

High Frequency Winding Type Chip Inductor

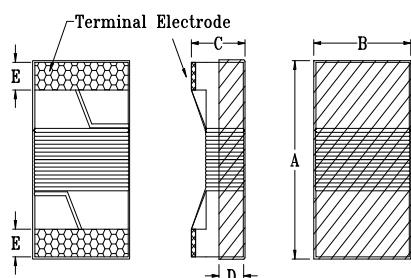
SWI-SERIES

1. Features

- 1.Ceramic core wire wound construction.
- 2.No batch to batch variations in inductance, SRF and Q that are present in ferrite inductors.
- 3.High Reliability due to ceramic wire wound construction.
- 4.High frequency application.
- 5.Small footprint as well as low profile.
- 6.This component is compliant with RoHS legislation and also support lead-free soldering.



2. Dimensions



Size	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
SWI0402	1.19 max.	0.64 max.	0.66 max.	0.25 ref.	0.23±0.1
SWI0603	1.80 max.	1.20 max.	1.02 max.	0.38 ref.	0.35±0.1
SWI0805	2.40 max.	1.60 max.	1.40 max.	0.51 ref.	0.44±0.1
SWI1008	2.90 max.	2.50 max.	2.03 max.	1.20 ref.	0.55±0.1

Unit:mm

3. Part Numbering

SWI	0402	F	-	1N0	S	PR	SWI	0603	F	-	1N6	S	TR
A	B	C		D	E	F	A	B	C		D	E	F

A: Series
 B: Dimension
 C: Material
 D: Inductance
 E: Inductance Tolerance
 F: Packaging

LxW
 Ceramic
 1N0=1.0nH
 B=±0.2nH, S=±0.3nH, G=±2%, J=±5%, K=±10%
 PR=Paper Tape & Reel

A: Series
 B: Dimension
 C: Material
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 E: Inductance Tolerance
 F: Packaging

LxW
 Ceramic
 1N6=1.6nH
 B=±0.2nH, S=±0.3nH, G=±2%, J=±5%, K=±10%
 TR=Taping and Reel

4. Specification

Part Number	Inductance (nH)	Tolerance	Q min.	Test Frequency (Hz)	900MHz		1.7GHz		I rms (mA)	DCR (Ω) max.	SRF (GHz) min.
					L Typ.	Q Typ.	L Typ.	Q Typ.			
SWI0402F-1N0□PR	1.0	B,S	16	0.1V/250M	1.02	77	1.02	69	1360	0.045	12.7
SWI0402F-1N2□PR	1.2	B,S	16	0.1V/250M	1.17	28	1.17	38	740	0.090	12.9
SWI0402F-1N8□PR	1.8	B,S	16	0.1V/250M	1.78	54	1.78	75	1040	0.070	12.00
SWI0402F-1N9□PR	1.9	B,S	16	0.1V/250M	1.72	68	1.72	82	1040	0.070	11.30
SWI0402F-2N0□PR	2.0	B,S	16	0.1V/250M	1.93	54	1.93	75	1040	0.070	11.10
SWI0402F-2N2□PR	2.2	B,S	19	0.1V/250M	2.19	59	2.23	100	960	0.070	10.80
SWI0402F-2N4□PR	2.4	B,S	15	0.1V/250M	2.24	51	2.27	68	790	0.068	10.50
SWI0402F-2N7□PR	2.7	B,S	16	0.1V/250M	2.58	42	2.60	61	640	0.120	10.40
SWI0402F-3N3□PR	3.3	B,S	19	0.1V/250M	3.10	65	3.12	87	840	0.066	7.00
SWI0402F-3N6□PR	3.6	B,S	19	0.1V/250M	3.56	45	3.62	71	840	0.066	6.80
SWI0402F-3N9□PR	3.9	B,S	19	0.1V/250M	3.89	50	4.00	75	840	0.066	6.00
SWI0402F-4N3□PR	4.3	B,S	18	0.1V/250M	4.19	47	4.30	71	700	0.091	6.00
SWI0402F-4N7□PR	4.7	B,S	15	0.1V/250M	4.55	48	4.68	68	640	0.130	4.77
SWI0402F-5N1□PR	5.1	B,S	20	0.1V/250M	5.15	56	5.25	82	800	0.083	4.80
SWI0402F-5N6□PR	5.6	B,S	20	0.1V/250M	5.16	54	5.28	81	760	0.083	4.80
SWI0402F-6N2□PR	6.2	B,S	20	0.1V/250M	6.16	52	6.37	76	760	0.083	4.80
SWI0402F-6N8□PR	6.8	B,J	20	0.1V/250M	6.56	63	6.93	78	680	0.083	4.80

