Molded Signal Chip Inductor
Wire Wound Ferrite Type

SIW-NLV Series

MERITEK

FEATURE

- Operating Temperature: -40°C ~ +85°C
- Storage Temperature: 15~28°C; Humidity < 80%RH
- Highly resistant to mechanical shocks and pressure
- Highly reliable in environments of sudden temperature change and humidity
- Terminals are highly resistant to pull forces

RoHS

PART NUMBERING SYSTEM

SIW	10	100	J	150	NLV
(1)	(2)	(3)	(4)	(5)	(6)

No	item	Digit	Description	Series Reference
(1)	**Meritek Series**	SIW	Signal Chip Inductor	Molded Wire Wound Ferrite type
(2)	**Size Code**	10	10: 1210,3.2x2.5mm	03:0603, 05:0805, 08:1008, 12:1812, 20:2220
(3)	**Inductance**	100	100: 10µH	First two digits: significant, Third: Multiplier
(4)	**Tolerance**	J	J: ±5%	K: ±10%, M±20%
(5)	**Current**	150	150: 150mA	1K0:1000mA, 055:55mA
(6)	**Internal Code**	NLV	Internal control	Internal control or project reference

ELECTRICAL CHARACTERISTICS

SIW03-Standard Type

Codes	Inductance (µH)	Tolerance (%)	Q typ.	Test Freq. (MHz)	SRF (MHz) typ.	Max. DCR (Ω)	Max. IDC (mA)
R27	0.27	±10, ±20%	13	7.9	900	0.338	950
R47	0.47	±10, ±20%	13	7.9	900	0.338	920
R68	0.68	±10, ±20%	13	7.9	650	0.351	920
R78	0.78	±10, ±20%	16	7.9	410	0.364	920
1R0	1.0	±10, ±20%	16	7.9	390	0.416	860
1R5	1.5	±10, ±20%	16	7.9	160	0.520	720
1R8	1.8	±10, ±20%	16	7.9	121	0.559	640
2R2	2.2	±10, ±20%	16	7.9	103	0.728	600
2R7	2.7	±10, ±20%	16	7.9	72	0.806	540
3R3	3.3	±10, ±20%	16	7.9	66	0.910	500
3R9	3.9	±10, ±20%	16	7.9	61	1.079	460
4R7	4.7	±10, ±20%	16	7.9	51	1.261	400
5R6	5.6	±10, ±20%	16	7.9	47	1.430	380
6R8	6.8	±10, ±20%	16	7.9	43	1.950	340
8R2	8.2	±10, ±20%	16	7.9	40	2.184	300
100	10	±10, ±20%	14	2.5	36	2.405	280
120	12	±10, ±20%	14	2.5	32	2.964	260
150	15	±10, ±20%	14	2.5	29	3.380	240
180	18	±10, ±20%	14	2.5	28	3.770	220

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ELECTRICAL CHARACTERISTICS

SIW03-Standard Type

Codes	Inductance (µH)	Tolerance (%)	Q typ.	Test Freq. (MHz)	SRF (MHz) typ.	Max. DCR (Ω)	Max. IDC (mA)
220	22	±10, ±20%	14	2.5	24	4.693	200
270	27	±10, ±20%	14	2.5	20	6.760	140
330	33	±10, ±20%	14	2.5	15	8.580	120
470	47	±10, ±20%	12	2.5	11	14.560	100

