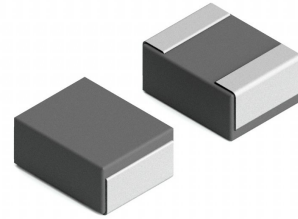




Ultra High Current Power Inductor-SHCB Series

FEATURES

- ROHS, Halogen free and REACH Compliance.
- Low RDC and ultra large current.
- Molded magnetic shielded, High rate current and ultra low buzz noise.
- High performance (I sat) realized by metal dust core.



APPLICATIONS

PDA,notebook,desktop,and server application power supplies, Base stations and DC/DC converter.

PRODUCT IDENTIFICATION

01 SHCB	02 252012	—	03 2R2	04 M	05 T
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Type	
SHCB	Ultra High Current Power Inductor

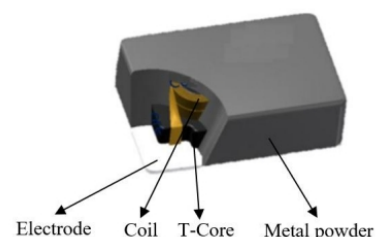
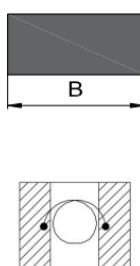
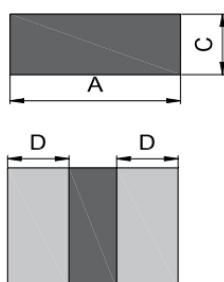
Tolerance	
M	±20%
N	±30%

External Dimensions (LxH)(mm)	
160808	1.6x 0.8x0.8
160810	1.6x 0.8x1.0
201208	2.0x 1.2x0.8
201210	2.0x 1.2x1.0
201608	2.0x 1.6x0.8
201610	2.0x 1.6x1.0
201612	2.0x 1.6x1.2
252010	2.5x 2.0x1.0
252012	2.5x 2.0x1.2
322510	3.2x 2.5x1.0
322512	3.2x 2.5x1.2
303018	3.0x 3.0x1.8
303020	3.0x 3.0x2.0

Nominal Inductance	
Example	Nominal value
R22	0.22uH
2R2	2.2uH
220	22uH

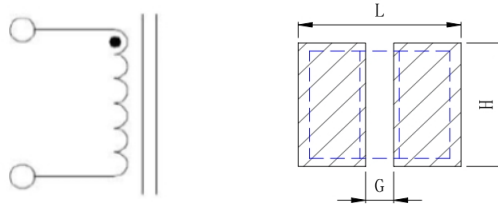
Packing	
T	Tape & Reel

SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)			
	A(mm)	B(mm)	C(Max)	D(mm)
SHCB160808	1.6±0.2	0.8±0.2	0.80	0.6±0.1
SHCB160810	1.6±0.2	0.8±0.2	1.0	0.6±0.1
SHCB201208	2.0±0.2	1.2±0.2	0.8	0.75±0.1
SHCB201210	2.0±0.2	1.2±0.2	1.0	0.75±0.1
SHCB201608	2.0±0.2	1.6±0.2	0.8	0.7±0.1
SHCB201610	2.0±0.2	1.6±0.2	1.0	0.7±0.1
SHCB201612	2.0±0.2	1.6±0.2	1.2	0.7±0.1
SHCB252010	2.5±0.2	2.0±0.2	1.0	0.9±0.1
SHCB252012	2.5±0.2	2.0±0.2	1.2	0.9±0.1
SHCB322510	3.2±0.2	2.5±0.2	1.0	1.15±0.1
SHCB322512	3.2±0.2	2.5±0.2	1.2	1.15±0.1
SHCB303018	3.0±0.2	3.0±0.2	1.8	1.0±0.1
SHCB303020	3.0±0.2	3.0±0.2	2.0	1.0±0.1

RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)		
	L	H	G
SHCB160808	1.7	0.8	0.5
SHCB160810	1.7	0.8	0.5
SHCB201208	2.1	1.3	0.5
SHCB201210	2.1	1.3	0.5
SHCB201608	2.1	1.7	0.6
SHCB201610	2.1	1.7	0.6
SHCB201612	2.1	1.7	0.6
SHCB252010	2.6	2.1	0.7
SHCB252012	2.6	2.1	0.7
SHCB322510	3.25	2.55	0.9
SHCB322512	3.25	2.55	0.9
SHCB303018	2.9	2.9	0.9
SHCB303020	2.9	2.9	0.9



SPECIFICATIONS

● SHCB160808 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB160808-R22	0.22	33	40	3.4	3	5.5	5
SHCB160808-R24	0.24	34	41	3.3	2.9	5.3	4.8
SHCB160808-R47	0.47	48	55	3.8	3.4	4	3.5
SHCB160808-R56	0.56	85	110	2.2	1.9	4	3.5
SHCB160808-R68	0.68	110	130	2.1	1.9	3.3	3
SHCB160808-1R0	1.0	180	200	2.1	1.8	3	2.6
SHCB160808-2R2	2.2	220	260	1.4	1.2	1.5	1.3

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%, N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● SHCB160810 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB160810-R22	0.22	28	35	4.5	4	6.5	6
SHCB160810-R24	0.24	28	35	4.4	3.9	6.3	5.8
SHCB160810-R47	0.47	65	80	4	3.5	4.8	4.4
SHCB160810-R56	0.56	70	95	3.5	3	4.2	3.7
SHCB160810-R68	0.68	90	115	3	2.5	3.6	3.2

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%, N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



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● SHCB201208 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB201208-R24	0.24	18	23	6.5	5.9	6.5	6
SHCB201208-R33	0.33	33	45	4.3	4	5.2	4.8
SHCB201208-R47	0.47	34	50	3.5	3.3	5	4.6
SHCB201208-R68	0.68	50	60	3.7	3.3	4.2	3.7
SHCB201208-1R0	1.0	55	70	3.3	2.9	4	3.5
SHCB201208-1R5	1.5	118	135	2.2	1.9	3	2.5
SHCB201208-2R2	2.2	160	185	2.2	1.8	2.6	2.3

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%, N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● SHCB201210 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB201210-R10	0.1	8	13	7.5	7	8.5	8
SHCB201210-R22	0.22	16	22	7.1	6.5	7.3	6.8
SHCB201210-R24	0.24	17	23	7	6.4	7.2	6.7
SHCB201210-R33	0.33	24	32	5.5	5	6.5	6
SHCB201210-R47	0.47	29	36	4.7	4.3	5.5	5
SHCB201210-R68	0.68	37	43	4.3	4	5	4.5
SHCB201210-1R0	1.0	55	63	3.9	3.5	4	3.5
SHCB201210-1R5	1.5	90	100	3.1	2.6	3.2	2.7
SHCB201210-2R2	2.2	135	150	2	1.7	2.7	2.4

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%, N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



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● SHCB201608 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB201608-R22	0.22	14	19	6.6	5.9	6.1	5.6
SHCB201608-R24	0.24	14	20	6.5	5.8	6	5.5
SHCB201608-R33	0.33	18	24	5.5	4.4	5.8	5.3
SHCB201608-R47	0.47	34	27	4.6	4.4	5.5	5
SHCB201608-R68	0.68	39	44	3.8	3.5	4.6	4.2
SHCB201608-1R0	1.0	53	60	3.6	3.3	3.3	3.1
SHCB201608-1R5	1.5	73	85	3.1	2.8	3	2.8
SHCB201608-2R2	2.2	123	140	2.2	2	2.5	2.3
SHCB201608-3R3	3.3	200	220	1.8	1.5	2.1	1.8
SHCB201608-4R7	4.7	260	290	1.6	1.4	1.7	1.5