Part Number	Inductance (nH)	Tolerance	Q min.	Test Frequency (Hz)	900MHz		1.7GHz		I rms (mA)	DCR (Ω) max.	SRF (GHz) min.
					L Typ.	Q Typ.	L Typ.	Q Typ.			
SWI0402F-7N5□PR	7.5	B,J	22	0.1V/250M	7.91	60	8.22	88	680	0.10	4.80
SWI0402F-8N2□PR	8.2	B,J	22	0.1V/250M	8.50	57	8.85	84	680	0.10	4.40
SWI0402F-8N7□PR	8.7	B,J	18	0.1V/250M	8.78	54	9.21	73	480	0.20	4.10
SWI0402F-9N0□PR	9.0	B,J	22	0.1V/250M	9.07	62	9.53	78	680	0.10	4.16
SWI0402F-9N5□PR	9.5	B,J	18	0.1V/250M	9.42	54	9.98	69	480	0.20	4.00
SWI0402F-10N□PR	10	G,J	21	0.1V/250M	9.8	50	10.10	67	480	0.20	3.90
SWI0402F-11N□PR	11	G,J	24	0.1V/250M	10.7	52	11.20	78	640	0.12	3.68
SWI0402F-12N□PR	12	G,J	24	0.1V/250M	11.9	53	12.70	71	640	0.12	3.60
SWI0402F-13N□PR	13	G,J	24	0.1V/250M	13.4	51	14.63	57	440	0.21	3.45
SWI0402F-15N□PR	15	G,J	24	0.1V/250M	14.6	55	15.50	77	560	0.17	3.28
SWI0402F-16N□PR	16	G,J	24	0.1V/250M	16.6	46	18.86	47	560	0.22	3.10
SWI0402F-18N□PR	18	G,J	25	0.1V/250M	18.3	57	20.28	62	420	0.23	3.10
SWI0402F-19N□PR	19	G,J	24	0.1V/250M	19.1	50	21.10	67	480	0.20	3.04
SWI0402F-20N□PR	20	G,J	25	0.1V/250M	20.7	52	23.66	53	420	0.25	3.00
SWI0402F-22N□PR	22	G,J	25	0.1V/250M	23.2	53	26.75	53	400	0.30	2.80
SWI0402F-23N□PR	23	G,J	22	0.1V/250M	23.8	49	26.90	64	400	0.30	2.72
SWI0402F-24N□PR	24	G,J	25	0.1V/250M	25.1	51	29.50	50	400	0.30	2.70
SWI0402F-27N□PR	27	G,J	24	0.1V/250M	28.7	49	33.50	63	400	0.30	2.48
SWI0402F-30N□PR	30	G,J	25	0.1V/250M	31.1	46	38.50	39	400	0.30	2.35
SWI0402F-33N□PR	33	G,J	24	0.1V/250M	34.9	31	41.74	32	400	0.30	2.35
SWI0402F-36N□PR	36	G,J	24	0.1V/250M	39.5	44	48.40	53	320	0.44	2.32
SWI0402F-39N□PR	39	G,J	25	0.1V/250M	41.7	47	50.23	45	200	0.55	2.10
SWI0402F-40N□PR	40	G,J	24	0.1V/250M	39.0	44	47.40	33	320	0.44	2.24
SWI0402F-43N□PR	43	G,J	25	0.1V/250M	45.8	46	61.55	34	100	0.81	2.03
SWI0402F-47N□PR	47	G,J	20	0.1V/250M	50.0	38			150	0.83	2.10
SWI0402F-51N□PR	51	G,J	25	0.1V/250M	56.6	40			100	0.82	1.75
SWI0402F-56N□PR	56	G,J	22	0.1V/250M	62.8	42			100	0.97	1.76
SWI0402F-68N□PR	68	G,J	22	0.1V/250M	78.2	36			100	1.12	1.62
SWI0402F-82N□PR	82	G,J	20	0.1V/250M					50	1.55	1.26
SWI0402F-R10□PR	100	G,J	20	0.1V/250M					30	2.00	1.16
SWI0402F-R12□PR	120	G,J	18	0.1V/250M					50	1.78	1.90

