

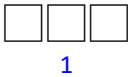
SMT High Current Flat Wire Inductor \ HCIB Series

Features

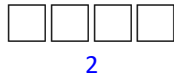
1. Magnetically Shielded construction.
2. High saturation current up to 80A.
3. Extremely low DCR with tolerance $\pm 7\%$
4. Operating temperature: $-40\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$
5. Recommended solder profile: Reflow



Product Identification



1



2



3



4



5

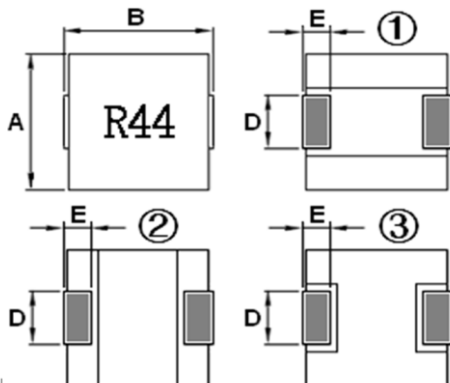
Series name	Dimensions (LxWxH)	Internal code
HCIB	070705	7.2x7.0x5.0 mm
	070707	7.5x7.5x7.5 mm
	100705	10.2x7.0x5.0 mm
	131305	13.5x13.2x5.3 mm

Inductance		Tolerance	
R10	0.1 μH	K	10%
R22	0.22 μH	L	15%
R45	0.45 μH	M	20%
R68	0.68 μH		

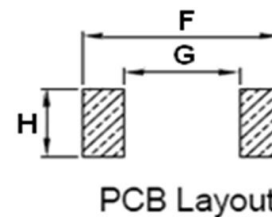
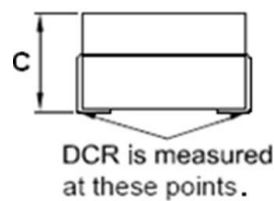
Rating

1. Operating temperature $-40\text{ }^{\circ}\text{C}$ ~ $+125\text{ }^{\circ}\text{C}$
2. Storage conditions $-40\text{ }^{\circ}\text{C}$ ~ $+125\text{ }^{\circ}\text{C}$

Shape and Dimension



Land Patterns for Reflow Soldering



Note: ①, ②, ③.
Bottom view type



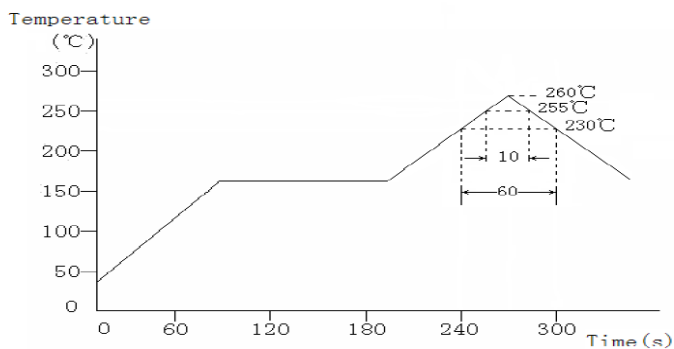
Dimensions in mm

Part No.	A	B	C	D	E	G	H	I
HCIB070705S	7.2 Max.	7.0 Max.	5.0 Max.	2.5 \pm 0.2	1.3 \pm 0.2	8.0 Ref.	4.0 Ref.	3.0 Ref.
HCIB070707S	7.5 Max.	7.5 Max.	7.5 Max.	2.5 \pm 0.2	1.8 \pm 0.2	8.0 Ref.	4.0 Ref.	3.0 Ref.
HCIB100705S	10.2 Max.	7.0 Max.	5.0 Max.	2.7 \pm 0.15	1.2 \pm 0.2	10.5 Ref.	6.0 Ref.	3.5 Ref.
HCIB100707S	11.0 Max.	7.5 Max.	7.0 Max.	1.6 \pm 0.2	2.6 \pm 0.3	11.0 Ref.	4.3 Ref.	2.5 Ref.
HCIB100775S	11.0 Max.	7.5 Max.	7.5 Max.	1.6 \pm 0.2	2.6 \pm 0.3	11.0 Ref.	4.3 Ref.	2.5 Ref.
HCIB100865S	10.4 Max.	8.0 Max.	6.5 Max.	2.3 \pm 0.2	2.54 \pm 0.3	11.0 Ref.	4.3 Ref.	3.5 Ref.
HCIB100808S	11.0 Max.	8.0 Max.	8.5 Max.	1.55 \pm 0.2	2.6 \pm 0.3	11.5 Ref.	4.5 Ref.	2.5 Ref.
HCIB101005S	10.5 Max.	10.1 Max.	5.3 Max.	2.5 \pm 0.2	2.0 \pm 0.2	11.0 Ref.	5.0 Ref.	3.5 Ref.
HCIB110707S	12.0 Max.	7.6 Max.	7.2 Max.	1.9 \pm 0.2	3.2 \pm 0.3	12.0 Ref.	4.5 Ref.	3.0 Ref.

