

SMD Wire Wound Chip Inductor

RoHS
Compliant



Scope:

Ceramic body and wire wound construction provide highest SRFs available.

Features:

- Ceramic base provide high SRF
- Ultra-compact inductors provide high Q factors
- Low profile, high current are available
- Miniature SMD chip inductor for fully automated assembly
- Outstanding endurance from Pull-up force, mechanical shock and pressure
- Tighter tolerance down to $\pm 2\%$
- Smaller size of 0402 (1005)

Applications:

RF Products:

- Cellular Phone (CDMA/GSM/PHS)
- Cordless Phone (DECT/CT1CT2)
- Remote Control, Security System
- Wireless PDA
- WLL, Wireless LAN / Mouse / Keyboard / Earphone
- VCO, RF Module & Other Wireless Products
- Base Station, Repeater
- GPS Receiver

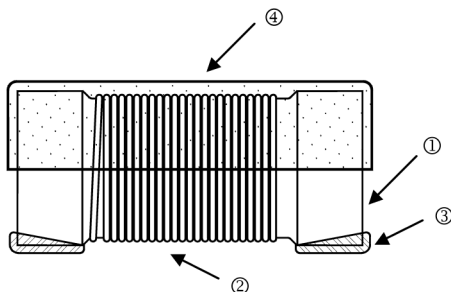
Broad Band Applications:

CATV Filter, Tuner
Cable Modem/ XDSL Tuner
Set Top Box

IT Applications:

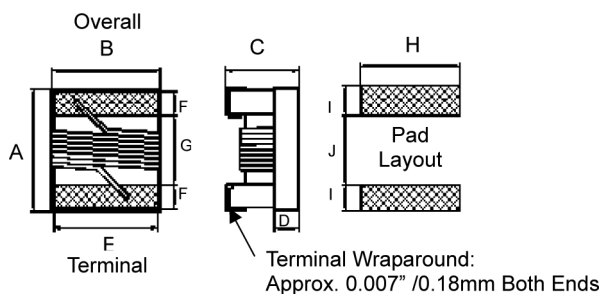
USB 2.0
IEEE 1394

Construction:



1. Ceramic Core
2. Magnet Wire
3. Electrode (Ag/Pd+Ni+Sn)
4. UV Glue

SMD Wire Wound Chip Inductor



Standard

Type	Size (Inch)	A max.	B max.	C max.	D Ref.	E	F	G	H	I	J	Weight (g) (1000pcs)
MCWL02	0402	1.27	0.76	0.61	0.15	0.51	0.23	0.56	0.66	0.5	0.46	0.8
MCWL03	0603	1.8	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64	3.46
MCWL05	0805	2.29	1.73	1.6	0.51	1.27	0.44	1.02	1.78	1.02	0.76	12.13
MCWL08	1008	2.92	2.79	2.13	0.65	2.03	0.51	1.52	2.54	1.02	1.27	30.73
MCWL06	1206	3.45	1.9	1.4	0.5	1.6	0.5	2.2	1.93	1.02	1.78	40

High Current / High Q

Type	Size (Inch)	A max.	B max.	C max.	D Ref.	E	F	G	H	I	J
MCWL03	0603	1.8	1.12	1.02	0.38	0.76	0.33	0.86	1.02	0.64	0.64
MCWL05	0805	2.29	1.73	1.6	0.51	1.27	0.44	1.02	1.78	1.02	0.76
MCWL08	1008	2.92	2.79	2.03	0.65	2.03	0.51	1.52	2.54	1.02	1.27

Dimensions : Millimetres

Colour Coding:

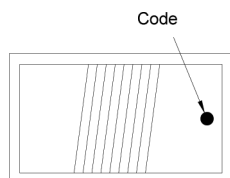
0603 / 0805 / 1008 Type

These parts are marked with a single colour dot.

The inductance value represented by the dot is shown on the data page for each type.

0402 / 1206 / 1008(H) Types are No Colour Coding

0603(H)/0805(H) Types are No Black Colour Coding



Colour Coding

SMD Wire Wound Chip Inductor

Part Numbering:

MCWL	02	J	T		1N6
Product Type	Dimensions (LxW)	Inductance Tolerance	Packaging Code	Design Code	Inductance
	02: 0402 03: 0603 05: 0805 08: 1008 06: 1206	C: $\pm 0.2\text{nH}$ D: $\pm 0.5\text{nH}$ G: $\pm 2\%$ H: $\pm 3\%$ J: $\pm 5\%$ K: $\pm 10\%$	T: Taping Reel	: Standard Inductor H: High Current and High Q	1N6: 1.6nH 82N: 82nH R27: 270nH 1R0: 1,000nH 103: 10,000nH

Standard Electrical Specifications:

MCWL02 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	900MHz		1.7GHz	
							L	Q	L	Q
1	$\pm 10\%$	250	16	12.7	0.045	1360	1.02	77	1.02	69
1.9	$\pm 10\%$	250	16	11.3	0.07	1040	1.72	68	1.74	82
2	$\pm 10\%$	250	16	11.1	0.07	1040	1.93	54	1.93	75
2.2	$\pm 10\%$	250	19	10.8	0.07	960	2.19	59	2.23	100
2.4	$\pm 10\%$	250	15	10.5	0.07	790	2.24	51	2.27	68
2.7	$\pm 10\%$	250	16	10.4	0.12	640	2.23	42	2.25	61
3.3	$\pm 10\%$	250	19	7	0.066	840	3.1	65	3.12	87
3.6	$\pm 5, \pm 10\%$	250	19	6.8	0.066	840	3.56	45	3.62	71
3.9	$\pm 5, \pm 10\%$	250	19	5.8	0.066	840	3.89	50	4.00	75
4.3	$\pm 5, \pm 10\%$	250	18	6	0.091	700	4.19	47	4.30	71
4.7	$\pm 5, \pm 10\%$	250	18	4.7	0.13	640	4.55	48	4.68	68
5.1	$\pm 5, \pm 10\%$	250	20	4.8	0.083	800	5.15	56	5.25	82
5.6	$\pm 5, \pm 10\%$	250	20	4.8	0.083	760	5.16	54	5.28	81
6.2	$\pm 5, \pm 10\%$	250	20	4.8	0.083	760	6.16	52	6.37	76
6.8	$\pm 5, \pm 10\%$	250	20	4.8	0.083	680	6.56	63	6.93	78
7.5	$\pm 5, \pm 10\%$	250	22	4.8	0.104	680	7.91	60	8.22	88
8.2	$\pm 5, \pm 10\%$	250	22	4.4	0.104	680	8.5	57	8.85	84
8.7	$\pm 5, \pm 10\%$	250	18	4.1	0.2	480	8.78	54	9.21	73
9	$\pm 5, \pm 10\%$	250	22	4.16	0.104	680	9.07	62	9.53	78
9.5	$\pm 5, \pm 10\%$	250	18	4	0.2	480	9.42	54	9.98	69
10	$\pm 2, \pm 5, \pm 10\%$	250	21	3.9	0.195	480	9.8	50	10.10	67
11	$\pm 2, \pm 5, \pm 10\%$	250	24	3.68	0.12	640	10.7	52	11.20	78

SMD Wire Wound Chip Inductor

Standard Electrical Specifications:

MCWL02 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	900MHz		1.7GHz	
							L	Q	L	Q
12	±2, ±5, ±10%	250	24	3.6	0.12	640	11.9	53	12.7	71
13	±2, ±5, ±10%	250	24	3.45	0.21	440	13.4	51	14.6	57
15	±2, ±5, ±10%	250	24	3.28	0.172	560	14.6	55	15.5	77
16	±2, ±5, ±10%	250	24	3.1	0.22	560	16.6	46	18.8	47
18	±2, ±5, ±10%	250	25	3.1	0.23	420	18.3	57	20.3	62
19	±2, ±5, ±10%	250	24	3.04	0.202	480	19.1	50	21.1	67
20	±2, ±5, ±10%	250	25	3	0.25	420	20.7	52	23.7	53
22	±2, ±5, ±10%	250	25	2.8	0.3	400	23.2	53	26.8	53
23	±2, ±5, ±10%	250	24	2.72	0.3	400	23.8	49	26.9	64
24	±2, ±5, ±10%	250	25	2.7	0.3	400	25.1	51	29.5	50
27	±2, ±5, ±10%	250	24	2.48	0.3	400	28.7	49	33.5	63
30	±2, ±5, ±10%	250	25	2.35	0.35	400	31.1	46	38.5	39
33	±2, ±5, ±10%	250	24	2.35	0.35	400	34.9	31	41.7	32
36	±2, ±5, ±10%	250	24	2.32	0.44	320	39.5	44	48.4	53
39	±2, ±5, ±10%	250	25	2.1	0.55	200	41.7	47	50.2	45
40	±2, ±5, ±10%	250	24	2.24	0.5	320	39	44	47.4	33
43	±2, ±5, ±10%	250	25	2.03	0.81	100	45.8	46	61.6	34
47	±2, ±5, ±10%	250	25	2.1	0.83	150	50	38	55.8	37
51	±2, ±5, ±10%	250	25	1.75	0.82	100	50.4	47	59.4	37
56	±2, ±5, ±10%	250	25	1.76	0.97	100	57.4	49	72.4	40
68	±2, ±5, ±10%	250	22	1.62	1.12	100	69.6	45	83.4	38
82	±2, ±5, ±10%	250	22	1.26	1.55	50	-	-	-	-
100	±2, ±5, ±10%	250	22	1.16	2	30	-	-	-	-
120	±2, ±5, ±10%	250	20	>1.80	2.66	50	-	-	-	-

MCWL03 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	900MHz		1.7GHz		Colour Code
							L	Q	L	Q	
1.6	±5, ±10%	250	24	12.5	0.03	700	1.53	35	1.58	55	Blue
1.8	±5, ±10%	250	16	12.5	0.045	700	1.63	35	1.66	50	Black
2.2	±5, ±10%	250	15	6	0.1	700	2.18	41	2.2	64	White
2.3	±5, ±10%	250	16	>4	0.14	700	2.32	32	2.35	40	Yellow
3.3	±2, ±5, ±10%	250	22	>6	0.08	700	3.35	47	3.4	65	Red

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Standard Electrical Specifications:

MCWL03 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	900MHz		1.7GHz		Colour Code
							L	Q	L	Q	
3.6	$\pm 2, \pm 5, \pm 10\%$	250	22	5.80	0.063	700	3.53	49	3.58	65	Violet
3.9	$\pm 2, \pm 5, \pm 10\%$	250	22	>6	0.08	700	3.95	49	3.96	67	Brown
4.3	$\pm 2, \pm 5, \pm 10\%$	250	22	5.8	0.063	700	4.32	49	4.43	67	Orange
4.5	$\pm 2, \pm 5, \pm 10\%$	250	20	5.8	0.12	700	4.74	55	4.87	92	Gray
4.7	$\pm 2, \pm 5, \pm 10\%$	250	25	5.8	0.12	700	4.65	53	4.80	67	Violet
5.1	$\pm 2, \pm 5, \pm 10\%$	250	20	5.8	0.16	700	5.13	47	5.36	56	Green
5.6	$\pm 2, \pm 5, \pm 10\%$	250	20	5.8	0.17	700	5.53	56	5.86	77	Yellow
6.2	$\pm 2, \pm 5, \pm 10\%$	250	25	5.8	0.11	700	6.28	60	6.4	85	Black
6.3	$\pm 2, \pm 5, \pm 10\%$	250	25	5.8	0.11	700	6.67	41	6.86	61	Black
6.8	$\pm 2, \pm 5, \pm 10\%$	250	27	5.8	0.11	700	6.75	60	7.1	81	Red
7.5	$\pm 2, \pm 5, \pm 10\%$	250	28	4.8	0.106	700	7.7	60	7.82	65	Brown
8.2	$\pm 2, \pm 5, \pm 10\%$	250	27	4.8	0.11	700	8.25	64	8.4	81	Green
8.7	$\pm 2, \pm 5, \pm 10\%$	250	28	4.8	0.109	700	8.86	62	9.32	58	Yellow
9.1	$\pm 2, \pm 5, \pm 10\%$	250	35	4.8	0.13	700	9.2	70	9.7	80	Black
9.5	$\pm 2, \pm 5, \pm 10\%$	250	28	5.4	0.135	700	9.7	59	9.92	61	Blue
10	$\pm 2, \pm 5, \pm 10\%$	250	31	4.8	0.13	700	10	66	10.6	83	Orange
11	$\pm 2, \pm 5, \pm 10\%$	250	31	4	0.086	700	11.3	53	12.1	56	Gray
12	$\pm 2, \pm 5, \pm 10\%$	250	35	4	0.13	700	12.3	72	13.5	83	Yellow
15	$\pm 2, \pm 5, \pm 10\%$	250	35	4	0.17	700	15.4	64	16.8	89	Green
16	$\pm 2, \pm 5, \pm 10\%$	250	35	3.3	0.11	700	16.5	55	18	52	White
17	$\pm 2, \pm 5, \pm 10\%$	250	35	3.2	0.17	700	17.6	56	19.4	44	Red
18	$\pm 2, \pm 5, \pm 10\%$	250	35	3.1	0.17	700	18.7	70	21.4	69	Blue
20	$\pm 2, \pm 5, \pm 10\%$	250	40	3	0.19	700	20.7	80	23.5	30	Green
22	$\pm 2, \pm 5, \pm 10\%$	250	38	3	0.19	700	22.8	73	26.1	71	Violet
23	$\pm 2, \pm 5, \pm 10\%$	250	38	2.85	0.19	700	24.1	71	28	71	Orange
24	$\pm 2, \pm 5, \pm 10\%$	250	38	2.8	0.13	700	25.7	45	30.9	40	Black
27	$\pm 2, \pm 5, \pm 10\%$	250	40	2.8	0.22	600	29.2	74	34.6	65	Gray
30	$\pm 2, \pm 5, \pm 10\%$	250	40	2.8	0.15	600	31.4	47	39.8	28	Brown
33	$\pm 2, \pm 5, \pm 10\%$	250	40	2.3	0.22	600	36	67	49.5	42	White
36	$\pm 2, \pm 5, \pm 10\%$	250	37	2.3	0.25	600	39.1	47	48.9	24	Red
39	$\pm 2, \pm 5, \pm 10\%$	250	40	2.2	0.25	600	42.7	60	60.2	40	Black
43	$\pm 2, \pm 5, \pm 10\%$	200	38	2	0.28	600	46.9	44	60.3	21	Orange
47	$\pm 2, \pm 5, \pm 10\%$	200	38	2	0.28	600	52.2	62	77.2	35	Brown
51	$\pm 2, \pm 5, \pm 10\%$	200	38	1.9	0.28	600	55.5	69	82.2	34	Blue

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Standard Electrical Specifications:

MCWL03 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	900MHz		1.7GHz		Colour Code
							L	Q	L	Q	
56	$\pm 2, \pm 5, \pm 10\%$	200	38	1.9	0.31	600	62.5	56	97	26	Red
62	$\pm 2, \pm 5, \pm 10\%$	200	37	1.8	0.34	600	68	40	110	10	Gray
68	$\pm 2, \pm 5, \pm 10\%$	200	37	1.7	0.34	600	80.5	54	168	21	Orange
72	$\pm 2, \pm 5, \pm 10\%$	150	34	1.7	0.49	600	82	53	135	20	Yellow
82	$\pm 2, \pm 5, \pm 10\%$	150	34	1.7	0.54	400	96.2	54	177	21	Green
91	$\pm 2, \pm 5, \pm 10\%$	150	30	1.7	0.5	400	110	50	416.4	6	Brown
100	$\pm 2, \pm 5, \pm 10\%$	150	34	1.4	0.58	400	124	49	319.5	13	Blue
110	$\pm 2, \pm 5, \pm 10\%$	150	32	1.35	0.61	300	138	43	342.7	15	Violet
120	$\pm 2, \pm 5, \pm 10\%$	150	32	1.3	0.65	300	166	39	529.3	8	Gray
130	$\pm 2, \pm 5, \pm 10\%$	150	30	1.4	0.72	300	185	60	-	-	White
140	$\pm 2, \pm 5, \pm 10\%$	100	28	1.3	0.87	280	190	80	-	-	Blue
150	$\pm 2, \pm 5, \pm 10\%$	100	28	1.3	0.95	280	230	25	-	-	White
160	$\pm 2, \pm 5, \pm 10\%$	100	25	1.3	1.4	280	215	20	-	-	Yellow
180	$\pm 2, \pm 5, \pm 10\%$	100	25	1.25	1.4	250	305	22	-	-	Black
220	$\pm 2, \pm 5, \pm 10\%$	100	25	1.2	1.6	250	377	21	-	-	Brown
260	$\pm 2, \pm 5, \pm 10\%$	100	25	1	2	200	469	21	-	-	Violet
270	$\pm 2, \pm 5, \pm 10\%$	100	25	0.9	2.1	200	523	19	-	-	Red
280	$\pm 2, \pm 5, \pm 10\%$	100	25	1	2.4	100	524	18	-	-	Green
300	$\pm 2, \pm 5, \pm 10\%$	100	25	0.75	2.5	150	539.7	21	-	-	Orange
330	$\pm 2, \pm 5, \pm 10\%$	100	25	0.9	3.8	100	680.4	20	-	-	Blue
390	$\pm 2, \pm 5, \pm 10\%$	100	25	0.9	4.35	100	734.5	29	-	-	Yellow
470	$\pm 2, \pm 5, \pm 10\%$	100	23	0.6	3.6	80	-	-	-	-	White

MCWL05 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
2.7	$\pm 5, \pm 10\%$	250	80 @ 1500MHz	7.9	0.06	800	Brown
2.8	$\pm 5, \pm 10\%$	250	80 @ 1500MHz	7.9	0.06	800	Gray
3	$\pm 5, \pm 10\%$	250	65 @ 1500MHz	7.9	0.06	800	White
3.3	$\pm 5, \pm 10\%$	250	50 @ 1500MHz	6	0.08	600	Black
3.9	$\pm 5, \pm 10\%$	250	50 @ 1500MHz	5.5	0.08	600	None
4.7	$\pm 5, \pm 10\%$	250	65 @ 1000MHz	5.5	0.08	600	None
5.6	$\pm 5, \pm 10\%$	250	65 @ 1000MHz	5.5	0.08	600	Orange

SMD Wire Wound Chip Inductor

Standard Electrical Specifications:

MCWL05 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
6.2	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	5.5	0.11	600	Green
6.8	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	5.5	0.11	600	Brown
7.5	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4.5	0.14	600	Green
8.2	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4.7	0.12	600	Red
8.7	$\pm 5, \pm 10\%$	250	50 @ 1000MHz	4	0.21	400	White
10	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	4.2	0.1	600	Blue
12	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	4	0.15	600	Orange
15	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	3.4	0.17	600	Yellow
18	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	3.3	0.2	600	Green
20	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	2.6	0.22	500	None
22	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	2.6	0.22	500	Blue
24	$\pm 2, \pm 5, \pm 10\%$	250	50 @ 500MHz	2	0.22	500	Gray
27	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	2.5	0.25	500	Violet
30	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	2.05	0.25	500	None
33	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	2.05	0.27	500	Gray
36	$\pm 2, \pm 5, \pm 10\%$	250	55 @ 500MHz	1.7	0.27	500	Orange
39	$\pm 2, \pm 5, \pm 10\%$	250	60 @ 500MHz	2	0.29	500	White
43	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.65	0.34	500	Yellow
47	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.65	0.31	500	Black
56	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.55	0.34	500	Brown
68	$\pm 2, \pm 5, \pm 10\%$	200	60 @ 500MHz	1.45	0.38	500	Red
72	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.4	0.4	500	Green
82	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.3	0.42	400	Orange
91	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.2	0.48	400	Black
100	$\pm 2, \pm 5, \pm 10\%$	150	65 @ 500MHz	1.2	0.46	400	Yellow
110	$\pm 2, \pm 5, \pm 10\%$	150	50 @ 250MHz	1	0.48	400	Brown
120	$\pm 2, \pm 5, \pm 10\%$	150	50 @ 250MHz	1.1	0.51	400	Green
150	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.92	0.56	400	Blue
160	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.87	0.6	400	None
180	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.87	0.64	400	Violet
200	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.86	0.66	400	Orange
220	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.85	0.7	400	Gray
240	$\pm 2, \pm 5, \pm 10\%$	100	44 @ 250MHz	0.69	1	350	Red
250	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 250MHz	0.68	1	350	Green

SMD Wire Wound Chip Inductor

Standard Electrical Specifications:

MCWL05 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
270	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.65	1	350	White
300	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.62	1.2	330	Yellow
330	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.6	1.4	310	Black
360	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.58	1.45	300	Green
390	$\pm 2, \pm 5, \pm 10\%$	100	48 @ 250MHz	0.56	1.5	290	Brown
430	$\pm 2, \pm 5, \pm 10\%$	50	33 @ 100MHz	0.43	1.7	230	Blue
470	$\pm 2, \pm 5, \pm 10\%$	50	33 @ 100MHz	0.375	1.7	250	Red
560	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.34	1.9	230	Orange
600	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.26	1.6	450	White
620	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.22	2.2	210	Yellow
680	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.2	2.2	190	Green
750	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.2	2.3	180	Blue
820	$\pm 2, \pm 5, \pm 10\%$	25	23 @ 50MHz	0.2	2.35	180	Violet
1000	$\pm 2, \pm 5, \pm 10\%$	25	20 @ 50MHz	0.1	2.5	170	Gray
1200	$\pm 2, \pm 5, \pm 10\%$	7.9	18 @ 25MHz	0.1	2.5	170	White
1500	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 25MHz	0.1	2.5	170	Black
1800	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.9MHz	0.08	2.5	170	Brown
2200	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.9MHz	0.06	2.7	160	Red
2700	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.9MHz	0.05	3.1	150	Orange
3300	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.9MHz	0.04	4.4	90	Blue
4700	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.9MHz	0.04	6.4	90	Green

Standard Electrical Specifications:

MCWL08 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
4.7	$\pm 5, \pm 10\%$	50	50 @ 1500MHz	4	0.15	1,000	None
*5.6	$\pm 5, \pm 10\%$	50	50 @ 1500MHz	4	0.15		Black
*10	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 500MHz	4.1	0.08		Brown
*12	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 500MHz	3.3	0.09		Red
*15	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 500MHz	2.5	0.11		Orange
*18	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	2.4	0.12		Yellow

SMD Wire Wound Chip Inductor

Standard Electrical Specifications:

MCWL08 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code	
*22	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 350MHz	2.4	0.12	1,000	Green	
24	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 350MHz	1.9	0.13		Blue	
*27	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 350MHz	1.6	0.13		Violet	
30	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.6	0.14		None	
*33	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.6	0.14		Gray	
36	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.6	0.15		Orange	
*39	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.5	0.15		White	
*47	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.5	0.16		Black	
*56	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.3	0.18		Brown	
*62	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.25	0.2		Blue	
*68	$\pm 2, \pm 5, \pm 10\%$	50	65 @ 350MHz	1.3	0.2		Red	
75	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1.1	0.21		White	
*82	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 350MHz	1	0.22		Orange	
91	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	1	0.45		White	
*100	$\pm 2, \pm 5, \pm 10\%$	25	60 @ 350MHz	1	0.56		650	Yellow
*120	$\pm 2, \pm 5, \pm 10\%$	25	60 @ 350MHz	0.95	0.63		650	Green
*150	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.85	0.7	800	Blue	
*180	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.75	0.77	620	Violet	
*220	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.7	0.84	500	Gray	
*240	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.65	0.88	500	White	
*270	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.6	0.91	690	Black	
*300	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.585	1	450	Brown	
*330	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.57	1.05	450	Red	
*360	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.53	1.1	470	Orange	
*390	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.5	1.12	630	Yellow	
*430	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.48	1.15	470	Green	
*470	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.45	1.19	470	Blue	
*560	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.415	1.33	580	Violet	
*620	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.375	1.4	300	Gray	
*680	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.375	1.47	540	White	
*750	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.36	1.54	360	Black	
*820	$\pm 2, \pm 5, \pm 10\%$	25	45 @ 100MHz	0.35	1.61	400	Brown	
*910	$\pm 2, \pm 5, \pm 10\%$	25	35 @ 50MHz	0.32	1.68	380	Red	

SMD Wire Wound Chip Inductor

Standard Electrical Specifications:

MCWL08 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
*1000	$\pm 2, \pm 5, \pm 10\%$	25	35 @ 50MHz	0.29	1.75	370	Orange
*1200	$\pm 2, \pm 5, \pm 10\%$	7.9	35 @ 50MHz	0.25	2	310	Yellow
*1500	$\pm 2, \pm 5, \pm 10\%$	7.9	28 @ 50MHz	0.2	2.3	330	Green
*1800	$\pm 2, \pm 5, \pm 10\%$	7.9	28 @ 50MHz	0.16	2.6	300	Blue
*2200	$\pm 2, \pm 5, \pm 10\%$	7.9	28 @ 50MHz	0.16	2.8	280	Violet
*2700	$\pm 2, \pm 5, \pm 10\%$	7.9	22 @ 25MHz	0.14	3.2	290	Gray
*3300	$\pm 2, \pm 5, \pm 10\%$	7.9	22 @ 25MHz	0.11	3.4	290	White
*3900	$\pm 2, \pm 5, \pm 10\%$	7.9	18 @ 25MHz	0.1	3.6	260	Black
*4700	$\pm 2, \pm 5, \pm 10\%$	7.9	18 @ 25MHz	0.09	4	260	Brown
5600	$\pm 2, \pm 5, \pm 10\%$	7.9	16 @ 7.96MHz	0.02	4	240	Red
6800	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.96MHz	0.04	4.9	200	Orange
8200	$\pm 2, \pm 5, \pm 10\%$	7.9	15 @ 7.96MHz	0.025	6	170	Yellow
10000	$\pm 2, \pm 5, \pm 10\%$	2.52	15 @ 7.96MHz	0.02	9	150	Green
12000	$\pm 2, \pm 5, \pm 10\%$	2.52	15 @ 7.96MHz	0.018	10.5	130	Blue
15000	$\pm 2, \pm 5, \pm 10\%$	2.52	15 @ 7.96MHz	0.015	11.5	120	Violet