Part Number	Inductance (nH)	Tolerance	Q min.	Test Frequency (Hz)	900MHz		1.7GHz		I rms (mA)	DCR (Ω) max.	SRF (MHz) min.
					L Typ.	Q Typ.	L Typ.	Q Typ.			
SWI0603F-1N6□TR	1.6	B,S	24	0.1V/250M	1.67	49	1.65	63	700	0.030	12500
SWI0603F-1N8□TR	1.8	B,S	16	0.1V/250M	1.83	35	1.86	50	700	0.045	12500
SWI0603F-2N2□TR	2.2	B,S	13	0.1V/250M	2.22	31	2.24	44	700	0.045	12500
SWI0603F-3N3□TR	3.3	B,S	35	0.1V/250M	3.31	75	3.38	88	700	0.045	5900
SWI0603F-3N6□TR	3.6	B,S	22	0.1V/250M	3.72	53	3.71	65	700	0.063	5900
SWI0603F-3N9□TR	3.9	B,S	22	0.1V/250M	3.95	49	3.96	67	700	0.080	6900
SWI0603F-4N3□TR	4.3	B,S	22	0.1V/250M	4.32	50	4.33	70	700	0.063	5900
SWI0603F-4N7□TR	4.7	B,S	20	0.1V/250M	4.72	47	4.75	57	700	0.116	5800
SWI0603F-5N1□TR	5.1	B,S	20	0.1V/250M	4.93	47	4.95	56	700	0.140	5700
SWI0603F-5N6□TR	5.6	B,S	26	0.1V/250M	5.77	63	6.05	80	700	0.075	4760
SWI0603F-6N8□TR	6.8	B,J	27	0.1V/250M	6.75	60	7.10	81	700	0.110	5800
SWI0603F-7N5□TR	7.5	G,J	28	0.1V/250M	7.70	60	7.82	65	700	0.106	4800
SWI0603F-8N2□TR	8.2	G,J	30	0.1V/250M	8.25	82	8.37	87	700	0.115	4200
SWI0603F-8N7□TR	8.7	G,J	28	0.1V/250M	8.86	62	9.32	58	700	0.109	4600
SWI0603F-9N5□TR	9.5	G,J	28	0.1V/250M	9.7	59	9.92	61	700	0.135	5400
SWI0603F-10N□TR	10	G,J	31	0.1V/250M	10.0	66	10.6	83	700	0.130	4800
SWI0603F-11N□TR	11	G,J	30	0.1V/250M	11.0	53	11.5	56	700	0.086	4000
SWI0603F-12N□TR	12	G,J	35	0.1V/250M	12.3	72	13.5	83	700	0.130	4000
SWI0603F-15N□TR	15	G,J	35	0.1V/250M	15.4	64	16.8	89	700	0.170	4000
SWI0603F-16N□TR	16	G,J	34	0.1V/250M	16.2	55	17.3	52	700	0.104	3300
SWI0603F-18N□TR	18	G,J	35	0.1V/250M	18.7	70	21.4	69	700	0.170	3100
SWI0603F-22N□TR	22	G,J	38	0.1V/250M	22.8	73	26.1	71	700	0.190	3000
