

FrelTec GmbH

Mathildenstr. 10A
82319 Starnberg
Germany

Multi-Layer High Frequency Inductor SMD

FrelTec

Multi-Layer High Frequency Inductor

SMD

SPECIFICATION

Part Number

142	03*	101*	B	T04*
Type	Size	Value	Tolerance	Packing
142 : SMD Multi-Layer High Frequency Inductor	02 : 0402 (1,0x0,5mm)	The value is given in μH "N" indicates the decimal point for nH and "U" indicates the decimal point for μH . When higher than 100 μH the last digit is the multiplier which denotes the number of zero following	B : $\pm 0,1\text{nH}$	T04: Tape and reel for 4k pc for 0603 size
	03 : 0603 (1,6x0,8mm)		C : $\pm 0,2\text{nH}$	T10: Tape and reel for 10k pc for 0402 size
		Example:	S : $\pm 0,3\text{nH}$	T15: Tape and reel for 15k pc for 0201 size
		10N : 10 nH	H : $\pm 3\%$	
		3U3 : 3300 nH	J : $\pm 5\%$	
		U68 : 680 nH		
		151 : 150 μH		* not all combination is possible

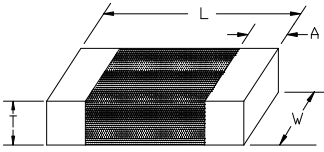
All products according to RoHS (2011/65/EU)

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Dimensions:



Size	L	W	T max.	A Min./Max.
0402	1,00±0,05	0,50±0,05	0,50±0,05	0,10/0,30
0603	1,60±0,15	0,80±0,15	0,80±0,15	0,20/0,60

unit: mm

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Ordering Code	Inductance (nH)	Available Tolerance	Q	L, Q Measuring Frequency	Self-Resonance Frequency (MHz)		DC Resistance (Ω)		Rated Current (mA)
			Min.	(MHz)	Min.	typ.	Max.	typ.	Max.
142020N3_T10	0,3	$\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142020N4_T10	0,4	$\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142020N5_T10	0,5	$\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142020N6_T10	0,6	$\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142020N7_T10	0,7	$\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142020N8_T10	0,8	$\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142021N0_T10	1,0	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,02	380
142021N1_T10	1,1	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	>13000	0,08	0,03	380
142021N2_T10	1,2	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	>13000	0,09	0,03	380
142021N3_T10	1,3	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	>13000	0,09	0,04	380
142021N5_T10	1,5	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	>13000	0,10	0,05	380
142021N6_T10	1,6	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	>13000	0,10	0,05	380
142021N8_T10	1,8	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	12.220	0,12	0,05	380
142022N0_T10	2,0	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	12.890	0,12	0,06	380
142022N2_T10	2,2	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	12.430	0,13	0,06	380
142022N4_T10	2,4	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	10.000	12.320	0,13	0,07	380
142022N7_T10	2,7	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	10.070	0,16	0,09	380
142023N0_T10	3,0	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	8.760	0,16	0,09	380
142023N3_T10	3,3	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	8.120	0,16	0,09	300
142023N6_T10	3,6	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	8.200	0,20	0,10	300
142023N9_T10	3,9	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	8.390	0,20	0,10	300
142024N3_T10	4,3	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	7.500	0,20	0,11	300
142024N7_T10	4,7	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	6.000	7.010	0,20	0,11	300
142025N1_T10	5,1	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	5.300	6.340	0,23	0,13	300
142025N6_T10	5,6	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	4.500	5.760	0,23	0,13	300
142026N2_T10	6,2	$\pm 0,3$ nH, $\pm 0,2$ nH, $\pm 0,1$ nH	8	100	4.500	5.490	0,25	0,15	300
142026N8_T10	6,8	$\pm 5\%$, $\pm 3\%$, $\pm 2\%$	8	100	4.500	5.430	0,25	0,14	300
142027N5_T10	7,5	$\pm 5\%$, $\pm 3\%$, $\pm 2\%$	8	100	4.200	5.000	0,28	0,16	300
142028N2_T10	8,2	$\pm 5\%$, $\pm 3\%$, $\pm 2\%$	8	100	3.700	4.660	0,28	0,17	300
142029N1_T10	9,1	$\pm 5\%$, $\pm 3\%$, $\pm 2\%$	8	100	3.400	4.400	0,30	0,22	300
1420210N_T10	10	$\pm 5\%$, $\pm 3\%$, $\pm 2\%$	8	100	3.400	4.120	0,31	0,24	300
1420212N_T10	12	$\pm 5\%$, $\pm 3\%$, $\pm 2\%$	8	100	3.000	3.820	0,45	0,30	300

