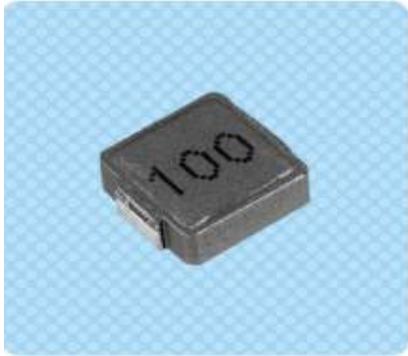


# SHC Series Large Current Power Inductors



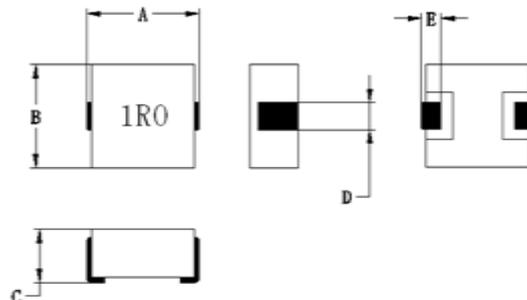
## FEATURES

- 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.
- RoHS and REACH compliant.

## APPLICATIONS

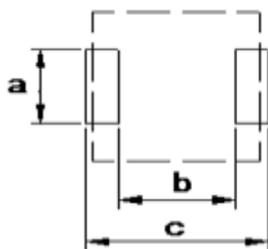
- PDA, notebook, desktop, and server application power supplies.
- Switches and servers
- Base stations and DC/DC converter

## SHAPE AND DIMENSIONS



Part Number	Dimensions (mm)				
	A(MAX)	B(MAX)	C(MAX)	D	E(Ref)
SHC0415	4.9	4.5	1.5	1.5±0.3	1.0
SHC0418	4.9	4.5	1.8	1.5±0.3	1.0
SHC0402	4.9	4.5	2.0	1.5±0.3	1.0
SHC0502	5.9	5.2	1.5	2.0±0.3	1.0
SHC0503	5.9	5.2	3.0	2.0±0.3	1.0
SHC0618	7.8	7.0	1.5	3.0±0.3	1.8
SHC0603	7.8	7.0	3.0	3.0±0.3	1.8
SHC1004	11.8	10.8	4.0	3.0±0.3	2.0
SHC1204	14.5	13.5	4.0	3.5±0.5	2.5
SHC1205	14.5	13.5	5.0	3.5±0.5	2.5
SHC1265	14.5	13.5	6.5	3.5±0.5	2.5
SHC1770	17.5	19.0	7.0	11.7±0.5	3.3

### RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions (mm)		
	a	b	c
SHC0415	3.0	1.5	5.5
SHC0418	3.0	1.5	5.5
SHC0402	3.0	1.5	5.5
SHC0502	3.5	3.0	7.0



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Part Number	Dimensions (mm)		
	a	b	c
SHC0503	3.5	3.0	7.0
SHC0618	4.5	3.0	8.5
SHC0603	4.5	3.0	8.5
SHC1004	4.5	6.0	12.5
SHC1204	5.0	8.0	15.0
SHC1205	5.0	8.0	15.0
SHC1265	5.0	8.0	15.0
SHC1770	13.5	11.2	20.5

**PRODUCT IDENTIFICATION**



- 1 Series name
- 2 Dimensions D×T
- 3 Inductance: R22-0.22uH 2R2-2.2uH 470-47uH
- 4 Tolerance: K: ±10% M: ±20% N: ±30%

**SPECIFICATIONS**

● SHC0415 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0415-R2	0.22	M、N	100kHz/1V	0.009	6	9
SHC0415-R4	0.47			0.020	5	7
SHC0415-1R	1.0			0.045	3.5	5
SHC0415-1R	1.5			0.063	3	4
SHC0415-2R	2.2			0. 100	2.5	3
SHC0415-4R	4.7			0. 140	2	2.5

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

1. Operating temperature range -40 -125 °C
2. Isat for idncutance drop 30% from its value without current



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● SHC0418 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0418-1R0□	1.0	M、N	100kHz/1V	0.027	4.5	9
SHC0418-1R5□	1.5			0.048	4	7
SHC0418-2R2□	2.2			0.058	3	5
SHC0418-4R7□	4.7			0.150	2	4