Note: When ordering, please specify tolerance code. Tolerance: K: $\pm 10\%$, M: $\pm 20\%$, N: $\pm 30\%$;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● SHCB201610 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB201610-R10	0.1	7	12	8.5	8	9	8.4
SHCB201610-R15	0.1	8	14	7.6	7	8.7	8
SHCB201610-R22	0.22	11	18	6.9	6.3	8.2	7.5
SHCB201610-R24	0.24	12	19	6.8	6.2	8	7.4
SHCB201610-R33	0.33	17	22	5.7	5.3	7	6.5
SHCB201610-R47	0.47	22	25	5.5	5	6.3	5.5
SHCB201610-R68	0.68	25	32	4.6	4.3	5.2	4.7
SHCB201610-1R0	1.0	35	43	4.5	4.1	4.6	4.2
SHCB201610-1R5	1.5	80	100	3.1	2.6	3.2	2.7
SHCB201610-2R2	2.2	120	130	2.5	2.1	3	2.8
SHCB201610-3R3	3.3	140	170	1.7	1.5	2.3	2
SHCB201610-4R7	4.7	190	220	1.6	1.4	2	1.8

Note: When ordering, please specify tolerance code. Tolerance: K: $\pm 10\%$, M: $\pm 20\%$, N: $\pm 30\%$;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



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● SHCB201612 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB201612-R10	0.10	4	6	12	10	13	11.5
SHCB201612-R24	0.24	9	11	9.1	8.6	9.2	8.7
SHCB201612-R33	0.33	10	15	7.7	7.2	7.8	7.3
SHCB201612-R47	0.47	13	17	6.7	6	6.7	6
SHCB201612-1R5	1.5	40	50	4	3.5	4	3.5

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%、N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● SHCB252010 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB252010-R22	0.22	12	17	6.8	6.5	8.6	7.9
SHCB252010-R24	0.24	12	17.5	6.7	6.4	8.5	7.8
SHCB252010-R33	0.33	13	19	6.5	6.2	7.6	7.2
SHCB252010-R47	0.47	15	22	6.1	5.6	6.9	6.5
SHCB252010-R68	0.68	23	27	5.6	5	5.9	5.5
SHCB252010-1R0	1.0	25	30	4.5	4.1	5.3	4.8
SHCB252010-1R5	1.5	45	55	3.4	3	4.3	3.9
SHCB252010-2R2	2.2	62	70	2.4	2.1	3.3	3
SHCB252010-3R3	3.3	86	100	2.5	2.1	2.8	2.5
SHCB252010-4R7	4.7	160	180	2	1.6	2.6	2
SHCB252010-6R8	6.8	270	320	1.6	1.4	2.4	1.9
SHCB252010-100	10	500	560	1.05	0.95	1.55	1.4
SHCB252010-220	22	1100	1300	0.85	0.6	1.1	0.9

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%、M: ±20%、N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



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● SHCB252012 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB252012-R10	0.1	6	10	12	10.5	13.5	12.5
SHCB252012-R15	0.15	7	11	11.5	10	13	12
SHCB252012-R22	0.22	9	14	8.2	7.6	9.6	9
SHCB252012-R24	0.24	10	15	8	7.5	9.3	8.8
SHCB252012-R33	0.33	11	17	6.8	6.4	8.3	7.8
SHCB252012-R47	0.47	13	19	6.5	6	7.5	7
SHCB252012-R68	0.68	17	23	6.3	5.5	6.5	6
SHCB252012-1R0	1.0	35	42	4	3.6	5.6	5
SHCB252012-1R5	1.5	44	50	3.7	3.2	4.5	4.1
SHCB252012-2R2	2.2	55	65	3	2.7	3.8	3.3
SHCB252012-3R3	3.3	80	97	2.3	1.8	3	2.7
SHCB252012-4R7	4.7	150	170	1.8	1.5	2.4	2.1
SHCB252012-6R8	6.8	245	270	1.6	1.4	2	1.7
SHCB252012-100	10	330	400	1.2	1.05	1.6	1.45

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%, N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● SHCB322510 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB322510-R47	0.47	17	22	6.4	5.9	8.3	7.6
SHCB322510-R68	0.68	22	28	6.2	5.7	7.5	7
SHCB322510-1R0	1.0	25	30	5.41	4.9	6	5.3
SHCB322510-1R5	1.5	34	42	4	3.6	5	4.4
SHCB322510-2R2	2.2	55	66	3.7	3.4	4	3.5
SHCB322510-3R3	3.3	105	120	2.7	2.3	3.7	3.3
SHCB322510-4R7	4.7	125	140	2.3	1.9	2.8	2.5