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1420213N_T10	13	±5%, ±3%, ±2%	8	100	3.000	3.820	0,50	0,35	300
1420215N_T10	15	±5%, ±3%, ±2%	8	100	2.500	3.350	0,55	0,38	300
1420218N_T10	18	±5%, ±3%, ±2%	8	100	2.200	2.970	0,65	0,37	300
1420222N_T10	22	±5%, ±3%, ±2%	8	100	1.900	2.640	0,70	0,45	300
1420224N_T10	24	±5%, ±3%	8	100	1.700	2.640	0,70	0,45	300
1420227N_T10	27	±5%, ±3%	8	100	1.700	2.370	0,80	0,49	300
1420233N_T10	33	±5%, ±3%	8	100	1.600	2.040	0,90	0,63	200
1420239N_T10	39	±5%, ±3%	8	100	1.200	1.800	1,00	0,70	200
1420247N_T10	47	±5%, ±3%	8	100	1.100	1.660	1,10	0,82	200
1420256N_T10	56	±5%, ±3%	8	100	1.000	1.560	1,10	0,84	200
1420268N_T10	68	±5%, ±3%	8	100	800	1.330	1,20	0,99	200
1420282N_T10	82	±5%, ±3%	8	100	600	1.160	1,30	1,09	200
14202U10_T10	100	±5%, ±3%	8	100	600	1.020	1,60	1,19	200
14202U12_T10	120	±5%	8	100	600	860	1,60	1,31	150
14202U15_T10	150	±5%	8	100	550	800	3,20	2,00	140
14202U18_T10	180	±5%	8	100	500	810	3,70	2,97	130
14202U22_T10	220	±5%	8	100	450	700	4,20	3,29	120
14202U27_T10	270	±5%	8	100	400	600	4,80	3,92	110

Operating Temperature range: -55°C to +125°C

0603

Ordering Code	Inductance (nH)	Available Tolerance	Q	L, Q Measuring Frequency (MHz)	Self-Resonance Frequency (MHz)		DC Resistance (Ω)		Rated Current (mA) ~85°C
					Min.	typ.	Max.	typ.	
142031N0_T04	1,0	±0,3nH, ±0,1nH	8	100	10.000	>13000	0,05	0,01	1000
142031N2_T04	1,2	±0,3nH, ±0,1nH	8	100	10.000	>13000	0,05	0,02	1000
142031N5_T04	1,5	±0,3nH, ±0,1nH	8	100	10.000	>13000	0,1	0,03	1000
142031N8_T04	1,8	±0,3nH, ±0,1nH	8	100	10.000	>13000	0,1	0,04	1000
142032N0_T04	2,0	±0,3nH, ±0,1nH	8	100	8.000	11.690	0,1	0,05	1000
142032N2_T04	2,2	±0,3nH, ±0,2nH, ±0,1nH	8	100	8.000	11690	0,1	0,05	1000
142032N4_T04	2,4	±0,3nH, ±0,1nH	8	100	7.000	9.000	0,13	0,06	1000
142032N7_T04	2,7	±0,3nH, ±0,1nH	10	100	7.000	8930	0,13	0,06	1000
142033N0_T04	3,0	±0,3nH, ±0,1nH	10	100	6.000	6.440	0,13	0,07	1000
142033N3_T04	3,3	±0,3nH, ±0,1nH	10	100	6.000	6440	0,13	0,07	1000
142033N6_T04	3,6	±0,3nH, ±0,1nH	10	100	6.000	6.880	0,15	0,08	1000
142033N9_T04	3,9	±0,3nH, ±0,1nH	10	100	6.000	7280	0,15	0,08	1000
142034N7_T04	4,7	±0,3nH, ±0,1nH	10	100	5.000	6470	0,2	0,09	1000
142035N6_T04	5,6	±0,3nH, ±0,1nH	10	100	4.000	5230	0,23	0,1	600
142036N8_T04	6,8	±5%, ±2%	10	100	4.000	5470	0,25	0,11	600
142038N2_T04	8,2	±5%, ±2%	10	100	3.500	4460	0,28	0,14	600
1420310N_T04	10	±5%, ±2%	12	100	3.400	4360	0,3	0,15	600
1420312N_T04	12	±5%, ±2%	12	100	2.600	3480	0,35	0,17	600
1420315N_T04	15	±5%, ±2%	12	100	2.300	3310	0,4	0,19	600
1420318N_T04	18	±5%, ±2%	12	100	2.000	3080	0,45	0,21	600
1420322N_T04	22	±5%, ±2%	12	100	2.000	2670	0,5	0,29	600
1420327N_T04	27	±5%, ±2%	12	100	1.400	2270	0,55	0,27	600
1420333N_T04	33	±5%, ±2%	12	100	1.200	1970	0,6	0,36	600
1420339N_T04	39	±5%, ±2%	12	100	1.100	1830	0,65	0,37	500
1420347N_T04	47	±5%, ±2%	12	100	900	1670	0,7	0,47	500
1420356N_T04	56	±5%, ±2%	12	100	900	1530	0,75	0,46	500
1420368N_T04	68	±5%, ±2%	12	100	700	1360	0,85	0,51	400
1420382N_T04	82	±5%, ±2%	12	100	600	1290	0,95	0,57	300
14203U10_T04	100	±5%	12	100	600	1090	1	0,69	300