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

1. Operating temperature range -40 -125℃
2. Isat for inductance drop 30% from its value without current

● SHC0402 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0402-R22□	0.22	M、N	100kHz/1V	0.008	9	12
SHC0402-R33□	0.33			0.010	8	11
SHC0402-R36□	0.36			0.012	7	10
SHC0402-R47□	0.47			0.014	6	9.5
SHC0402-R56□	0.56			0.018	5	8
SHC0402-R68□	0.68			0.021	5.2	8
SHC0402-1R0□	1.0			0.027	4.5	7
SHC0402-1R5□	1.5			0.045	4	6
SHC0402-2R2□	2.2			0.058	3	5
SHC0402-2R7□	2.7			0.058	2.8	4
SHC0402-3R3□	3.3			0.090	2.5	3
SHC0402-4R7□	4.7			0.120	2	3
SHC0402-5R6□	5.6			0.150	1.8	2.8
SHC0402-6R8□	6.8			0.170	1.5	2.5
SHC0402-100□	10			0.200	1.2	1.8

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

1. Operating temperature range -40 -125℃
2. Isat for inductance drop 30% from its value without current

● SHC0502T TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (kHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0502-R22□	0.22	M、N	100kHz/1V	0.006	10.5	16
SHC0502-R33□	0.33			0.009	10	15



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Part Number	Inductance (uH)	Tolerance	Test Frequency (kHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0502-R47□	0.47	M、N	100kHz/1V	0.010	9	12
SHC0502-R68□	0.68			0.016	7	11
SHC0502-1R0□	1.0			0.017	7	8
SHC0502-1R5□	1.5			0.028	5	7
SHC0502-2R2□	2.2			0.045	4	6
SHC0502-3R3□	3.3			0.080	3.5	5
SHC0502-4R7□	4.7			0.085	3	3.5
SHC0502-6R8□	6.8			0.100	2	3
SHC0502-100□	10			0.190	1.5	2.5

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

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### ● SHC0503 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0503-R47□	0.47	M、N	100kHz/1V	0.011	10	13
SHC0503-R68□	0.68			0.012	9	12
SHC0503-1R0□	1.0			0.016	7	11
SHC0503-1R5□	1.5			0.022	5	10
SHC0503-2R2□	2.2			0.035	4	9
SHC0503-3R3□	3.3			0.038	3.5	7
SHC0503-4R7□	4.7			0.060	3	5
SHC0503-6R8□	6.8			0.090	2.5	3.5
SHC0503-100□	10			0.100	2	3
SHC0503-150□	15			0.165	1.5	2
SHC0503-220□	22			0.230	1.0	1.5

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

1. Operating temperature range -40 -125 °C
2. Isat for idncutance drop 30% from its value without current

### ● SHC0618 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0618-R47□	0.47	M、N	100kHz/1V	0.0084	11	18

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Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0618-R68□	0.68	M、N	100kHz/1V	0.012	10.5	16
SHC0618-1R0□	1.0			0.022	6	11
SHC0618-1R5□	1.5			0.030	6.5	9.8
SHC0618-2R2□	2.2			0.035	6	9
SHC0618-3R3□	3.3			0.068	3.5	8
SHC0618-4R7□	4.7			0.075	3	5
SHC0618-100□	10.0			0.137	2	3

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

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### ● SHC0603 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC0603-R10□	0.10	M、N	100kHz/1V	0.0011	30.0	60.0
SHC0603-R15□	0.15			0.00185	26.0	45.0
SHC0603-R22□	0.22			0.0035	22.0	40.0
SHC0603-R33□	0.33			0.0039	20.0	30.0
SHC0603-R47□	0.47			0.0045	17.5	25
SHC0603-R56□	0.56			0.0055	15.5	24
SHC0603-R68□	0.68			0.006	14	23
SHC0603-R82□	0.82			0.008	13	20
SHC0603-1R0□	1.0			0.009	11	16
SHC0603-1R5□	1.5			0.015	9.0	14
SHC0603-1R8□	1.8			0.018	8.5	13.0
SHC0603-2R2□	2.2			0.020	8	12
SHC0603-3R3□	3.3			0.030	6	10
SHC0603-4R7□	4.7			0.040	5.5	9
SHC0603-5R6□	5.6			0.060	5	7
SHC0603-6R8□	6.8			0.063	4.5	6.5
SHC0603-8R2□	8.2			0.080	4	6
SHC0603-100□	10.0			0.105	3	5.5
SHC0603-150□	15.0			0.140	2.8	4
SHC0603-220□	22.0			0.167	1.5	3.5