SIW05- Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
78N	0.078	±5, ±10%	13	7.9	1500	0.076	2000
R10	0.10	±10%	20	25	1400	0.1	1700
R11	0.11	±10%	25	25	1200	0.1	1700
R12	0.12	±5, ±10%	25	25	1000	0.18	1500
R15	0.15	±5, ±10%	25	25	1000	0.18	1400
R18	0.18	±5, ±10%	30	25	1000	0.2	1400
R22	0.22	±5, ±10%	30	25	830	0.25	1350
R27	0.27	±5, ±10%	30	25	800	0.38	1300
R33	0.33	±5, ±10%	30	25	750	0.35	1200
R39	0.39	±5, ±10%	30	25	700	0.35	1160
R47	0.47	±5, ±10%	30	25	690	0.4	1100
R56	0.56	±5, ±10%	30	25	640	0.4	1040
R62	0.62	±5, ±10%	30	25	640	0.45	980
R68	0.68	±5, ±10%	30	25	510	0.5	900
R75	0.75	±5, ±10%	30	25	500	0.5	900
R82	0.82	±5, ±10%	30	25	500	0.5	900
R91	0.91	±5, ±10%	30	25	500	0.55	900
1R0	1.0	±5, ±10%	20	7.9	470	0.5	840
1R2	1.2	±5, ±10%	20	7.9	400	0.75	800
1R5	1.5	±5, ±10%	25	7.9	400	1	720
1R8	1.8	±5, ±10%	25	7.9	230	1	660
2R2	2.2	±5, ±10%	25	7.9	200	1.05	600
2R7	2.7	±5, ±10%	25	7.9	130	1.18	500
3R3	3.3	±5, ±10%	25	7.9	160	1.26	480
3R9	3.9	±5, ±10%	25	7.9	130	1.75	440
4R7	4.7	±5, ±10%	25	7.9	120	1.87	390
5R6	5.6	±5, ±10%	25	7.9	90	2	340
6R8	6.8	±5, ±10%	25	7.9	55	2.15	300
8R2	8.2	±5, ±10%	25	7.9	40	2.37	280
100	10	±5, ±10%	16	2.5	40	2.55	260
120	12	±5, ±10%	16	2.5	37	2.8	220
150	15	±5, ±10%	16	2.5	30	3.8	200
180	18	±5, ±10%	16	2.5	23	4.48	180
220	22	±5, ±10%	16	2.5	20	6.3	160

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ELECTRICAL CHARACTERISTICS

SIW05-Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
270	27	±5, ±10%	16	2.5	19	6.85	140
330	33	±5, ±10%	16	2.5	18	7.6	120
390	39	±5, ±10%	15	2.5	16	8.2	100
470	47	±5, ±10%	13	2.5	13	13.1	60

SIW08- Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
R10	0.1	±10%	25	25	930	0.2	1300
R12	0.12	±5, ±10%	26	25	930	0.3	1000
R15	0.15	±5, ±10%	26	25	930	0.3	1000
R18	0.18	±5, ±10%	30	25	930	0.3	960
R20	0.2	±5, ±10%	30	25	735	0.3	960
R22	0.22	±5, ±10%	27	25	750	0.4	880
R27	0.27	±5, ±10%	29	25	700	0.42	900
R33	0.33	±5, ±10%	30	25	600	0.42	900
R39	0.39	±5, ±10%	30	25	480	0.45	920
R47	0.47	±5, ±10%	30	25	470	0.5	920
R56	0.56	±5, ±10%	30	25	460	0.55	900
R62	0.62	±5, ±10%	30	25	460	0.55	900
R68	0.68	±5, ±10%	30	25	420	0.55	880
R75	0.75	±5, ±10%	30	25	420	0.65	880
R82	0.82	±5, ±10%	30	25	380	0.65	840
R91	0.91	±5, ±10%	30	25	400	0.65	840
1R0	1	±5, ±10%	25	7.9	300	0.6	800
1R2	1.2	±5, ±10%	25	7.9	280	0.74	800
1R5	1.5	±5, ±10%	25	7.9	245	0.85	780
1R8	1.8	±5, ±10%	25	7.9	240	0.92	780
2R2	2.2	±5, ±10%	25	7.9	205	1.1	760
2R7	2.7	±5, ±10%	25	7.9	187	1.22	760
3R3	3.3	±5, ±10%	25	7.9	165	1.37	740
3R9	3.9	±5, ±10%	25	7.9	144	1.66	700
4R7	4.7	±5, ±10%	25	7.9	110	1.68	660
5R6	5.6	±5, ±10%	25	7.9	88	1.75	640
6R8	6.8	±5, ±10%	25	7.9	70	1.85	640
8R2	8.2	±5, ±10%	25	7.9	57	2	600
100	10	±5, ±10%	25	7.9	55	2.32	600
120	12	±5, ±10%	15	2.5	52	2.99	560
150	15	±5, ±10%	15	2.5	49	3.42	480
180	18	±5, ±10%	15	2.5	48	4.65	420
220	22	±5, ±10%	15	2.5	25	5.12	420
270	27	±5, ±10%	15	2.5	23	5.76	420

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ELECTRICAL CHARACTERISTICS

SIW08-Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
330	33	±5, ±10%	15	2.5	17	6.44	400
390	39	±5, ±10%	15	2.5	15	6.85	380
470	47	±5, ±10%	14	2.5	13	9.94	260
560	56	±5, ±10%	14	2.5	10	10.7	280
680	68	±5, ±10%	14	2.5	8	12.8	260
820	82	±5, ±10%	14	2.5	8	18.3	240
101	100	±5, ±10%	8	1	7	19.6	200