10/13/2015

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Please read cautions and warnings and important notes at the end of this document.

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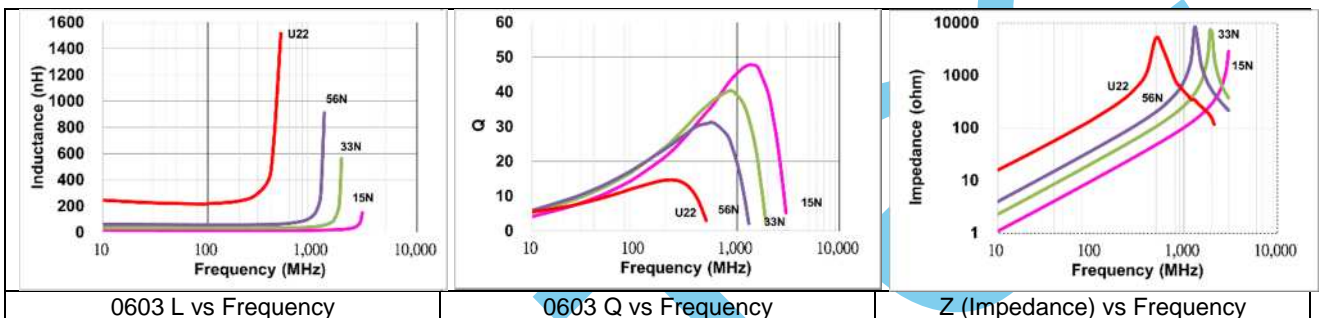
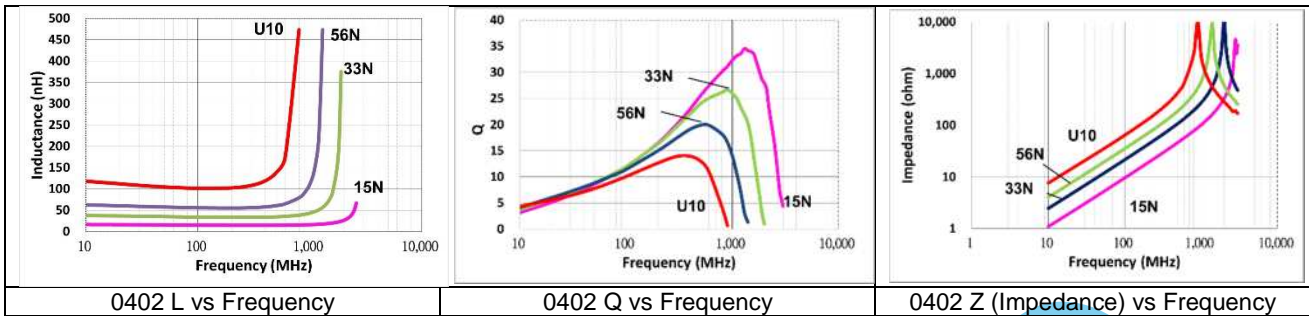
14203U12_T04	120	±5%	8	50	500	1030	1,2	0,74	300
14203U15_T04	150	±5%	8	50	500	820	1,2	0,78	300
14203U18_T04	180	±5%	8	50	400	690	1,3	0,92	300
14203U20_T04	200	±5%	8	50	400	630	1,5	1,19	300
14203U22_T04	220	±5%	8	50	400	630	1,5	1,19	300
14203U27_T04	270	±5%	8	50	400	520	1,9	1,19	200
14203U33_T04	330	±5%	8	50	350	450	2,1	1,5	200
14203U39_T04	390	±5%	8	50	350	400	2,3	1,8	150
14203U47_T04	470	±5%	8	50	300	360	2,6	2,04	150