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● SHC1004 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max( $\Omega$ )	Irms Max	Isat Max
SHC1004-R22□	0.22	M、N	100kHz/1V	0.0011	30	60
SHC1004-R33□	0.33			0.0014	29	50
SHC1004-R36□	0.36			0.0016	28	45
SHC1004-R47□	0.47			0.0018	26	38
SHC1004-R56□	0.56			0.0025	23	33
SHC1004-R68□	0.68			0.003	22	32
SHC1004-R90□	0.9			0.004	21	30
SHC1004-1R0□	1.0			0.0041	18	28
SHC1004-1R5□	1.5			0.0058	16	27
SHC1004-2R2□	2.2			0.009	12	25
SHC1004-3R3□	3.3			0.0135	10	16
SHC1004-3R9□	3.9			0.016	9	15
SHC1004-4R7□	4.7			0.0165	8	14
SHC1004-5R6□	5.6			0.025	7.5	13
SHC1004-6R8□	6.8			0.028	7	12
SHC1004-8R2□	8.2			0.030	6	9
SHC1004-100□	10.0			0.0365	5	8.5
SHC1004-120□	12			0.048	5	8
SHC1004-150□	15.0			0.055	4	7
SHC1004-220□	22.0			0.060	3.5	6
SHC1004-330□	33.0	0.145	3	4.5		
SHC1004-470□	47.0	0.160	2.8	3		
SHC1004-680□	68.0	0.260	2	2.5		
SHC1004-101□	100	0.380	1	2		

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

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● SHC1005 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC1005-R82□	0.82	M、N	100kHz/1V	0.0025	16	32
SHC1005-1R0□	1.0			0.004	15	30
SHC1005-1R8□	1.8			0.006	15	27.5
SHC1005-2R2□	2.2			0.008	14	27
SHC1005-3R3□	3.3			0.011	10	19
SHC1005-4R7□	4.7			0.017	9	14
SHC1005-6R8□	6.8			0.022	8	10
SHC1005-100□	10			0.038	6.8	9
SHC1005-150□	15			0.045	6	8
SHC1005-220□	22			0.060	5	7
SHC1005-330□	33			0.145	3.5	6

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

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● SHC1204 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC1204-R47□	0.47	M、N	100kHz/1V	0.002	23	55
SHC1204-R60□	0.6			0.003	22	40
SHC1204-1R0□	1.0			0.0035	19	38
SHC1204-1R5□	1.5			0.0045	16	30
SHC1204-1R8□	1.8			0.0083	15.5	26
SHC1204-2R2□	2.2			0.0095	15	22
SHC1204-3R3□	3.3			0.010	14	20
SHC1204-4R7□	4.7			0.014	9	15
SHC1204-5R6□	5.6			0.017	8	14
SHC1204-6R8□	6.8			0.024	7	12
SHC1204-8R2□	8.2			0.028	6.5	11
SHC1204-100□	10			0.035	6	10
SHC1204-150□	15			0.060	5	9
SHC1204-220□	22			0.080	4	7

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



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● SHC1205 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω)	Irms Max	Isat Max
SHC1205-R33□	0.33	M、N	100kHz/1V	0.0010	32	60
SHC1205-R36□	0.36			0.0012	28	50
SHC1205-R47□	0.47			0.0013	25	48
SHC1205-R56□	0.56			0.0015	23	46
SHC1205-R68□	0.68			0.002	20	40
SHC1205-R82□	0.82			0.0025	19	39
SHC1205-1R0□	1.0			0.0035	18	35
SHC1205-1R5□	1.5			0.0041	17.5	33
SHC1205-1R8□	1.8			0.0043	17	30
SHC1205-2R2□	2.2			0.0045	16	25
SHC1205-3R3□	3.3			0.013	15	23
SHC1205-4R7□	4.7			0.015	12	21
SHC1205-5R6□	5.6			0.017	11.5	20
SHC1205-6R8□	6.8			0.019	11	18
SHC1205-8R2□	8.2			0.0225	10	17
SHC1205-100□	10.0			0.030	6	13
SHC1205-150□	15.0			0.060	5	12
SHC1205-220□	22.0			0.075	4	8
SHC1205-330□	33.0			0.082	3	6
SHC1205-470□	47.0			0.090	2.5	3.5
SHC1205-560□	56.0	0.180	2	3.2		
SHC1205-680□	68.0	0.210	1.5	3.0		

