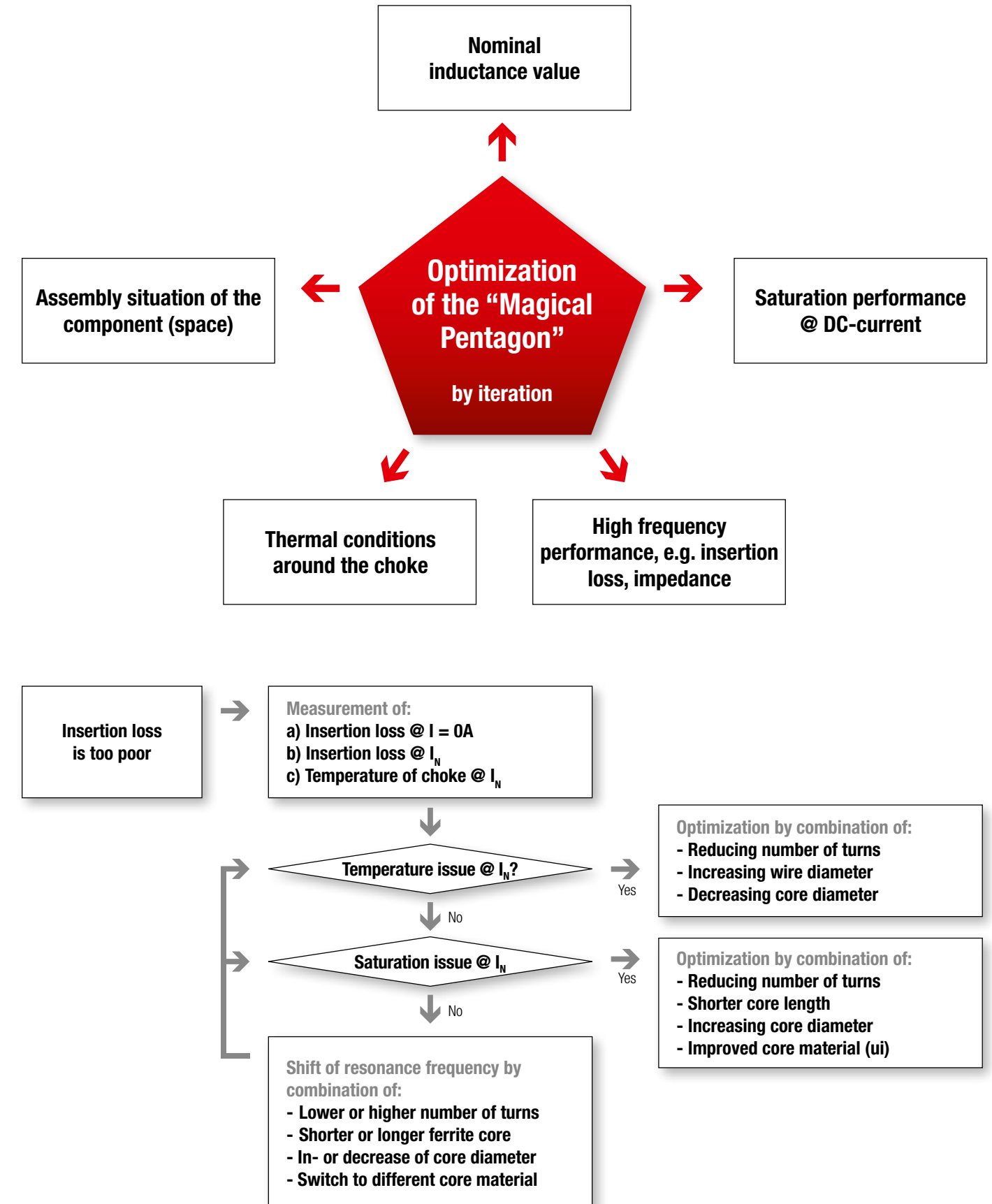


B-field with 30A



B-field with 80A

Design tips – important mechanical & electrical parameters



Certificates



- ISO/TS 16949 since July 2004
- ISO 14001 since September 2007
- AEO-F and Known Consignor since 2015



Automotive solutions