SWI0603F-23N□TR	23	G,J	38	0.1V/250M	24.1	71	28.0	67	700	0.190	2850
SWI0603F-24N□TR	24	G,J	36	0.1V/250M	24.5	45	28.7	39	700	0.135	2650
SWI0603F-27N□TR	27	G,J	40	0.1V/250M	29.2	74	34.6	65	600	0.220	2800
SWI0603F-30N□TR	30	G,J	37	0.1V/250M	31.4	47	39.9	28	600	0.144	2250
SWI0603F-33N□TR	33	G,J	40	0.1V/250M	36.0	67	49.5	42	600	0.220	2300
SWI0603F-36N□TR	36	G,J	37	0.1V/250M	39.4	47	52.7	24	600	0.250	2080
SWI0603F-39N□TR	39	G,J	40	0.1V/250M	42.7	60	60.2	40	600	0.250	2200
SWI0603F-43N□TR	43	G,J	38	0.1V/250M	47	44	64.9	21	600	0.280	2000
SWI0603F-47N□TR	47	G,J	38	0.1V/200M	52.2	62	77.2	35	600	0.280	2000
SWI0603F-51N□TR	51	G,J	35	0.1V/200M	55.5	69	82.2	34	600	0.270	1900
SWI0603F-56N□TR	56	G,J	38	0.1V/200M	62.5	56	97.0	26	600	0.310	1900
SWI0603F-68N□TR	68	G,J	37	0.1V/200M	80.5	54	168	21	600	0.340	1700
SWI0603F-72N□TR	72	G,J	34	0.1V/150M	82	53	135	20	400	0.490	1700
SWI0603F-82N□TR	82	G,J	34	0.1V/150M	96.2	54	177	21	400	0.540	1700
SWI0603F-R10□TR	100	G,J	34	0.1V/150M	124	49			400	0.580	1400
SWI0603F-R11□TR	110	G,J	32	0.1V/150M	138	43			300	0.610	1350
SWI0603F-R12□TR	120	G,J	32	0.1V/150M	166	39			300	0.650	1300
SWI0603F-R15□TR	150	G,J	28	0.1V/150M	250	25			280	0.920	990
SWI0603F-R18□TR	180	G,J	25	0.1V/100M	305	22			240	1.25	990
SWI0603F-R20□TR	200	G,J	25	0.1V/100M					200	1.98	900
SWI0603F-R21□TR	210	G,J	27	0.1V/100M					200	2.06	895
SWI0603F-R22□TR	220	G,J	25	0.1V/100M					200	2.10	900
SWI0603F-R25□TR	250	G,J	25	0.1V/100M					120	3.55	822
SWI0603F-R27□TR	270	G,J	24	0.1V/100M					170	2.30	900
SWI0603F-R33□TR	330	G,J	25	0.1V/100M					100	3.89	900
SWI0603F-R39□TR	390	G,J	25	0.1V/100M					100	4.35	900