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Part No.	A	B	C	D	E	G	H	I
HCIB111109S	11.7 Max.	11.5 Max.	9.2 Max.	2.2±0.2	3.2±0.5	12.0 Ref.	4.0 Ref.	3.5 Ref.
HCIB131305S	13.5 Max.	13.2 Max.	5.3 Max.	5.0±0.2	2.0±0.2	14.0 Ref.	8.0 Ref.	6.0 Ref.
HCIB131308S	13.5 Max.	13.0 Max.	8.0 Max.	5.0±0.2	2.54±0.3	14.0 Ref.	7.0 Ref.	7.5 Ref.
HCIB131309S	14.5 Max.	13.3 Max.	9.5 Max.	3.0±0.2	2.4±0.2	14.8 Ref.	8.5 Ref.	4.0 Ref.

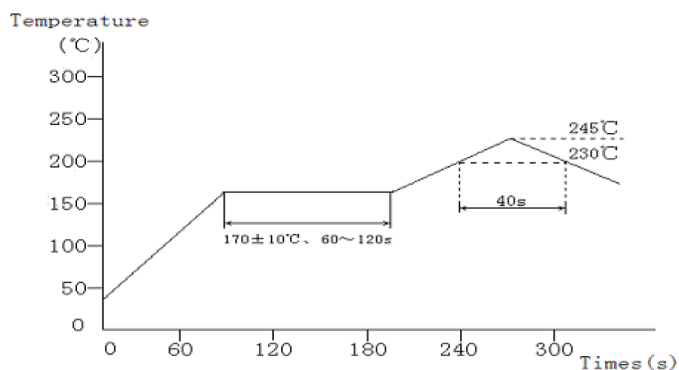
4. Reflow Soldering Heat Endurance



No mechanical and electrical defects are found after testing based on the above profile and keeping under the conditions of room temperature and humidity for 2 hours.

Twice reflow test is acceptable with the test interval remaining 1 hour under the normal conditions. The reflow test profile may vary with the testing instruments.

4. Recommended Reflow Conditions



The recommended reflow profile is based on the testing instruments used. Solder ability will depend on the testing equipments, reflow conditions, testing method, etc. So it is necessary to make a confirmation of them when the reflow conditions are set up.

However halogen lamp shall be used, side heat will be beyond range of resistance heat, so we can't recommend it.