Operating Temperature range: -40°C to +85°C

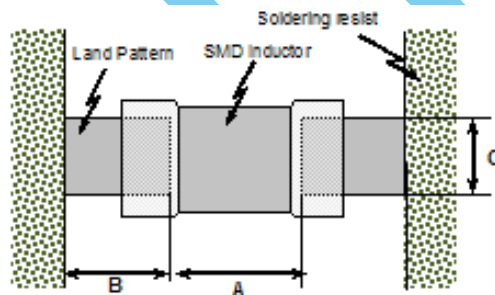
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Ordering Code	Typical Inductance(nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1,8 GHz	2,0 GHz	2,4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1,8 GHz	2,0 GHz	2,4 GHz
142020N3_T10	0,3	0,3	0,3	0,3	0,3	0,3	0,3	13	40	60	65	100	120	140
142020N4_T10	0,4	0,4	0,4	0,4	0,4	0,4	0,4	13	40	60	65	100	120	140
142020N5_T10	0,5	0,5	0,5	0,5	0,5	0,5	0,5	13	40	60	65	100	120	140
142020N6_T10	0,6	0,6	0,6	0,6	0,6	0,6	0,6	12	40	60	65	100	120	140
142020N7_T10	0,7	0,7	0,7	0,7	0,7	0,7	0,7	12	40	60	65	100	120	140
142020N8_T10	0,8	0,8	0,8	0,8	0,8	0,8	0,8	12	29	38	41	63	71	75
142021N0_T10	1,0	1,0	1,0	1,0	1,0	1,0	1,0	12	29	38	41	63	71	75
142021N1_T10	1,1	1,1	1,1	1,1	1,1	1,1	1,1	11	29	37	40	60	67	72
142021N2_T10	1,2	1,2	1,2	1,2	1,2	1,2	1,2	11	29	38	41	61	68	73
142021N3_T10	1,3	1,3	1,3	1,3	1,3	1,3	1,3	11	30	38	41	61	67	72
142021N5_T10	1,5	1,5	1,5	1,5	1,5	1,5	1,5	11	27	35	38	57	63	68
142021N6_T10	1,6	1,5	1,5	1,5	1,5	1,5	1,5	11	28	35	38	57	64	68
142021N8_T10	1,8	1,7	1,7	1,7	1,7	1,7	1,8	11	26	33	36	53	58	61
142022N0_T10	2,0	2,0	2,0	2,0	2,0	2,1	2,1	10	23	29	31	45	49	52
142022N2_T10	2,2	2,1	2,1	2,1	2,2	2,2	2,2	10	24	31	33	48	52	55
142022N4_T10	2,4	2,3	2,3	2,3	2,4	2,4	2,4	10	25	31	34	49	53	57
142022N7_T10	2,7	2,7	2,7	2,7	2,8	2,8	2,9	11	27	35	37	54	58	60
142023N0_T10	3,0	2,9	2,9	3,0	3,1	3,1	3,2	10	25	32	34	49	53	55
142023N3_T10	3,3	3,2	3,2	3,2	3,4	3,4	3,5	11	25	32	35	50	54	56
142023N6_T10	3,6	3,5	3,5	3,5	3,7	3,8	3,9	10	24	31	33	46	49	49
142023N9_T10	3,9	3,7	3,7	3,8	3,9	4,0	4,1	11	24	30	33	46	49	51
142024N3_T10	4,3	4,1	4,2	4,2	4,4	4,4	4,6	11	26	33	35	50	53	54
142024N7_T10	4,7	4,5	4,5	4,5	4,8	4,9	5,1	11	25	32	35	49	51	53
142025N1_T10	5,1	4,9	4,9	4,9	5,2	5,3	5,6	11	25	32	35	46	48	49
142025N6_T10	5,6	5,5	5,5	5,5	6,0	6,2	6,7	11	25	32	35	46	48	49
142026N2_T10	6,2	6,1	6,1	6,1	6,7	6,8	7,3	11	26	32	34	46	48	49
142026N8_T10	6,8	6,6	6,7	6,7	7,4	7,6	8,2	11	26	32	35	46	48	48
142027N5_T10	7,5	7,1	7,2	7,3	7,8	8,1	8,8	11	26	32	35	46	48	48
142028N2_T10	8,2	8,0	8,1	8,2	9,4	9,9	11,1	11	26	32	34	42	42	40
142029N1_T10	9,1	8,7	8,8	8,8	9,9	10,2	11,1	11	25	31	34	42	42	40
1420210N_T10	10,0	10,0	9,8	9,9	11,7	12,4	14,4	11	23	29	31	37	37	34
1420212N_T10	12,0	11,7	12,0	12,2	15,1	16,3	20,1	11	24	31	33	37	36	30
1420213N_T10	13,0	12,7	13,0	13,2	16,1	17,3	21,0	11	24	31	33	37	36	30
1420215N_T10	15,0	14,9	15,5	15,8	22,8	26,4	41,8	11	23	30	32	35	33	28
1420218N_T10	18,0	17,8	18,4	18,7	24,9	27,7	37,7	11	23	28	29	30	28	22
1420222N_T10	22,0	21,8	23,1	23,8	40,9	52,7	156,0	11	22	27	28	22	18	6
1420224N_T10	24,0	23,8	25,1	25,8	42,9	54,7	158,0	11	22	27	28	22	18	6
1420227N_T10	27,0	27,1	29,2	30,3	66,8	106,9	-	11	22	26	27	16	11	4
1420233N_T10	33,0	33,2	36,3	37,9	109,0	259,0	-	11	22	25	26	12	5	-
1420239N_T10	39,0	40,2	45,9	49,1	-	-	-	11	20	22	22	-	-	-
1420247N_T10	47,0	49,1	57,2	61,7	-	-	-	11	20	21	21	-	-	-
1420256N_T10	56,0	59,2	71,8	79,3	-	-	-	11	19	19	18	-	-	-
1420268N_T10	68,0	74,7	99,4	116,3	-	-	-	11	18	17	15	-	-	-
1420282N_T10	82,0	94,7	140,8	179,5	-	-	-	11	18	15	12	-	-	-
14202U10_T10	100,0	117,6	193,7	269,9	-	-	-	11	17	12	9	-	-	-
14202U12_T10	120,0	159,8	450,4	-	-	-	-	11	16	7	-	-	-	-
14202U15_T10	150,0	207,2	-	-	-	-	-	11	14	-	-	-	-	-
14202U18_T10	180,0	-	-	-	-	-	-	12	-	-	-	-	-	-
14202U22_T10	220,0	-	-	-	-	-	-	12	-	-	-	-	-	-
14202U27_T10	270,0	-	-	-	-	-	-	12	-	-	-	-	-	-