Part Number	Inductance (nH)	Tolerance	Test Frequency (Hz)	Q @ Test Freq. min.	I rms (mA)	DCR (Ω) max.	SRF (MHz) min.
SWI0805F-2N0□TR	2.0	B,S	0.1V/250M	80/1500	800	0.03	12200
SWI0805F-3N0□TR	3.0	B,S	0.1V/250M	65/1500	800	0.06	12200
SWI0805F-3N3□TR	3.3	B,S	0.1V/250M	50/1500	600	0.08	12200
SWI0805F-3N9□TR	3.9	B,S	0.1V/250M	60/1000	600	0.04	6100
SWI0805F-4N7□TR	4.7	B,S	0.1V/250M	60/1000	600	0.04	6000
SWI0805F-5N6□TR	5.6	B,S	0.1V/250M	65/1000	600	0.08	5900
SWI0805F-6N8□TR	6.8	B,J	0.1V/250M	50/1000	600	0.06	5600
SWI0805F-7N5□TR	7.5	B,J	0.1V/250M	50/1000	600	0.06	4800
SWI0805F-8N2□TR	8.2	B,J	0.1V/250M	50/1000	600	0.06	4700
SWI0805F-10N□TR	10	G,J	0.1V/250M	60/500	600	0.08	4300
SWI0805F-12N□TR	12	G,J	0.1V/250M	50/500	600	0.08	4000
SWI0805F-15N□TR	15	G,J	0.1V/250M	50/500	600	0.10	3400
SWI0805F-18N□TR	18	G,J	0.1V/250M	50/500	600	0.10	3300
SWI0805F-22N□TR	22	G,J	0.1V/250M	60/500	600	0.12	2600
SWI0805F-24N□TR	24	G,J	0.1V/250M	60/500	600	0.12	2400
SWI0805F-27N□TR	27	G,J	0.1V/250M	60/500	600	0.12	2580
SWI0805F-33N□TR	33	G,J	0.1V/250M	60/500	600	0.13	2150
SWI0805F-36N□TR	36	G,J	0.1V/250M	65/500	600	0.13	1900
SWI0805F-39N□TR	39	G,J	0.1V/250M	65/500	600	0.15	2000
SWI0805F-43N□TR	43	G,J	0.1V/200M	65/500	600	0.15	1800
SWI0805F-47N□TR	47	G,J	0.1V/200M	65/500	600	0.17	1700
SWI0805F-56N□TR	56	G,J	0.1V/200M	65/500	600	0.19	1600
SWI0805F-68N□TR	68	G,J	0.1V/200M	60/500	500	0.22	1500
SWI0805F-82N□TR	82	G,J	0.1V/150M	65/500	400	0.40	1330
SWI0805F-91N□TR	91	G,J	0.1V/150M	65/500	400	0.40	1330
SWI0805F-R10□TR	100	G,J	0.1V/150M	65/500	400	0.52	1250
SWI0805F-R11□TR	110	G,J	0.1V/150M	50/250	400	0.52	1100
SWI0805F-R12□TR	120	G,J	0.1V/150M	50/250	400	0.55	1100
SWI0805F-R15□TR	150	G,J	0.1V/150M	50/250	400	0.73	920
SWI0805F-R18□TR	180	G,J	0.1V/100M	50/250	400	0.88	920
SWI0805F-R20□TR	200	G,J	0.1V/100M	50/250	400	1.18	860
SWI0805F-R22□TR	220	G,J	0.1V/100M	50/250	400	1.18	850
SWI0805F-R24□TR	240	G,J	0.1V/100M	48/250	350	1.20	770
SWI0805F-R25□TR	250	G,J	0.1V/100M	48/250	350	1.20	730
SWI0805F-R27□TR	270	G,J	0.1V/100M	48/250	350	1.36	730
SWI0805F-R33□TR	330	G,J	0.1V/100M	40/250	310	1.40	650
SWI0805F-R39□TR	390	G,J	0.1V/100M	25/250	290	1.50	600
SWI0805F-R47□TR	470	G,J	0.1V/50M	25/100	250	1.76	375
SWI0805F-R56□TR	560	G,J	0.1V/25M	23/50	230	1.90	340
SWI0805F-R62□TR	620	G,J	0.1V/25M	23/50	210	2.00	310
SWI0805F-R68□TR	680	G,J	0.1V/25M	23/50	200	2.15	310
SWI0805F-R75□TR	750	G,J	0.1V/25M	20/50	185	2.25	310
SWI0805F-R82□TR	820	G,J	0.1V/25M	20/50	180	2.50	310
SWI0805F-1R0□TR	1000	G,J	0.1V/25M	15/50	170	2.60	100

