

## TWHC Series ( Rev. 1.0 )



TWHC is the newest in open type ferrite wire wound chip inductors. It supports higher SRF, lower DCR & superior Q values than other ferrite chip inductors.

## Features

- \* RoHS compliant
- \* Strong solderability by reflow soldering and soldering iron
- \* Highly accurate dimensions
- \* Low DCR & better Q value in ferrite series
- \* Terminals are highly resistant to external forces
- \* Highly resistant to mechanical shocks and pressure
- \* Highly reliable in environments of sudden temperature change and humidity

## Product Identification

TWHC    0805    -    2R2    J    R  
 1            2            3            4            5

1. Product Code
2. Size Code
3. Inductance: 2.2uH
4. Tolerance: J=±5%, K=±10%, M=±20%
5. R: Low DCR Type

## Applications

- \* Telecom and datacom applications such as Xdsl
- \* Cable modem
- \* Set-top box
- \* CATV filter/tuner
- \* Wireless LAN, etc

## Operating &amp; Storage Condition

- \* Operating Temp : -40 to +85°C
- \* Storage Temp : -40 to +85°C
- \* Storage Life Time: 12 Months @25°C , RH 65%

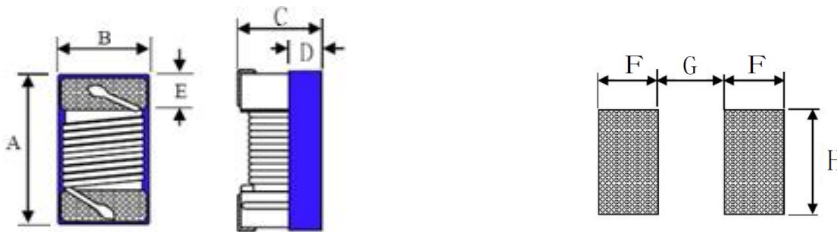
## Test Equipment

- \* HP4291A-Z, HP4284A, HP42841A- L, IDC, Q, RDC
- \* HP8753D Setwork Analyzer- SRF

## Standard Atmospheric Conditions

- \* Ambient Temp : 20±15°C
- \* Relative Humidity : 75±10%

## Dimension &amp; Recommended PAD Layout: [ mm ]



Size Code	A(max.)	B(max.)	C(max.)	D(ref.)	E(±0.1)	F(ref.)	G(ref.)	H(ref.)
0603	1.80	1.20	1.00	0.45	0.33	0.64	0.64	1.02
0805	2.40	1.65	1.2±0.1	0.65	0.44	1.02	0.76	1.78
1008	2.90	2.54	2.00	1.30	0.50	1.02	1.27	2.54
1210	3.60	2.90	2.40	1.10	0.50	1.20	2.00	2.70



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## Electrical Characteristics