" * " Test Methods / Instrument: Network / Spectrum Analyzer

Standard Electrical Specifications:

MCWL06 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.
6.8	$\pm 5, \pm 10\%$	100	30 @ 300MHz	5.5	0.07	1,000
10	$\pm 5, \pm 10\%$	100	40 @ 300MHz	4	0.08	1,000
12	$\pm 5, \pm 10\%$	100	40 @ 300MHz	3.2	0.08	1,000
15	$\pm 5, \pm 10\%$	100	40 @ 300MHz	3.2	0.1	1,000
18	$\pm 5, \pm 10\%$	100	50 @ 300MHz	2.8	0.1	1,000
22	$\pm 5, \pm 10\%$	100	50 @ 300MHz	2.2	0.1	1,000
24	$\pm 5, \pm 10\%$	100	50 @ 300MHz	2	0.1	1,000
27	$\pm 2, \pm 5, \pm 10\%$	100	50 @ 300MHz	1.8	0.11	1,000
33	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.8	0.11	1,000
39	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.8	0.12	1,000
47	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.5	0.13	1,000

SMD Wire Wound Chip Inductor

Standard Electrical Specifications:

MCWL06 Wire Wound Chip Inductors / Standard Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.
56	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.45	0.14	1000
62	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.2	0.2	1000
68	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.2	0.26	950
82	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.2	0.21	920
91	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.1	0.24	900
100	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	1.1	0.26	850
120	$\pm 2, \pm 5, \pm 10\%$	100	55 @ 300MHz	0.75	0.26	800
150	$\pm 2, \pm 5, \pm 10\%$	100	60 @ 300MHz	0.95	0.31	750
180	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 300MHz	0.9	0.43	700
220	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 300MHz	0.76	0.5	670
270	$\pm 2, \pm 5, \pm 10\%$	50	55 @ 300MHz	0.74	0.56	630
300	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 150MHz	0.68	0.6	600
330	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.65	0.62	590
360	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.6	0.65	550
390	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.6	0.75	530
470	$\pm 2, \pm 5, \pm 10\%$	50	45 @ 150MHz	0.55	1.3	490
560	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.47	1.34	460
620	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.47	1.58	460
680	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.45	1.58	430
750	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.44	2.25	320
820	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.42	1.82	400
910	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.41	2.95	310
1000	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.4	2.8	320
1200	$\pm 2, \pm 5, \pm 10\%$	35	45 @ 150MHz	0.38	3.2	300

High Current Electrical Specifications:

MCWL03 Wire Wound Chip Inductors / High Current Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
1.6	$\pm 5, \pm 10\%$	250	24	12.5	0.03	2,400	None
3.6	$\pm 5, \pm 10\%$	250	24	5.9	0.048	2,300	Brown
3.9	$\pm 5, \pm 10\%$	250	25	5.9	0.054	2,200	Red

SMD Wire Wound Chip Inductor

High Current Electrical Specifications:

MCWL03 Wire Wound Chip Inductors / High Current Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
6.8	$\pm 5, \pm 10\%$	250	35	5.8	0.054	2,100	Orange
7.5	$\pm 5, \pm 10\%$	250	38	3.7	0.059	2,100	Yellow
8.2	$\pm 5, \pm 10\%$	250	38	3.7	0.06	2,000	White
10	$\pm 2, \pm 5, \pm 10\%$	250	38	3.7	0.071	2,000	Green
12	$\pm 2, \pm 5, \pm 10\%$	250	38	3	0.075	2,000	Blue
15	$\pm 2, \pm 5, \pm 10\%$	250	38	2.8	0.08	1,900	Violet
18	$\pm 2, \pm 5, \pm 10\%$	250	40	2.8	0.099	1,900	Gray
22	$\pm 2, \pm 5, \pm 10\%$	250	42	2.4	0.099	1,800	White
24	$\pm 2, \pm 5, \pm 10\%$	250	42	2.4	0.105	1,800	None

High Q Electrical Specifications:

MCWL05 Wire Wound Chip Inductors / High Q Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.	Colour Code
2.5	$\pm 5, \pm 10\%$	250	80 @ 1500MHz	6	0.02	1,600	None
5.6	$\pm 5, \pm 10\%$	250	98 @ 1500MHz	6	0.035	1,600	Brown
6.2	$\pm 5, \pm 10\%$	250	88 @ 1000MHz	4.75	0.035	1,600	Red
6.8	$\pm 5, \pm 10\%$	250	80 @ 1000MHz	4.4	0.035	1,600	White
8.2	$\pm 5, \pm 10\%$	250	75 @ 1000MHz	3	0.075	1,000	Gray
10	$\pm 5, \pm 10\%$	250	80 @ 1000MHz	3	0.06	1,600	None
12	$\pm 5, \pm 10\%$	250	80 @ 1000MHz	3	0.045	1,600	Orange
15	$\pm 2, \pm 5, \pm 10\%$	250	80 @ 1000MHz	2.8	0.1	1,200	None
16	$\pm 2, \pm 5, \pm 10\%$	250	72 @ 500MHz	2.95	0.06	1,500	Yellow
18	$\pm 2, \pm 5, \pm 10\%$	250	75 @ 500MHz	2.55	0.06	1,400	Green
20	$\pm 2, \pm 5, \pm 10\%$	250	70 @ 500MHz	2.05	0.055	1,400	Blue
22	$\pm 2, \pm 5, \pm 10\%$	250	80 @ 500MHz	2	0.1	1,200	None
27	$\pm 2, \pm 5, \pm 10\%$	250	75 @ 500MHz	2	0.07	1,300	Violet
30	$\pm 2, \pm 5, \pm 10\%$	250	65 @ 500MHz	1.95	0.095	1,200	Gray
39	$\pm 2, \pm 5, \pm 10\%$	250	65 @ 500MHz	1.6	0.11	1,100	White
48	$\pm 2, \pm 5, \pm 10\%$	200	65 @ 500MHz	1.4	0.095	1,200	None
51	$\pm 2, \pm 5, \pm 10\%$	200	65 @ 500MHz	1.4	0.12	1,000	Brown