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SWI1008F-4N7□TR	4.7	G, J	0.1V/50M	70/1500	1200	0.05	5000
SWI1008F-5N6□TR	5.6	G, J	0.1V/50M	50/1500	1000	0.15	5000
SWI1008F-10N□TR	10	G, J	0.1V/50M	50/500	1000	0.08	4100
SWI1008F-12N□TR	12	G, J	0.1V/50M	50/500	1000	0.09	3300
SWI1008F-15N□TR	15	G, J	0.1V/50M	50/500	1000	0.11	2500
SWI1008F-18N□TR	18	G, J	0.1V/50M	50/350	1000	0.12	2400
SWI1008F-22N□TR	22	G, J	0.1V/50M	55/350	1000	0.12	2400
SWI1008F-24N□TR	24	G, J	0.1V/50M	55/350	1000	0.12	1900
SWI1008F-27N□TR	27	G, J	0.1V/50M	55/350	1000	0.13	1600
SWI1008F-33N□TR	33	G, J	0.1V/50M	60/350	1000	0.14	1600
SWI1008F-36N□TR	36	G, J	0.1V/50M	60/350	1000	0.15	1600
SWI1008F-39N□TR	39	G, J	0.1V/50M	60/350	1000	0.15	1500
SWI1008F-47N□TR	47	G, J	0.1V/50M	65/350	1000	0.16	1500
SWI1008F-56N□TR	56	G, J	0.1V/50M	65/350	1000	0.18	1300
SWI1008F-62N□TR	62	G, J	0.1V/50M	65/350	1000	0.20	1300
SWI1008F-68N□TR	68	G, J	0.1V/50M	65/350	1000	0.20	1300
SWI1008F-75N□TR	75	G, J	0.1V/50M	60/350	1000	0.21	1100
SWI1008F-82N□TR	82	G, J	0.1V/50M	60/350	1000	0.22	1000
SWI1008F-R10□TR	100	G, J	0.1V/25M	60/350	650	0.56	1000
SWI1008F-R12□TR	120	G, J	0.1V/25M	60/350	650	0.63	950
SWI1008F-R15□TR	150	G, J	0.1V/25M	45/100	620	0.70	850
SWI1008F-R18□TR	180	G, J	0.1V/25M	45/100	620	0.77	750
SWI1008F-R22□TR	220	G, J	0.1V/25M	45/100	500	0.84	700
SWI1008F-R24□TR	240	G, J	0.1V/25M	45/100	500	0.88	650
SWI1008F-R27□TR	270	G, J	0.1V/25M	45/100	500	0.91	600
SWI1008F-R30□TR	300	G, J	0.1V/25M	45/100	450	1.00	585
SWI1008F-R33□TR	330	G, J	0.1V/25M	45/100	450	1.05	570
SWI1008F-R36□TR	360	G, J	0.1V/25M	45/100	470	1.10	530
SWI1008F-R39□TR	390	G, J	0.1V/25M	45/100	470	1.12	500
SWI1008F-R43□TR	430	G, J	0.1V/25M	45/100	470	1.15	480
SWI1008F-R47□TR	470	G, J	0.1V/25M	45/100	470	1.19	450
SWI1008F-R56□TR	560	G, J	0.1V/25M	45/100	400	1.33	415
SWI1008F-R62□TR	620	G, J	0.1V/25M	45/100	300	1.40	375
SWI1008F-R68□TR	680	G, J	0.1V/25M	45/100	400	1.47	375
SWI1008F-R75□TR	750	G, J	0.1V/25M	45/100	360	1.54	360
SWI1008F-R82□TR	820	G, J	0.1V/25M	45/100	400	1.61	350
SWI1008F-R91□TR	910	G, J	0.1V/25M	35/50	380	1.68	320
SWI1008F-1R0□TR	1000	G, J	0.1V/25M	35/50	370	1.75	290
SWI1008F-1R2□TR	1200	G, J	0.1V/7.9M	35/50	310	2.00	250
SWI1008F-1R5□TR	1500	G, J	0.1V/7.9M	28/50	330	2.23	200
SWI1008F-1R8□TR	1800	G, J	0.1V/7.9M	28/50	300	2.60	160
SWI1008F-2R2□TR	2200	G, J	0.1V/7.9M	28/50	280	2.80	160
SWI1008F-2R7□TR	2700	G, J	0.1V/7.9M	22/25	290	3.20	140
SWI1008F-3R3□TR	3300	G, J	0.1V/7.9M	22/25	290	3.40	110
SWI1008F-3R9□TR	3900	G, J	0.1V/7.9M	20/25	260	3.60	100
SWI1008F-4R7□TR	4700	G, J	0.1V/7.9M	20/25	260	4.00	90
SWI1008F-5R6□TR	5600	G, J	0.1V/7.9M	18/7.9	240	4.00	45
SWI1008F-6R8□TR	6800	G, J	0.1V/7.9M	18/7.9	200	4.90	40
SWI1008F-8R2□TR	8200	G, J	0.1V/7.9M	18/7.9	170	6.00	25
SWI1008F-100□TR	10000	G, J	0.1V/2.52M	18/7.9	150	8.00	25