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Electrical Characteristics HCIB070705S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)	(A)	(A)	(A)	(m Ω)	(%)	
HCIB070705S-R10L	0.1	30.0	50.0	40.0	0.26 \pm 7%	15	100 KHZ / 1.0 V
HCIB070705S-R15L	0.15	30.0	33.0	25.0	0.26 \pm 7%	15	100 KHZ / 1.0 V
HCIB070705S-R20L	0.2	30.0	22.0	15.0	0.26 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB070707S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)	(A)	(A)	(A)	(m Ω)	(%)	
HCIB070707S-R12L	0.12	35.0	50.0	40.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB070707S-R16L	0.16	35.0	40.0	27.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB070707S-R22L	0.22	35.0	27.0	20.0	0.29 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB100705S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)	(A)	(A)	(A)	(m Ω)	(%)	
HCIB100705S-R12L	0.12	45.0	65.0	50.0	0.325 \pm 7%	15	100 KHZ / 1.0 V
HCIB100705S-R15L	0.15	45.0	45.0	35.0	0.325 \pm 7%	15	100 KHZ / 1.0 V
HCIB100705S-R20L	0.20	45.0	33.0	25.0	0.325 \pm 7%	15	100 KHZ / 1.0 V
HCIB100705S-R22L	0.22	45.0	30.0	24.0	0.325 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB100707S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)	(A)	(A)	(A)	(m Ω)	(%)	
HCIB100707S-R12L	0.12	37.0	80.0	70.0	0.37 \pm 7%	15	100 KHZ / 1.0 V
HCIB100707S-R18L	0.18	37.0	50.0	45.0	0.37 \pm 7%	15	100 KHZ / 1.0 V
HCIB100707S-R22L	0.22	37.0	40.0	35.0	0.37 \pm 7%	15	100 KHZ / 1.0 V
HCIB100707S-R33L	0.33	37.0	28.0	20.0	0.37 \pm 7%	15	100 KHZ / 1.0 V
HCIB100707S-R40L	0.40	37.0	21.0	16.0	0.37 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB100775S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)	(A)	(A)	(A)	(m Ω)	(%)	
HCIB100775S-R15L	0.15	55.0	70.0	60.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB100775S-R20L	0.20	55.0	55.0	45.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB100775S-R25L	0.25	55.0	40.0	32.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB100775S-R30L	0.30	55.0	34.0	30.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB100775S-R40L	0.40	55.0	23.0	18.0	0.29 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB100865S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)	(A)	(A)	(A)	(m Ω)	(%)	
HCIB100865S-R12K	0.12	40.0	74.0	63.0	0.48 \pm 7%	10	100 KHZ / 1.0 V
HCIB100865S-R14K	0.14	40.0	66.0	56.0	0.48 \pm 7%	10	100 KHZ / 1.0 V
HCIB100865S-R17K	0.17	40.0	55.0	48.0	0.48 \pm 7%	10	100 KHZ / 1.0 V
HCIB100865S-R22K	0.22	40.0	43.0	35.0	0.48 \pm 7%	10	100 KHZ / 1.0 V
HCIB100865S-R30L	0.30	40.0	30.0	25.0	0.48 \pm 7%	15	100 KHZ / 1.0 V

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Electrical Characteristics HCIB100808S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)						
HCIB100808S-R15L	0.15	40.0	72.0	65.0	0.50 \pm 7%	15	100 KHZ / 1.0 V
HCIB100808S-R18L	0.18	40.0	60.0	50.0	0.50 \pm 7%	15	100 KHZ / 1.0 V
HCIB100808S-R23L	0.23	40.0	52.0	40.0	0.50 \pm 7%	15	100 KHZ / 1.0 V
HCIB100808S-R30L	0.30	40.0	40.0	28.0	0.50 \pm 7%	15	100 KHZ / 1.0 V
HCIB100808S-R45L	0.45	40.0	20.0	15.0	0.50 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB101005S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)						
HCIB101005S-R20L	0.20	45.0	35.0	30.0	0.26 \pm 7%	15	100 KHZ / 1.0 V
HCIB101005S-R25L	0.25	45.0	28.0	22.0	0.26 \pm 7%	15	100 KHZ / 1.0 V
HCIB101005S-R30L	0.30	45.0	23.0	20.0	0.26 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB110707S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)						
HCIB110707S-R15L	0.15	44.0	65.0	50.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB110707S-R18L	0.18	44.0	58.0	40.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB110707S-R22L	0.23	44.0	45.0	35.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB110707S-R30L	0.30	44.0	30.0	23.0	0.29 \pm 7%	15	100 KHZ / 1.0 V
HCIB110707S-R40L	0.45	44.0	23.0	16.0	0.29 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB111109S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)						
HCIB111109S-R23L	0.23	40.0	60.0	50.0	0.30 \pm 7%	15	100 KHZ / 1.0 V
HCIB111109S-R32L	0.32	40.0	45.0	40.0	0.30 \pm 7%	15	100 KHZ / 1.0 V
HCIB111109S-R38L	0.38	40.0	40.0	30.0	0.30 \pm 7%	15	100 KHZ / 1.0 V
HCIB111109S-R46L	0.46	40.0	32.0	22.0	0.30 \pm 7%	15	100 KHZ / 1.0 V
HCIB111109S-R54L	0.54	40.0	26.0	18.0	0.30 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB131305S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)						
HCIB131305S-R22L	0.22	50.0	40.0	35.0	0.155 \pm 7%	15	100 KHZ / 1.0 V
HCIB131305S-R28L	0.28	50.0	30.0	18.0	0.155 \pm 7%	15	100 KHZ / 1.0 V
HCIB131305S-R31L	0.31	50.0	24.0	15.0	0.155 \pm 7%	15	100 KHZ / 1.0 V
HCIB131305S-R40L	0.40	50.0	18.0	13.0	0.155 \pm 7%	15	100 KHZ / 1.0 V
HCIB131305S-R52L	0.52	50.0	13.0	9.0	0.155 \pm 7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB131308S Type