SMD Wire Wound Chip Inductor

High Q Electrical Specifications:

MCWL08 Wire Wound Chip Inductors / High Q Type

Inductance (nH)	Tolerance	L Freq. (MHz)	Quality Factor min.	SRF (GHz) min.	DCR (Ω) max.	IDC (mA) max.
3.0	$\pm 5, \pm 10\%$	50	70 @ 1500MHz	6	0.04	1,600
3.9	$\pm 5, \pm 10\%$	50	75 @ 1500MHz	6	0.05	1,600
4.1	$\pm 5, \pm 10\%$	50	75 @ 1500MHz	6	0.05	1,600
7.8	$\pm 5, \pm 10\%$	50	75 @ 500MHz	3.8	0.05	1,600
10	$\pm 2, \pm 5, \pm 10\%$	50	60 @ 500MHz	3.6	0.06	1,600
12	$\pm 2, \pm 5, \pm 10\%$	50	70 @ 500MHz	2.8	0.06	1,500
18	$\pm 2, \pm 5, \pm 10\%$	50	62 @ 350MHz	2.7	0.07	1,400
22	$\pm 2, \pm 5, \pm 10\%$	50	62 @ 350MHz	2.05	0.07	1,400
33	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.7	0.09	1,300
39	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.3	0.09	1,300
47	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.45	0.12	1,200
56	$\pm 2, \pm 5, \pm 10\%$	50	75 @ 350MHz	1.23	0.12	1,200
68	$\pm 2, \pm 5, \pm 10\%$	50	80 @ 350MHz	1.15	0.13	1,100
82	$\pm 2, \pm 5, \pm 10\%$	50	80 @ 350MHz	1.06	0.16	1,100
100	$\pm 2, \pm 5, \pm 10\%$	50	50 @ 350MHz	0.82	0.16	1,000

Parts (3.0nH, 7.8nH) are wound on a low profile bobbin. (Max 2.41×2.01×1.09)

Environmental Characteristics:

Electrical Performance Test

Item	Requirement	Test Method
Inductance	Refer to standard electrical characteristic spec.	HP4286
Q		HP4286
SRF		HP4287
DC Resistance RDC		Micro-Ohm meter (Gom-801G)
Rated Current IDC		Applied the current to coils, The inductance change should be less than 10% to initial value
Over Load	Inductors shall have no evidence of electrical and mechanical damage	Applied 2 times of rated allowed DC current to inductor for a period of 5 minutes
Withstanding Voltage	Inductors shall be no evidence of electrical and mechanical damage.	AC voltage of 500V AC applied between inductors terminal and case for 1 min.
Insulation Resistance	1,000M Ω min.	100V DC applied between inductor terminal and case

SMD Wire Wound Chip Inductor

Mechanical Performance Test

Item	Requirement	Test Method
Vibration	Appearance: No damage L change: within $\pm 5\%$ Q change: within $\pm 10\%$	Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1 min. Amplitude: 1.5 mm Time: 2 hrs for each axis (X, Y & Z), total 6 hrs
Resistance to Soldering Heat		Solder Temperature: $260 \pm 5^\circ\text{C}$ Immersion Time: 10 ± 2 seconds
Component Adhesion (Push Test)	1 lbs. For 0402 2 lbs. For 0603 3 lbs. For the rest	The device should be soldered (260 ± 5 for 10 seconds) to a tinned copper subs rate. A dynamiter force gauge should be applied to the side of the component. The device must with stand a minimum force of 2 or 4 pounds without a failure of adhesion on termination
Drop	No damage	Dropping chip by each side and each corner. Drop 10 times in total Drop height: 100cm Drop weight: 125g
Solderability	90% covered with solder	Inductor shall be dipped in a melted solder bath at 245 ± 5 for 3 seconds
Resistance to Solvent	No damage on appearance and marking	MIL-STD-202F, Method 215D