SIW10- Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
R18	0.18	±20%	30	25.2	400	0.28	450
R22	0.22	±20%	30	25.2	350	0.32	450
R27	0.27	±20%	30	25.2	320	0.36	450
R33	0.33	±20%	30	25.2	300	0.4	450
R39	0.39	±20%	30	25.2	250	0.45	450
R47	0.47	±20%	30	25.2	220	0.5	450
R56	0.56	±20%	30	25.2	180	0.55	450
R68	0.68	±20%	30	25.2	160	0.6	450
R82	0.82	±20%	30	25.2	140	0.65	450
1R0	1	±10%	30	7.96	120	0.7	400
1R2	1.2	±10%	30	7.96	100	0.75	390
1R5	1.5	±10%	30	7.96	85	0.85	370
1R8	1.8	±10%	30	7.96	80	0.9	350
2R2	2.2	±10%	30	7.96	75	1	320
2R7	2.7	±10%	30	7.96	70	1.1	290
3R3	3.3	±10%	30	7.96	60	1.2	260
3R9	3.9	±10%	30	7.96	55	1.3	250
4R7	4.7	±10%	30	7.96	50	1.5	220
5R6	5.6	±10%	30	7.96	45	1.6	200
6R8	6.8	±10%	30	7.96	40	1.8	180
8R2	8.2	±10%	30	7.96	35	2	170
100	10	±10%	30	2.52	30	2.1	150
120	12	±10%	30	2.52	20	2.5	140
150	15	±10%	30	2.52	20	2.8	130
180	18	±10%	30	2.52	20	3.3	120
220	22	±10%	30	2.52	20	3.7	110
270	27	±10%	30	2.52	20	5	80
330	33	±10%	30	2.52	17	5.6	70
390	39	±10%	30	2.52	16	6.4	65
470	47	±10%	30	2.52	15	7	60
560	56	±10%	30	2.52	13	8	55

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ELECTRICAL CHARACTERISTICS

SIW10-Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
680	68	±10%	30	2.52	12	9	50
820	82	±10%	30	2.52	11	10	45
101	100	±10%	20	0.796	10	10	40
121	120	±10%	20	0.796	10	11	70
151	150	±10%	20	0.796	8	15	65

SIW12- Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
R18	0.18	±20%	30	25.2	220	0.24	700
R22	0.22	±20%	30	25.2	200	0.25	665
R27	0.27	±20%	30	25.2	180	0.26	635
R33	0.33	±20%	30	25.2	165	0.28	605
R39	0.39	±20%	30	25.2	150	0.3	575
R47	0.47	±20%	30	25.2	145	0.32	545
R56	0.56	±20%	30	25.2	140	0.36	520
R68	0.68	±20%	30	25.2	135	0.4	500
R82	0.82	±20%	30	25.2	130	0.45	475
1R0	1	±10%	50	7.96	100	0.5	450
1R2	1.2	±10%	50	7.96	80	0.55	430
1R5	1.5	±10%	50	7.96	70	0.6	410
1R8	1.8	±10%	50	7.96	60	0.65	390
2R2	2.2	±10%	50	7.96	55	0.7	380
2R7	2.7	±10%	50	7.96	50	0.75	370
3R3	3.3	±10%	50	7.96	45	0.8	355
3R9	3.9	±10%	50	7.96	40	0.9	330
4R7	4.7	±10%	50	7.96	35	1	315
5R6	5.6	±10%	50	7.96	33	1.1	300
6R8	6.8	±10%	50	7.96	27	1.2	285
8R2	8.2	±10%	50	7.96	25	1.4	270
100	10	±10%	50	2.52	20	1.6	250
120	12	±10%	50	2.52	18	2	225
150	15	±10%	50	2.52	17	2.5	200
180	18	±10%	50	2.52	15	2.8	190
220	22	±10%	50	2.52	13	3.2	180
270	27	±10%	50	2.52	12	3.6	170
330	33	±10%	50	2.52	11	4	160
390	39	±10%	50	2.52	10	4.5	150
470	47	±10%	50	2.52	10	5	140
560	56	±10%	50	2.52	9	5.5	135
680	68	±10%	50	2.52	9	6	130
820	82	±10%	50	2.52	8	7	120