Ordering Code	Typical Inductance(nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1,8 GHz	2,0 GHz	2,4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1,8 GHz	2,0 GHz	2,4 GHz
142031N0_T04	1,0	1,1	1,1	1,1	1,1	1,1	1,0	14	40	53	60	93	32	174
142031N2_T04	1,2	1,2	1,2	1,2	1,2	1,2	1,1	14	38	49	54	84	32	143
142031N5_T04	1,5	1,6	1,6	1,6	1,6	1,5	1,5	12	31	39	43	62	33	88
142031N8_T04	1,8	1,8	1,8	1,8	1,8	1,8	1,7	13	34	42	46	68	37	97
142032N0_T04	2,0	2,0	2,0	2,0	2,0	2,0	2,0	14	36	46	50	73	42	101
142032N2_T04	2,2	2,2	2,2	2,2	2,2	2,2	2,2	14	36	46	50	73	42	101
142032N4_T04	2,4	2,4	2,4	2,4	2,4	2,4	2,4	14	36	47	45	72	45	94
142032N7_T04	2,7	2,7	2,7	2,7	2,7	2,7	2,7	14	36	47	45	72	45	94
142033N0_T04	3,0	3,0	3,0	3,0	3,2	3,2	3,3	14	37	47	50	67	47	77
142033N3_T04	3,3	3,3	3,3	3,3	3,5	3,5	3,6	14	37	47	50	67	47	77
142033N6_T04	3,6	3,6	3,6	3,6	3,7	3,7	3,8	14	36	45	49	66	48	80
142033N9_T04	3,9	3,9	3,9	3,9	4,0	4,0	4,1	15	36	46	49	66	48	81
142034N7_T04	4,7	4,6	4,6	4,7	4,9	4,9	5,1	15	39	50	53	70	53	80
142035N6_T04	5,6	5,5	5,6	5,6	6,1	6,3	6,7	15	39	50	54	67	52	69
142036N8_T04	6,8	6,7	6,7	6,8	7,3	7,5	7,9	15	38	49	52	66	53	66
142038N2_T04	8,2	8,1	8,2	8,3	9,5	9,9	11,0	16	37	48	50	59	49	54
1420310N_T04	10,0	9,9	10,1	10,2	11,7	12,3	13,9	16	39	49	52	60	50	52
1420312N_T04	12,0	12,2	12,6	12,8	16,6	18,4	24,4	16	36	46	48	47	39	31
1420315N_T04	15,0	15,1	15,6	15,9	21,0	23,4	31,9	17	40	50	52	49	41	31
1420318N_T04	18,0	18,1	18,9	19,3	27,7	32,2	52,2	17	39	48	50	43	35	21
1420322N_T04	22,0	22,3	23,8	24,6	45,7	63,5	521,1	17	39	46	47	29	19	1
1420327N_T04	27,0	27,8	30,3	31,6	85,8	191,2	-	18	39	45	46	19	8	-
1420333N_T04	33,0	34,9	38,8	40,9	-	-	-	18	39	43	43	-	-	-
1420339N_T04	39,0	41,3	47,7	51,2	-	-	-	19	36	39	37	-	-	-
1420347N_T04	47,0	50,0	58,9	64,0	-	-	-	17	34	36	34	-	-	-
1420356N_T04	56,0	62,0	77,7	87,5	-	-	-	19	35	34	31	-	-	-
1420368N_T04	68,0	76,8	103,2	121,7	-	-	-	18	33	29	25	-	-	-
1420382N_T04	82,0	96,5	145,3	187,2	-	-	-	19	32	25	20	-	-	-
14203U10_T04	100,0	123,7	222,4	343,5	-	-	-	18	30	19	12	-	-	-
14203U12_T04	120,0	156,0	355,0	-	-	-	-	19	28	14	-	-	-	-
14203U15_T04	150,0	227,9	-	-	-	-	-	18	21	-	-	-	-	-
14203U18_T04	180,0	336,8	-	-	-	-	-	17	17	-	-	-	-	-
14203U22_T04	220,0	520,7	-	-	-	-	-	16	13	-	-	-	-	-
14203U27_T04	270,0	-	-	-	-	-	-	16	-	-	-	-	-	-
14203U33_T04	330,0	-	-	-	-	-	-	14	-	-	-	-	-	-
14203U39_T04	390,0	-	-	-	-	-	-	14	-	-	-	-	-	-
14203U47_T04	470,0	-	-	-	-	-	-	13	-	-	-	-	-	-