P/N	Inductance (uH) @MHz	Tolerance	Q (min.) @MHz	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.	I <sub>rms</sub> (mA) typ.	Color Coding
TWHC0603-47N□	0.047/7.9	K	12/7.9	2000	0.075	1800	1600	White
TWHC0603-51N□	0.051/7.9	J	12/7.9	1500	0.075	1800	1500	Violet
TWHC0603-68N□	0.068/7.9	J	12/7.9	1500	0.120	1800	1400	Gray
TWHC0603-72N□	0.072/7.9	K	12/7.9	1500	0.120	1800	1400	Brown
TWHC0603-R10□	0.1/7.9	K	12/7.9	1150	0.130	1700	1300	Black
TWHC0603-R12□	0.12/7.9	J, K	12/7.9	1100	0.150	1700	1300	Orange
TWHC0603-R15□	0.15/7.9	J, K	15/7.9	1050	0.150	1600	1200	Brown
TWHC0603-R18□	0.18/7.9	J, K	15/7.9	950	0.150	1500	1100	Green
TWHC0603-R22□	0.22/7.9	J, K	15/7.9	900	0.300	1200	940	Red
TWHC0603-R24□	0.24/7.9	J, K	15/7.9	850	0.160	1460	1000	Green
TWHC0603-R27□	0.27/7.9	J, K	15/7.9	835	0.300	1460	950	Yellow
TWHC0603-R33□	0.33/7.9	J, K	15/7.9	725	0.400	1420	940	Orange
TWHC0603-R39□	0.39/7.9	J, K	15/7.9	680	0.410	1400	860	Bule
TWHC0603-R47□	0.47/7.9	J, K	15/7.9	640	0.430	1400	820	Black
TWHC0603-R56□	0.56/7.9	J, K	15/7.9	630	0.440	1400	770	Brown
TWHC0603-R68□	0.68/7.9	J, K	15/7.9	510	0.520	1340	730	Red
TWHC0603-R78□	0.78/7.9	J, K	15/7.9	465	0.630	1300	730	Orange
TWHC0603-R82□	0.82/7.9	J, K	15/7.9	460	0.690	1200	660	Yellow
TWHC0603-1R0□	1.0/7.9	J, K	15/7.9	320	0.810	1100	630	Green
TWHC0603-1R2□	1.2/7.9	J, K	15/7.9	270	0.870	1000	540	Blue
TWHC0603-1R5□	1.5/7.9	J, K	15/7.9	230	0.960	920	560	Violet
TWHC0603-2R2□	2.2/7.9	J, K	15/7.9	115	1.200	740	500	White
TWHC0603-2R7□	2.7/7.9	J, K	15/7.9	100	1.380	700	460	Black
TWHC0603-3R3□	3.3/7.9	J, K	15/7.9	84	1.500	680	420	Brown
TWHC0603-3R9□	3.9/7.9	J, K	15/7.9	75	1.500	600	400	Red
TWHC0603-4R7□	4.7/7.9	J, K	15/7.9	67	2.100	580	350	Orange
TWHC0603-5R6□	5.6/7.9	J, K	15/7.9	55	2.370	540	340	Yellow
TWHC0603-6R8□	6.8/7.9	J, K	15/7.9	48	3.100	500	330	Green
TWHC0603-7R8□	7.8/7.9	J, K	15/7.9	40	3.350	460	320	Blue
TWHC0603-8R2□	8.2/7.9	J, K	15/7.9	38	3.500	440	300	Violet
TWHC0603-100□	10/7.9	J, K	15/7.9	32	4.460	400	250	Gray

\* IDC for Inductance drop 10% from its value without current.

\* I<sub>rms</sub> for a 15°C rise above 25°C ambient.

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## Electrical Characteristics

P/N	Inductance ( $\mu$ H) @MHz	Tolerance	Q (min.) @MHz	SRF (MHz) min.	DCR ( $\Omega$ ) max.	IDC (mA) max.	Irms (mA) typ.	Color Coding
TWHC0603-1R0□R	1.0/7.9	K,M	16/7.9	390	0.320	860	700	Black
TWHC0603-1R5□R	1.5/7.9	K,M	16/7.9	160	0.400	720	600	Brown
TWHC0603-1R8□R	1.8/7.9	K,M	16/7.9	121	0.430	640	580	Red
TWHC0603-2R2□R	2.2/7.9	K,M	16/7.9	103	0.560	600	580	Orange
TWHC0603-2R7□R	2.7/7.9	K,M	16/7.9	72	0.620	540	500	Yellow
TWHC0603-3R3□R	3.3/7.9	K,M	16/7.9	66	0.700	500	500	Green
TWHC0603-3R9□R	3.9/7.9	K,M	16/7.9	61	0.830	460	460	Blue
TWHC0603-4R7□R	4.7/7.9	K,M	16/7.9	51	0.970	400	420	Violet
TWHC0603-5R6□R	5.6/7.9	K,M	16/7.9	47	1.100	380	380	Gray
TWHC0603-6R8□R	6.8/7.9	K,M	16/7.9	43	1.500	340	340	White
TWHC0603-8R2□R	8.2/7.9	K,M	16/7.9	40	1.680	300	300	Black
TWHC0603-100□R	10/2.5	K,M	14/2.5	36	1.850	280	280	Brown
TWHC0603-120□R	12/2.5	K,M	14/2.5	32	2.280	260	260	Red
TWHC0603-150□R	15/2.5	K,M	14/2.5	29	2.600	240	240	Orange
TWHC0603-180□R	18/2.5	K,M	14/2.5	28	2.900	220	220	Yellow
TWHC0603-220□R	22/2.5	K,M	14/2.5	24	3.610	200	200	Green
TWHC0603-270□R	27/2.5	K,M	14/2.5	20	5.200	140	140	Blue
TWHC0603-330□R	33/2.5	K,M	14/2.5	15	6.600	120	120	Violet
TWHC0805-R47□R	0.47/7.9	K,M	14/7.9	850	0.120	1400	1500	Blue
TWHC0805-R68□R	0.68/7.9	K,M	14/7.9	765	0.150	1200	1300	Gray
TWHC0805-1R0□R	1.0/7.9	K,M	14/7.9	208	0.130	1100	1300	Black
TWHC0805-1R2□R	1.2/7.9	K	14/7.9	159	0.160	960	1270	Red
TWHC0805-1R5□R	1.5/7.9	K,M	14/7.9	159	0.170	920	1260	Brown
TWHC0805-2R2□R	2.2/7.9	K,M	13/7.9	87	0.220	740	1040	Red
TWHC0805-2R7□R	2.7/7.9	K,M	13/7.9	72	0.250	680	1040	Yellow
TWHC0805-3R3□R	3.3/7.9	K,M	12/7.9	70	0.280	620	1020	Orange
TWHC0805-3R9□R	3.9/7.9	K,M	14/7.9	61	0.380	580	960	Green
TWHC0805-4R7□R	4.7/7.9	K,M	14/7.9	51	0.430	520	840	Yellow
TWHC0805-5R6□R	5.6/7.9	K,M	12/7.9	47	0.500	480	800	Blue
TWHC0805-6R8□R	6.8/7.9	K,M	14/7.9	46	0.680	420	700	Green
TWHC0805-8R2□R	8.2/7.9	K,M	13/7.9	33	0.730	400	680	Violet
TWHC0805-100□R	10/2.5	J,K,M	14/2.5	31	0.850	360	560	Blue
TWHC0805-120□R	12/2.5	J,K,M	14/2.5	30	0.900	340	460	Gray
TWHC0805-150□R	15/2.5	J,K,M	15/2.5	28	1.400	300	380	Violet
TWHC0805-180□R	18/2.5	J,K,M	15/2.5	27	1.550	280	360	White
TWHC0805-220□R	22/2.5	J,K,M	15/2.5	20	1.760	240	340	Gray
TWHC0805-270□R	27/2.5	J,K,M	15/2.5	17	2.000	220	300	Black
TWHC0805-330□R	33/2.5	J,K,M	15/2.5	17	2.350	200	300	White
TWHC0805-470□R	47/2.5	J,K,M	14/2.5	15	3.400	160	280	Black
TWHC0805-560□R	56/2.5	J,K,M	14/2.5	10	4.420	150	240	Yellow
TWHC0805-680□R	68/2.5	J,K,M	14/2.5	10	4.450	140	240	Brown
TWHC0805-820□R	82/2.5	J,K,M	14/2.5	10	7.500	100	180	Orange
TWHC0805-101□R	100/1.0	J,K,M	10/1.0	9	7.500	100	180	Red