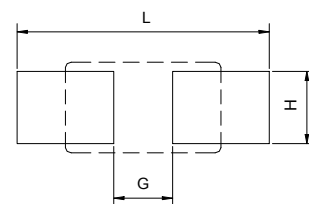
5. Reliability and Test Condition

Item	Performance	Test Condition								
Operating Temperature	-40~+85℃									
Electrical Performance Test										
Inductance L	Refer to standard electrical characteristic list	HP4291A, HP4287A								
Q										
SRF		HP4291A								
DC Resistance		HP4338B, Chroma 16502								
Rated Current		Applied the current to coils, the inductance change shall be less than 10% to initial value & temperature rise shall not be more than 20℃.								
Temperature Rise Test	20℃ MAX(Δt)	1. Applied the allowed DC current for 10 mins. 2. Temperature measure by digital surface thermometer.								
Mechanical Performance Test										
Resistance to Soldering Heat	1. Inductors shall be no evidence of electrical and mechanical damage. 2. Inductance : within $\pm 0.3nH$ of initial value for $\leq 3.9nH$. 3. Inductance : within $\pm 10\%$ of initial value for $\geq 5.2nH$. 4. Q shall not change more than $\pm 20\%$.	Temp.: 260 ± 5 ℃ Time: 10 ± 1.0 Sec								
Solderability Test	The terminal shall be at least 90% covered with solder.	After fluxing, inductor shall be dipped in a melted solder bath at 245 \pm 5℃ for 5 Sec.								
Reliability Test										
Humidity Test	1. Inductors shall be no evidence of electrical and mechanical damage. 2. Inductance : within $\pm 0.3nH$ of initial value for $\leq 3.9nH$. 3. Inductance : within $\pm 10\%$ of initial value for $\geq 5.2nH$. 4. Q shall not change more than $\pm 20\%$.	1. Temperature :50 ± 2 ℃ 2. R.H. : 90-95% 3. Time : 48 ± 2 Hours								
Thermal Shock Test		<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature(℃)</th> <th>Times(min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40± 5</td> <td>30± 3</td> </tr> <tr> <td>2</td> <td>125± 5</td> <td>30± 3</td> </tr> </tbody> </table> Total:10 cycles	Step	Temperature(℃)	Times(min.)	1	-40 ± 5	30 ± 3	2	125 ± 5
Step	Temperature(℃)	Times(min.)								
1	-40 ± 5	30 ± 3								
2	125 ± 5	30 ± 3								
High Temperature Load Life Test	Inductors shall be no evidence of short or open circuit.	1. Temp. : 85 \pm 2℃ 2. Time : 500 \pm 12 Hours 3. Load : Allowed DC current								
Humidity Load Life		1. Temp : 40 \pm 2℃ 2. R.H. : 90-95% 3. Time : 500 \pm 12 Hours 4. Load : Allowed DC current								
Low temperature storage test	1. Appearance : no damage 2. Inductance : within $\pm 0.3nH$ of initial value for $\leq 3.9nH$ 3. Inductance : within $\pm 10\%$ of initial value for $\geq 5.2nH$ 4. Q : within $\pm 20\%$ of initial value	1. Temperature:-40 ± 2 ℃ 2. Applied current : rated current 3. Duration : 500 ± 12 hrs 4. Measured at room temperature after Placing for 2to 3hrs.								
Random Vibration Test	Appearance: Cracking, shipping and any other defects harmful to the characteristics should not be allowed. Impedance: within $\pm 30\%$	Frequency: 10-55-10Hz for 1 min. Amplitude: 1.52mm Directions and times: X, Y, Z directions for 2 hours. A period of 2 hours in each of 3 mutually perpendicular directions (Total 6 hours).								

6. Soldering and Mounting

6-1. Recommended PC Board Pattern

Chip size						Land Patterns For Reflow Soldering			
Series	Type	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	L(mm)	G(mm)	H(mm)
SWI	0402	1.19max.	0.64max.	0.66max	0.25 ref	0.23±0.1	1.18	0.46	0.66
	0603	1.80max.	1.20max.	1.02max	0.38 ref	0.35±0.1	1.92	0.64	1.02
	0805	2.40max.	1.60max.	1.40max	0.51 ref	0.44±0.1	2.80	0.76	1.78
	1008	2.92max.	2.79max.	2.03max	1.20 ref	0.55±0.1	3.31	1.27	2.54



PC board should be designed so that products are not sufficient under mechanical stress as warping the board. Products shall be positioned in the sideway direction against the mechanical stress to prevent failure.

6-2. Soldering

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. TAI-TECH terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

6-2.1 Solder re-flow:

Recommended temperature profiles for re-flow soldering in Figure 1.