Recommended Land Pattern Design (for Reflow Soldering):

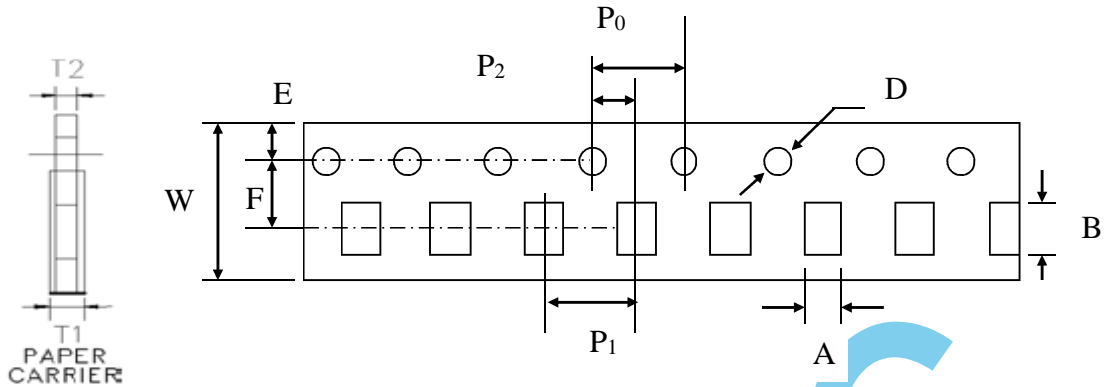


Size	A	B	C
0402	0,30 to 0,50	0,35 to 0,45	0,40 to 0,50
0603	0,70 to 1,00	0,60 to 0,80	0,70 to 0,80