Part No.	Inductance	Irms	Isat@25°C	Isat@125°C	DCR@25°C	Tolerance	Test Frequency
	(μ H)						
HCIB131308S-R21L	0.21	45.0	71.0	55.0	0.32 \pm 7%	15	100 KHZ / 1.0 V
HCIB131308S-R26L	0.26	45.0	60.0	45.0	0.32 \pm 7%	15	100 KHZ / 1.0 V
HCIB131308S-R32L	0.32	45.0	50.0	35.0	0.32 \pm 7%	15	100 KHZ / 1.0 V

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Electrical Characteristics HCIB131308S Type

Part No.	Inductance	I _{rms}	I _{sat} @25°C	I _{sat} @125°C	DCR@25°C	Tolerance	Test Frequency
	(μH)	(A)	(A)	(A)	(mΩ)	(%)	
HCIB131308S-R44L	0.44	45.0	35.0	25.0	0.32±7%	15	100 KHZ / 1.0 V
HCIB131308S-R50L	0.50	45.0	28.0	23.0	0.32±7%	15	100 KHZ / 1.0 V

Electrical Characteristics HCIB131309S Type

Part No.	Inductance	I _{rms}	I _{sat} @25°C	I _{sat} @125°C	DCR@25°C	Tolerance	Test Frequency
	(μH)	(A)	(A)	(A)	(mΩ)	(%)	
HCIB131309S-R30L	0.30	45.0	60.0	50.0	0.25±7%	15	100 KHZ / 1.0 V
HCIB131309S-R36L	0.36	45.0	52.0	40.0	0.25±7%	15	100 KHZ / 1.0 V
HCIB131309S-R45L	0.45	45.0	43.0	35.0	0.25±7%	15	100 KHZ / 1.0 V
HCIB131309S-R53L	0.53	45.0	34.0	20.0	0.25±7%	15	100 KHZ / 1.0 V
HCIB131309S-R68L	0.68	45.0	24.0	18.0	0.25±7%	15	100 KHZ / 1.0 V