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								1st	2nd	3rd
TWHC1008-R22□	0.22/25	J,K	35/25	800	0.150	2600	2400	Red	Red	Brown
TWHC1008-R47□	0.47/25	K	35/25	460	0.200	2400	1100	Yellow	Violet	Brown
TWHC1008-R82□	0.82/25	J,K	35/25	360	0.350	1800	1000	Gray	Red	Brown
TWHC1008-1R0□	1/7.9	K	32/7.9	340	0.340	2100	900	Brown	Black	Red
TWHC1008-1R2□	1.2/7.9	J,K	25/7.9	300	0.250	1900	860	Brown	Red	Red
TWHC1008-1R5□	1.5/7.9	J,K	32/7.9	230	0.420	1500	740	Brown	Green	Red
TWHC1008-2R2□	2.2/7.9	J,K	27/7.9	140	0.500	1200	700	Red	Red	Red
TWHC1008-2R7□	2.7/7.9	J,K	27/7.9	130	0.550	1300	560	Red	Violet	Red
TWHC1008-3R3□	3.3/7.9	J,K	27/7.9	125	0.600	1300	540	Orange	Orange	Red
TWHC1008-3R9□	3.9/7.9	J,K	27/7.9	100	0.800	1200	480	Orange	White	Red
TWHC1008-4R7□	4.7/7.9	J,K	30/7.9	90	0.900	1100	400	Yellow	Violet	Red
TWHC1008-5R6□	5.6/7.9	J,K	27/7.9	60	1.000	1000	400	Green	Blue	Red
TWHC1008-6R8□	6.8/7.9	J,K	27/7.9	60	1.050	950	420	Blue	Gray	Red
TWHC1008-8R2□	8.2/7.9	J,K	25/7.9	55	1.200	850	380	Gray	Red	Red
TWHC1008-100□	10/2.5	J,K	23/2.5	55	1.550	800	240	Brown	Black	Orange
TWHC1008-120□	12/2.5	J,K	23/2.5	36	2.100	630	220	Brown	Red	Orange
TWHC1008-150□	15/2.5	J,K	23/2.5	36	2.380	650	200	Brown	Green	Orange
TWHC1008-180□	18/2.5	J,K	23/2.5	32	2.500	550	180	Brown	Gray	Orange
TWHC1008-220□	22/2.5	J,K	23/2.5	29	2.920	550	180	Red	Red	Orange
TWHC1008-330□	33/2.5	J,K	23/2.5	21	4.100	450	140	Orange	Orange	Orange
TWHC1008-470□	47/2.5	J,K	23/2.5	17	7.800	350	100	Yellow	Violet	Orange
TWHC1008-101□	100/1	J,K	13/1	4	13.200	200	100	Brown	Black	Yellow
TWHC1008-221□	100/1	J,K	13/1	3	26.500	140	60	Red	Red	Yellow
TWHC1008-331□	100/1	J,K	13/1	2	32.500	110	50	Orange	Orange	Yellow