in mm

FrelTec Multi-Layer High Frequency Inductor

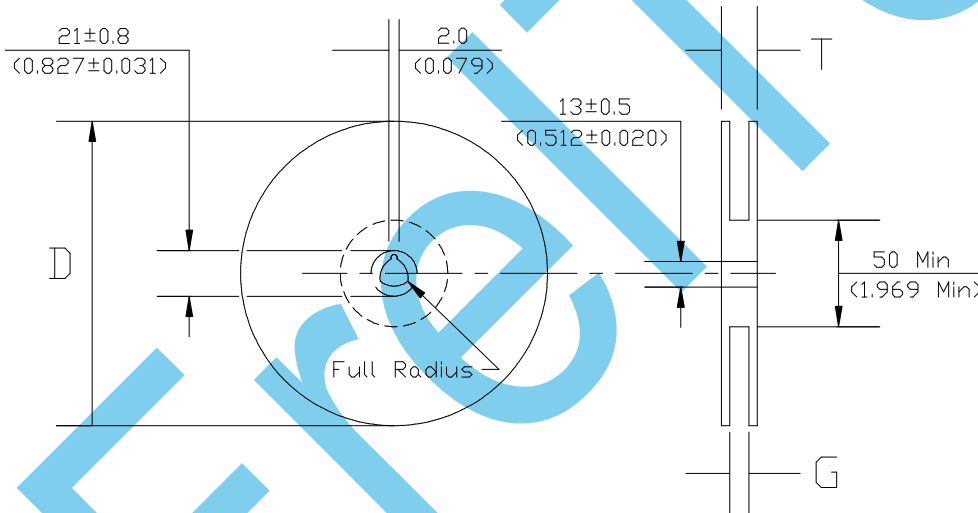
SMD Tape Dimensions



Packing	Size	A	B	W	F	E	P ₁	P ₂	P ₀	D	T ₁
Paper Tape	0402	0,62±0,03	1,12±0,03	8,0±0,3	3,5±0,05	1,75±0,10	2±0,1	2,0±0,05	4,0±0,1	1,5 +0,1/-0,0	1,1 max
	0603	1,0±0,2	1,8±0,2	8,0±0,3	3,5±0,05	1,75±0,10	4±0,1	2,0±0,05	4,0±0,1	1,5 +0,1/-0,0	1,1 max

Unit: mm

Reel Dimensions



Tape Width	G	T MAX	D
8	10,0±1,5	14,5	178±2,0

Unit: mm

FrelTec

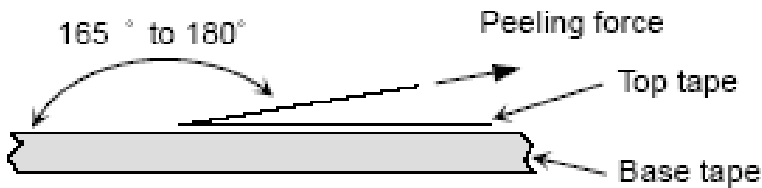
SMD

Multi-Layer High Frequency Inductor

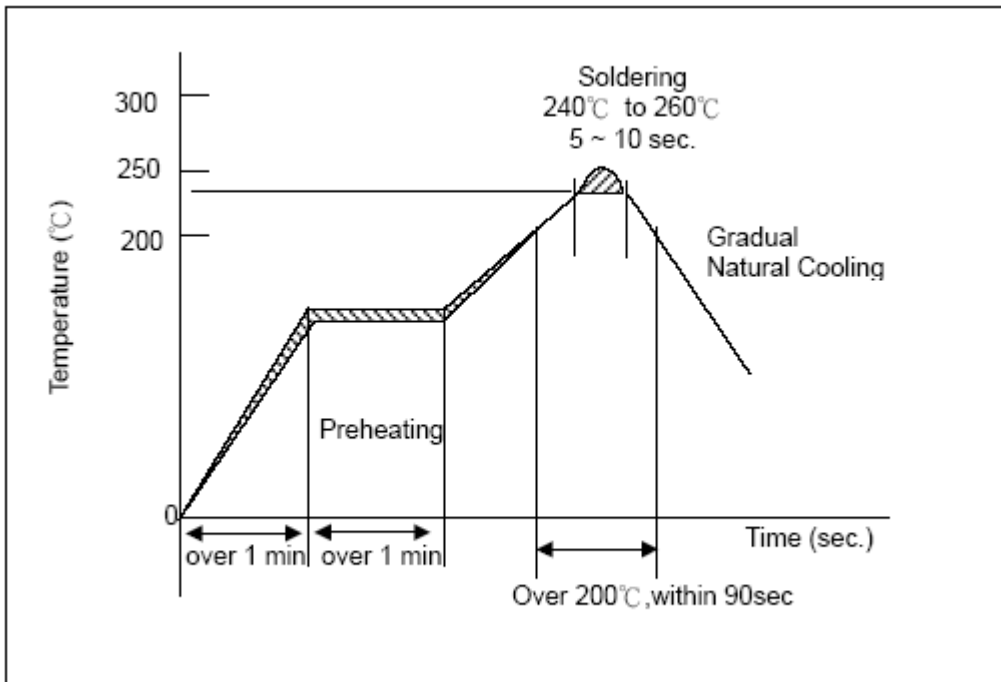
Cover Tape Peel off Strength

The peel speed shall be about 300 mm/min.

The peel strength of top cover tape shall be between 0,1 to 1,0N.