Climatic Test

Item	Requirement	Item														
Temperature Characteristic	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 20\%$	-40 to $+125^\circ\text{C}$														
Humidity		Temperature: $40 \pm 2^\circ\text{C}$ Relative Humidity: 90 to 95% Time: 96 ± 2 hrs Measured after exposure in the room condition for 2 hrs														
Low Temperature Storage		Temperature: $-40 \pm 2^\circ\text{C}$ Time: 96 ± 2 hrs Inductors are tested after 1 hour at room temperature														
Thermal Shock		One cycle: <table border="1" data-bbox="869 1505 1407 1697"> <thead> <tr> <th>Step</th> <th>Temperature ($^\circ\text{C}$)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25 ± 3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25 ± 2</td> <td>15</td> </tr> <tr> <td>3</td> <td>125 ± 3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25 ± 2</td> <td>15</td> </tr> </tbody> </table> <p>Total: 5 cycles</p>	Step	Temperature ($^\circ\text{C}$)	Time (min.)	1	-25 ± 3	30	2	25 ± 2	15	3	125 ± 3	30	4	25 ± 2
Step	Temperature ($^\circ\text{C}$)	Time (min.)														
1	-25 ± 3	30														
2	25 ± 2	15														
3	125 ± 3	30														
4	25 ± 2	15														

SMD Wire Wound Chip Inductor

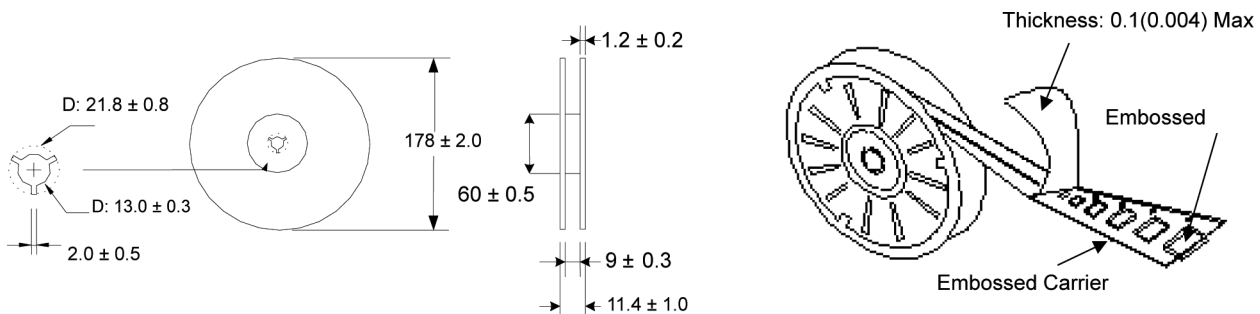
Climatic Test

Item	Requirement	Item
High Temperature Storage	Appearance: No damage L change: within $\pm 10\%$ Q change: within $\pm 20\%$	Temperature: $125 \pm 2^\circ\text{C}$ Time: 96 ± 2 hrs Measured after exposure in the room condition for 1 hour
High Temperature Load Life	There should be no evidence of short or open circuit.	Temperature: $85 \pm 2^\circ\text{C}$ Time: 1000 ± 12 hrs Load: Allowed DC current
Damp Heat with Load		Temperature: $40 \pm 2^\circ\text{C}$ Relative Humidity: 90 to 95% Time: 1000 ± 12 hrs Load: Allowed DC current

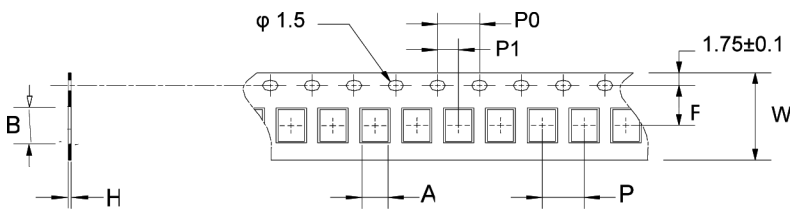
Storage Temperature: $25 \pm 3^\circ\text{C}$; Humidity < 80%RH

Packaging:

Reel Dimensions & Packaging Quantity



Paper Tape specification and Packaging Quantity

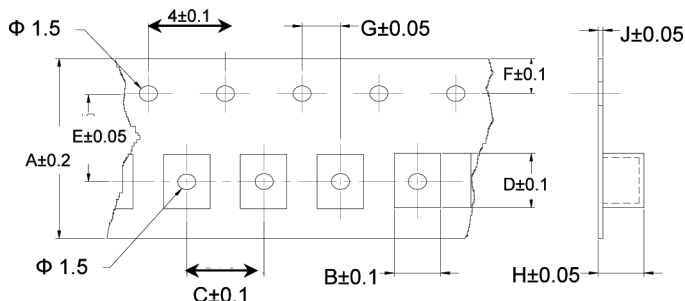


Type	A	B	H	F	P	P0	P1	W	Reel (EA)
MCWL02	0.72	1.19	0.6	3.5	2	4	2	8	4,000
MCWL03	1.35	1.95	0.95	3.5	4	4	2	8	4,000

Dimensions : Millimetres

SMD Wire Wound Chip Inductor

Embossed Plastic Tape specification and Packaging Quantity



Type	A	B	C	D	E	F	G	H	J	Reel (EA)
MCWL05	8	1.85	4	2.3	3.5	1.75	2	1.45	0.23	2,000
MCWL05 (H)	8	1.85	4	2.3	3.5	1.75	2	1.45	0.23	2,000
MCWL06	8	1.95	4	3.5	3.5	1.75	2	1.5	0.23	2,000
MCWL08	8	2.7	4	2.8	3.5	1.75	2	2	0.23	2,000
MCWL08 (H)	8	2.7	4	2.8	3.5	1.75	2	2	0.23	2,000

Dimensions : Millimetres

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