6-2.2 Soldering Iron(Figure 3):

Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

- Note :
- Preheat circuit and products to 150°C
 - Never contact the ceramic with the iron tip
 - Use a 20 watt soldering iron with tip diameter of 1.0mm
 - 280°C tip temperature (max)
 - 1.0mm tip diameter (max)
 - Limit soldering time to 3 sec.

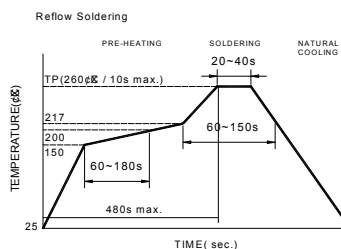


Figure 1. Re-flow Soldering(Lead Free)

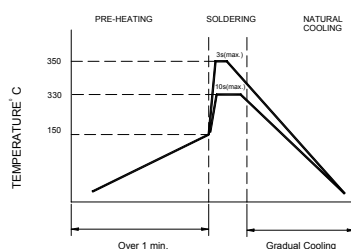
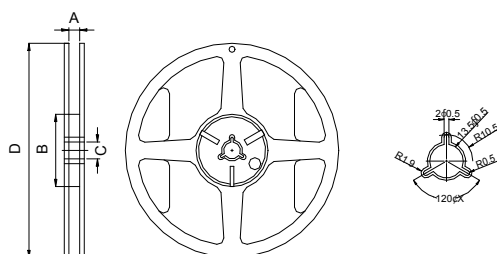


Figure 2. Hand Soldering

7. Packaging Information

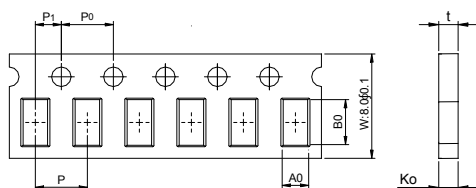
7-1. Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
7"x8mm	8.4±0.5	60±2	13.5±0.5	178±2

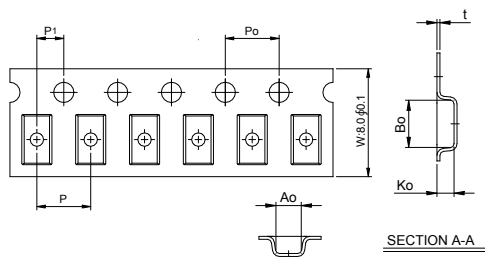
7-2.1 Tape Dimension / 8mm

Material of taping is paper



Series	Size	P(mm)	Po(mm)	P1(mm)	Bo(mm)	Ao(mm)	Ko(mm)	t(mm)
SWI	0402	2.0±0.1	4.0±0.1	2.0±0.1	1.22±0.1	0.80±0.1	0.60±0.1	0.60±0.1

7-2.2 Tape Dimension / 8mm

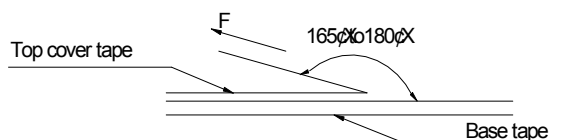


Series	Size	P(mm)	Po(mm)	P1(mm)	Bo(mm)	Ao(mm)	Ko(mm)	t(mm)
SWI	0603	4.0±0.1	4.0±0.1	2.0±0.1	1.80±0.10	1.25±0.10	1.05±0.10	0.23±0.05
	0805	4.0±0.1	4.0±0.1	2.0±0.1	2.50±0.10	1.60±0.10	1.25±0.10	0.23±0.05
	1008	4.0±0.1	4.0±0.1	2.0±0.1	2.85±0.10	2.35±0.10	2.10±0.10	0.23±0.05

7-3. Packaging Quantity

Chip size	0402	0603	0805	1008
Reel	3000	3000	2000	2000
Reel Size	7"x8mm			

7-4. Tearing Off Force



The force for tearing off cover tape is 15 to 60 grams in the arrow direction under the following conditions.

Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Application Notice

• Storage Conditions

To maintain the solderability of terminal electrodes:

1. Temperature and humidity conditions: Less than 40°C and 70% RH.
2. Recommended products should be used within 6 months form the time of delivery.
3. The packaging material should be kept where no chlorine or sulfur exists in the air.

• Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.