Note: When ordering, please specify tolerance code. Tolerance: K: ±10%, M: ±20%, N: ±30%;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



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● SHCB322512 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB322512-R10	0.1	5.2	7	12	11	18	16.5
SHCB322512-R22	0.22	6.6	10	9.2	8.7	11.5	11
SHCB322512-R24	0.24	7	12	9	8.5	11	10.5
SHCB322512-R33	0.33	9	14	8.4	8.1	10	9.5
SHCB322512-R47	0.47	14	19	7.5	7.2	8.6	8.2
SHCB322512-R68	0.68	18	23	7.3	6.8	8.1	7.7
SHCB322512-1R0	1.0	26	30	5.3	4.8	6.6	5.8
SHCB322512-1R5	1.5	37	44	4.7	4.3	5.1	4.7
SHCB322512-2R2	2.2	58	70	3.6	3	4.6	4.2
SHCB322512-3R3	3.3	75	95	2.9	2.5	3.7	3.2
SHCB322512-4R7	4.7	115	135	2.3	2	2.9	2.6
SHCB322512-6R8	6.8	177	210	2.1	1.9	2.8	2.4
SHCB322512-100	10	210	230	2.2	1.8	2.3	1.9

Note: When ordering, please specify tolerance code. Tolerance: K: $\pm 10\%$, M: $\pm 20\%$, N: $\pm 30\%$;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current

● SHCB303018 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB303018-R22	0.47	5.5	7	10	9	17	16
SHCB303018-4R7	0.68	72	87	3.4	3	4.7	4.2

● SHCB303018 TYPE

Part Number	Inductance (uH)	Rdc (mΩ) @25°C		Heat rating current Irms(A)		Saturation current Isat(A)	
		Typical	Max	Typical	Max	Typical	Max
SHCB303020-R47	0.47	9.0	12	8	9	15	13
SHCB303020-1R0	1.0	14	20	6.5	6	8	7.3
SHCB303020-1R5	1.5	19	25	6.3	5.8	7	6.5
SHCB303020-2R2	2.2	37	45	4.7	4.3	6	5.5

Note: When ordering, please specify tolerance code. Tolerance: K: $\pm 10\%$, M: $\pm 20\%$, N: $\pm 30\%$;

1. Operating temperature range -40 -125°C

2. Isat for Inductance drop 30% from its value without current



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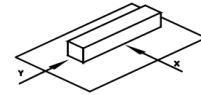
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DETAIL ELECTRICAL CHARACTERISTICS

1. Operating temperature range: -40 to + 105°C(Includes temperature when the coil is heated) .
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y

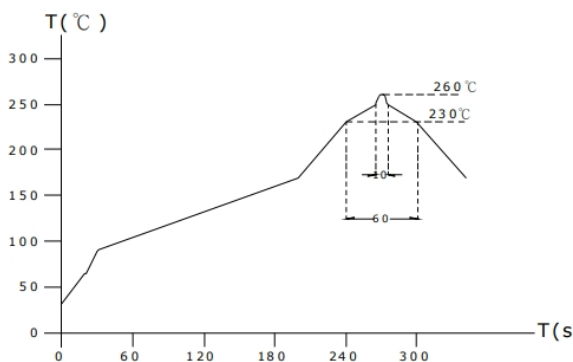
withstanding at below conditions.

Terminal should not peel off. (refer to figure at right) 5. 0N 60 sec.



4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient $(0\sim2,000)\times10^{-6}/^{\circ}\text{C}$ (-25~+80°C degree Celsius), inductance deviation within $\pm5.0\%$, after 96 hours.
7. Humidity characteristics(Moisture Resistance): Inductance deviation within $\pm5\%$, after 96 hours in 90~95% relative humidity at $40\pm2^{\circ}\text{C}$ and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within $\pm5\%$, after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within $\pm5\%$, after being dropped once with 981m/s² (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds(See attached recommend reflow) .
11. Storage condition: Temperature Range: 0°C ~ 35°C; -40°C ~ 105°C (after PCB), Humidity Range: 50% ~ 70% RH.
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:

Lead-free heat endurance test



Lead-free the recommended reflow condition