Lead Free Solder Paste



The rate of preheat should not exceed 4°C per sec and a target of 2°C per sec is preferred. Ceramic chip components should be preheated to within 100 to 130 °C of the soldering.

Stock period

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature from +5 to 35°C and a relative humidity 45% to 70%RH

The storage atmosphere must be free of gas containing sulfur and chlorine. Also, avoid exposing the product to saline moisture. If the product is exposed to such atmospheres, the terminals will oxidize and solderability will be affected.

Handling

Inductor should be handled with care to avoid contamination or damage. The use of vacuum pick-up or plastic tweezers is recommended for manual placement. Tape and reeled packages are suitable for automatic pick and placement machine.

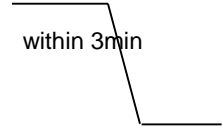
Test conditions and requirements

Item	Test Condition	Requirements												
Appearance	Inductors shall be visually inspected for visible evidence of defect.	No harmful defect for piratical use.												
Inductance	a. Temperature: 25±3°C b. Relative Humidity: 45 to 75%RH c. Measurement Voltage: 500mV d. Measuring equipment and fixture: 0402 HP 4287+16193A 0603 HP 4291+16192A	Within specified tolerance.												
Q Value	a. Temperature: 25 ± 3°C b. Relative Humidity: 45 to 75%RH c. Measurement Voltage: 500mV d. Measuring equipment and fixture: 0402 HP 4287+16193A 0603 HP 4291+16192A	In accordance with electrical specification.												
DC Resistance	a. Temperature: 25 ± 3°C b. Relative Humidity: 45 to 75%RH c. Measuring equipment: HP 4338	In accordance with electrical specification.												
Dimension	Dimension shall be measured with caliper or micrometer	In accordance with dimension specification.												
Solder-ability	Immerse a test sample into a methanol solution containing rosin and immerse into SAC305 (Sn96,5 Ag3,0 Cu0,5) solder of 245±3°C for 3±1 seconds.	90% of the termination is to be soldered evenly and continuously.												
Resistance to Soldering Heat	Immerse a test sample into a methanol solution containing resin, preheat it at 120 to 150°C for 1 minutes and immerse into molten solder of 260 ± 5°C for 10 ± 0,5 second so that both terminal electrodes are completely submerged.	No visible damage Inductance variation within 10% Q variation within 20%												
Bending Strength	<p>Solder the chip to test jig then apply a force in the direction shown in below. The soldering shall be done with the reflow method and shall be conducted with care so that the soldering is uniform and free of defects such as heat shock.</p> <table border="1"> <thead> <tr> <th>Size</th> <th>a</th> <th>b</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>0402</td> <td>0,4</td> <td>1,5</td> <td>0,5</td> </tr> <tr> <td>0603</td> <td>1,0</td> <td>3,0</td> <td>1,2</td> </tr> </tbody> </table>	Size	a	b	C	0402	0,4	1,5	0,5	0603	1,0	3,0	1,2	<ol style="list-style-type: none"> No mechanical damage shall be observed. Rdc-value: to meet the initial Spec.
Size	a	b	C											
0402	0,4	1,5	0,5											
0603	1,0	3,0	1,2											

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Multi-Layer High Frequency Inductor

<p>Thermal Shock</p>	<p>Solder a test sample to printed circuit board, and conduct 5 cycles of test under the conditions shown as below.</p> <p>Operating temp. range: -55~125°C</p> <p>Cycle: Maximum operating temp. $\pm(30\pm 3\text{min})$</p>  <p>Minimum operating temp. $(30\pm 3\text{min})$</p>	<p>No visible damage Inductance variation within 10% Q variation within 20%</p>
<p>High Humidity State Life Test</p>	<p>Keep a test sample in an atmosphere with a temperature of $40\pm 2^\circ\text{C}$, 90~95%RH for $500 \pm 12/0$ hours. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24 ± 2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>
<p>High Humidity Load Life Test</p>	<p>Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of $40\pm 2^\circ\text{C}$, 90~95%RH for $500\pm 12/0$ hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24 ± 2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>
<p>High Temperature State Life Test</p>	<p>Keep a test sample in an atmosphere with a temperature of $85\pm 2^\circ\text{C}$ for 500 ± 12 hours. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24 ± 2hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>
<p>High Temperature Load</p>	<p>Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of $60\pm 2^\circ\text{C}$ for 500 ± 12 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24 ± 2 hrs of recovery under standard condition.</p>	<p>No visible damage. Inductance variation within 10%. Q variation within 20%.</p>

Published by FrelTec® GmbH
Mathildenstr. 10A; 82319 Starnberg; Germany
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