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

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● SHC1265 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω )	Irms Max	Isat Max
SHC1265-R22□	0.22	M、N	100kHz/1V	0.00081	60	60
SHC1265-R56□	0.56			0.0017	30	58
SHC1265-R68□	0.68			0.0018	28	54
SHC1265-R82□	0.82			0.002	25	50
SHC1265-1R0□	1.00			0.0025	24	49
SHC1265-1R5□	1.5			0.0035	22	45
SHC1265-2R2□	2.2			0.0045	18	40
SHC1265-3R3□	3.3			0.0082	16	28
SHC1265-4R7□	4.7			0.014	14	22.5
SHC1265-5R6□	5.6			0.015	12	20
SHC1265-6R8□	6.8			0.019	11.5	18
SHC1265-8R2□	8.2			0.025	10	16
SHC1265-100□	10.0			0.028	9	15.5
SHC1265-150□	15.0			0.038	6	9
SHC1265-220□	22.0			0.048	5	7.5
SHC1265-330□	33.0			0.066	4	6.5
SHC1265-470□	47.0			0.090	3. 5	5
SHC1265-560□	56.0			0.110	3	4
SHC1265-680□	68.0			0.123	2.5	3

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

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● SHC1770 TYPE

Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max(Ω )	Irms Max	Isat Max
SHC1770-R22□	0.22	M、N	100kHz/1V	0.0007	60	100
SHC1770-R33	0.33			0.0008	55	90
SHC1770-R47□	0.47			0.001	50	80
SHC1770-R56□	0.56			0.00115	46	70
SHC1770-R82□	0.82			0.0013	42	60
SHC1770-1R0□	1.0			0.0017	38	50

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Part Number	Inductance (uH)	Tolerance	Test Frequency (KHz/V)	DCR Max( $\Omega$ )	Irms Max	Isat Max
SHC1770-1R5□	1.5	M、N	100kHz/1V	0.00215	35	45
SHC1770-2R2□	2.2			0.0026	25	34
SHC1770-3R3□	3.3			0.0035	17	24
SHC1770-4R7□	4.7			0.005	15	21
SHC1770-6R8□	6.8			0.007	15	18
SHC1770-8R2□	8.2			0.009	12	18
SHC1770-100□	10			0.01	11	17
SHC1770-150□	15			0.015	9	12
SHC1770-220□	22			0.025	7	9.5
SHC1770-330□	33			0.035	6.5	9
SHC1770-470□	47			0.040	5.5	7.5
SHC1770-680□	68			0.080	4	5
SHC1770-820□	82			0.0105	4	4.5
SHC1770-101□	100			0.0120	3	4

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

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## ● Packaging Specifications

Tape Dimensions

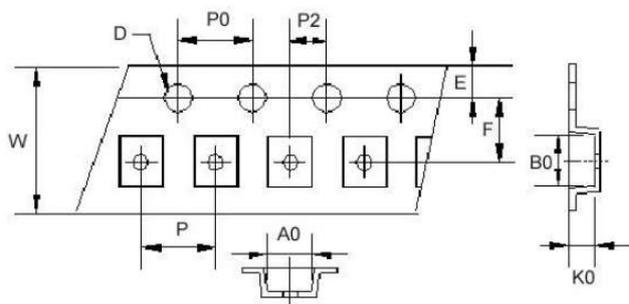


Figure 1

Tape Dimensions

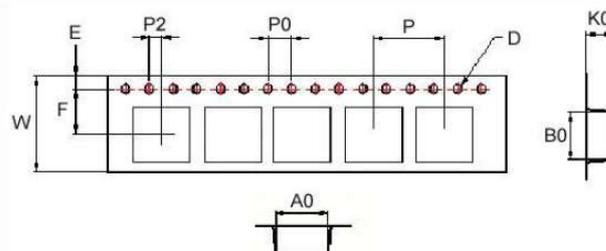


Figure 2

Reel Dimensions

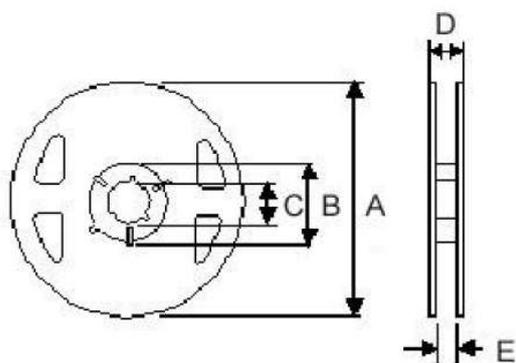


Figure 3

Reel Dimensions

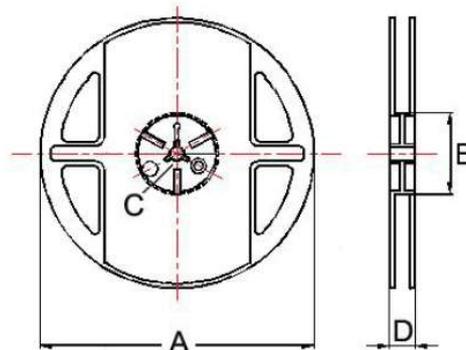


Figure 4