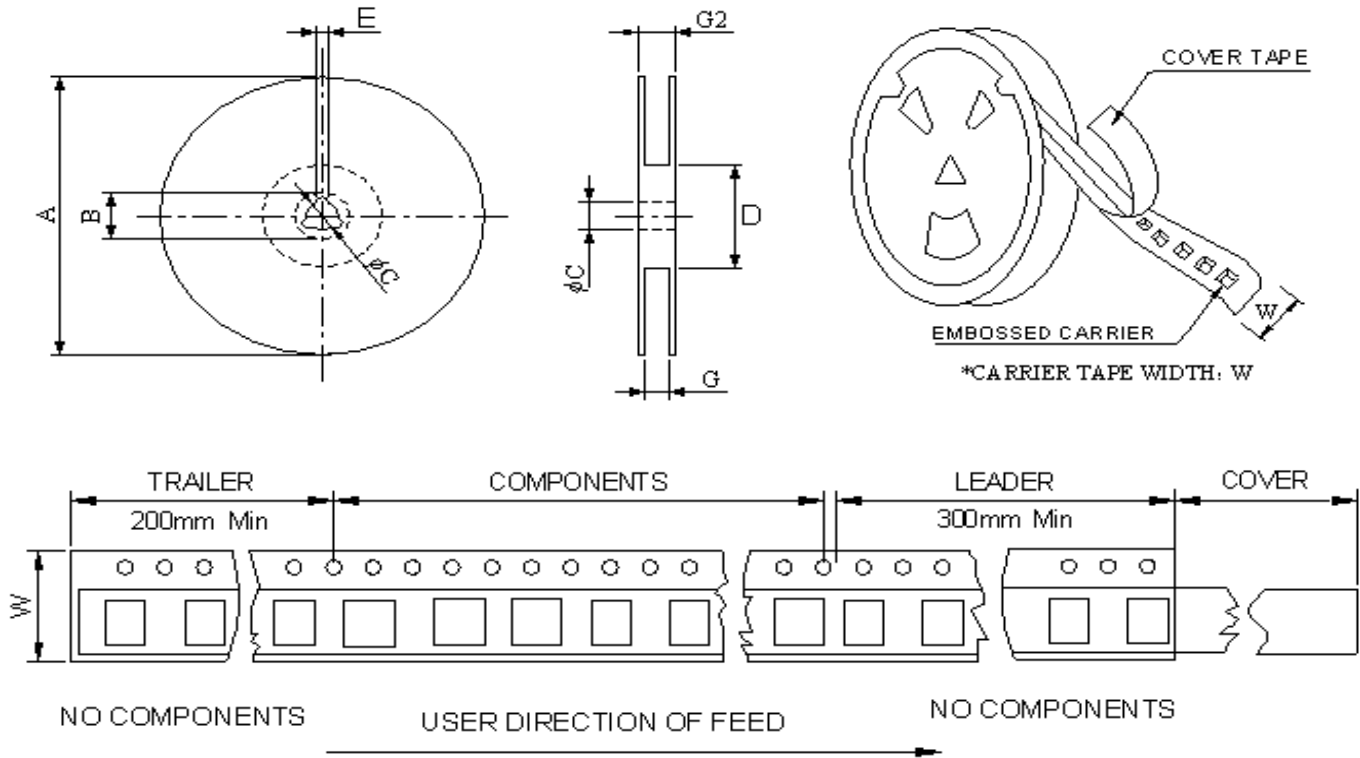
Note

1. I_{sat} : DC Saturation Current that will cause initial inductance to drop approximately 20 % max.
2. I_{rms} : DC Current that will cause an approximate ΔT of 40°C.
3. All test data is referenced to 25°C ambient.
4. Test Instrument : L (CH3302), RDC (TH2511), I_{sat} & I_{rms} (WK3260+WK3265B)
5. The Part temperature (ambient + ΔT) should not exceed 125°C under worst case operating conditions.
6. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions affect the part temperature. Part temperature should be verified in the end application.

SMT High Current Flat Wire Inductor \ HCIB Series

1. Packing Specifications

1. Reel & Taping Dimension(m/m)



Part No.	Qty. per Reel	Reel Size		Inner Box(mm)		Outer Box(mm)	
		A(mm)	B(mm)				
HCIB070705S	1000	330	24	2000pcs	2 Reel/Box	8000pcs	4 inner box/Box
HCIB070707S	500	330	24	1000pcs	2 Reel/Box	4000pcs	4 inner box/Box
HCIB100705S	1000	330	24	2000pcs	2 Reel/Box	8000pcs	4 inner box/Box
HCIB100707S	640	330	24	1280pcs	2 Reel/Box	5120pcs	4 inner box/Box
HCIB100775S	640	330	24	1280pcs	2 Reel/Box	5120pcs	4 inner box/Box
HCIB100865S	600	330	24	1200pcs	2 Reel/Box	1800pcs	4 inner box/Box
HCIB100808S	450	330	24	900pcs	2 Reel/Box	3600pcs	4 inner box/Box
HCIB101005S	700	330	24	1400pcs	2 Reel/Box	5600pcs	4 inner box/Box
HCIB110707S	500	330	24	1000pcs	2 Reel/Box	4000pcs	4 inner box/Box
HCIB111109S	300	330	24	600pcs	2 Reel/Box	2400pcs	4 inner box/Box
HCIB131305S	500	330	24	1000pcs	2 Reel/Box	4000pcs	4 inner box/Box
HCIB131308S	450	330	24	900pcs	2 Reel/Box	3600pcs	4 inner box/Box
HCIB131309S	300	330	24	600pcs	2 Reel/Box	2400pcs	4 inner box/Box