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								1st	2nd	3rd
TWHC1210-R39□	0.39/25	J	40/25	500	0.090	3000		Orange	White	Brown
TWHC1210-R56□	0.56/25	K	40/25	500	0.100	3000		Green	Blue	Brown
TWHC1210-1R0□	1/7.9	J,K	35/7.9	340	0.125	2600		Brown	Black	Red
TWHC1210-1R2□	1.2/7.9	J,K	35/7.9	28	0.135	2400		Brown	Red	Red
TWHC1210-1R5□	1.5/7.9	J,K	30/7.9	160	0.145	2200		Brown	Green	Red
TWHC1210-2R2□	2.2/7.9	J,K	30/7.9	100	0.170	1800		Red	Red	Red
TWHC1210-2R5□	2.5/7.9	J,K	30/7.9	80	0.190	1700		Red	Green	Red
TWHC1210-3R3□	3.3/7.9	J,K	30/7.9	70	0.210	1500		Orange	Orange	Red
TWHC1210-4R7□	4.7/7.9	J,K	28/7.9	55	0.300	1300		Yellow	Violet	Red
TWHC1210-6R8□	6.8/7.9	J,K	28/7.9	45	0.370	1000		Blue	Gray	Red
TWHC1210-8R2□	8.2/7.9	J,K	28/7.9	45	0.470	940		Gray	Red	Red
TWHC1210-100□	10/2.5	J,K	22/2.5	47	0.500	900		Brown	Black	Orange
TWHC1210-120□	12/2.5	J,K	22/2.5	42	0.680	770		Brown	Red	Orange
TWHC1210-150□	15/2.5	J,K	22/2.5	34	0.720	740		Brown	Green	Orange
TWHC1210-180□	18/2.5	J,K	22/2.5	28	0.950	630		Brown	Gray	Orange
TWHC1210-220□	22/2.5	J,K	22/2.5	25	1.100	600		Red	Red	Orange
TWHC1210-270□	27/2.5	J,K	20/2.5	18	1.250	520		Red	Violet	Orange
TWHC1210-330□	33/2.5	J,K	20/2.5	13	1.370	490		Orange	Orange	Orange
TWHC1210-470□	47/2.5	J,K	20/2.5	12	1.880	400		Yellow	Violet	Orange
TWHC1210-560□	56/2.5	J,K	22/2.5	10	2.750	360		Green	Gray	Orange
TWHC1210-680□	68/2.5	J,K	22/2.5	10	3.000	340		Blue	Gray	Orange
TWHC1210-820□	82/2.5	J,K	22/2.5	10	4.100	300		Gray	Red	Orange
TWHC1210-101□	100/1	J,K	15/1	8	4.682	270		Brown	Black	Yellow
TWHC1210-121□	120/1	J,K	15/1	7	5.800	220		Brown	Red	Yellow
TWHC1210-151□	150/1	J,K	13/1	7	6.102	220		Brown	Green	Yellow
TWHC1210-181□	180/1	J,K	13/1	3	7.100	200		Brown	Gray	Yellow
TWHC1210-221□	220/1	J,K	13	3	7.650	180		Red	Red	Yellow
TWHC1210-331□	330/1	J,K	13/1	3	12.620	160		Orange	Orange	Yellow
TWHC1210-471□	470/1	J,K	13/1	3	25.000	120		Yellow	Violet	Yellow
TWHC1210-561□	560/1	J,K	13/1	2	27.000	100		Green	Blue	Yellow
TWHC1210-681□	680/1	J,K	13/1	2	31.000	100		Blue	Gray	Yellow
TWHC1210-821□	820/1	J,K	10	2	42.000	50		Gray	Red	Yellow
TWHC1210-101□	1000/1	J,K	10/1	2	46.000	50		Brown	Black	Red

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