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ELECTRICAL CHARACTERISTICS

SIW12-Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
101	100	±10%	40	0.796	8	8	110
121	120	±10%	40	0.796	6	8	110
151	150	±10%	40	0.796	5	9	105
181	180	±10%	40	0.796	5	9.5	102
221	220	±10%	40	0.796	4	10	100
271	270	±10%	30	0.796	4	15	92
331	330	±10%	30	0.796	3.5	15	85
391	390	±10%	30	0.796	3	18	80
471	470	±10%	30	0.796	3	26	62
561	560	±10%	30	0.796	3	30	50
681	680	±10%	30	0.796	3	30	50
821	820	±10%	30	0.796	2.5	43	30

SIW20- Standard Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
122	1.2	±5, ±10%	20	0.252	1.5	17	75
152	1.5	±5, ±10%	20	0.252	1.4	20	70
182	1.8	±5, ±10%	20	0.252	1.3	30	60
222	2.2	±5, ±10%	20	0.252	1.2	35	55
272	2.7	±5, ±10%	20	0.252	1.1	55	45
332	3.3	±5, ±10%	20	0.252	1	60	40
392	3.9	±5, ±10%	20	0.252	1	70	38
472	4.7	±5, ±10%	20	0.252	0.9	78	36
562	5.6	±5, ±10%	20	0.252	0.8	85	33
682	6.8	±5, ±10%	20	0.252	0.7	110	30
822	8.2	±5, ±10%	20	0.252	0.6	125	28
103	10	±5, ±10%	15	0.0796	0.5	150	25

SIW05-Low Profile Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1	±5, ±10%	15	L: 7.96 / Q: 25.2	115	0.9	450
3R3	3.3	±5, ±10%	13	7.96	70	1.4	450
4R7	4.7	±5, ±10%	15	7.96	65	1.9	400
6R8	6.8	±5, ±10%	15	7.96	41	2.4	400
100	10	±5, ±10%	14	7.96	31	2.7	400
150	15	±5, ±10%	12	7.96	28	5	300
220	22	±5, ±10%	10	7.96	25	6	250

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ELECTRICAL CHARACTERISTICS

SIW03- Large Current Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
47N	0.047	±10%	12	7.9	2000	0.075	1800
51N	0.051	±10%	12	7.9	1500	0.075	1800
56N	0.056	±10%	7	7.9	1500	0.095	2200
68N	0.068	±10%	10	7.9	1500	0.12	2200
72N	0.072	±10%	12	7.9	1500	0.12	2200
R10	0.1	±10%	12	7.9	1150	0.13	2200
R12	0.12	±5, ±10%	12	7.9	1100	0.15	1900
R15	0.15	±5, ±10%	15	7.9	1050	0.15	1800
R18	0.18	±5, ±10%	15	7.9	950	0.15	1800
R22	0.22	±5, ±10%	15	7.9	900	0.3	1300
R24	0.24	±5, ±10%	15	7.9	850	0.16	1700
R27	0.27	±5, ±10%	15	7.9	835	0.3	1400
R33	0.33	±5, ±10%	15	7.9	725	0.4	1300
R36	0.36	±5, ±10%	15	7.9	720	0.41	1300
R39	0.39	±5, ±10%	15	7.9	680	0.41	1200
R47	0.47	±5, ±10%	15	7.9	640	0.43	1200
R56	0.56	±5, ±10%	15	7.9	630	0.44	1200
R65	0.65	±5, ±10%	15	7.9	510	0.52	1000
R68	0.68	±5, ±10%	15	7.9	510	0.52	1000
R78	0.78	±5, ±10%	15	7.9	465	0.63	990
R82	0.82	±5, ±10%	15	7.9	460	0.69	990
R90	0.9	±5, ±10%	15	7.9	350	0.81	950
1R0	1	±5, ±10%	15	7.9	320	0.81	850
1R2	1.2	±5, ±10%	15	7.9	270	0.87	850
1R5	1.5	±5, ±10%	15	7.9	230	0.96	830
1R8	1.8	±5, ±10%	15	7.9	210	1.1	820
2R2	2.2	±5, ±10%	15	7.9	115	1.2	720
2R7	2.7	±5, ±10%	15	7.9	100	1.38	700
3R0	3	±5, ±10%	15	7.9	90	1.45	680
3R3	3.3	±5, ±10%	15	7.9	84	1.5	640
3R9	3.9	±5, ±10%	15	7.9	75	1.5	630
4R7	4.7	±5, ±10%	15	7.9	67	2.1	530
5R6	5.6	±5, ±10%	15	7.9	55	2.37	510
6R8	6.8	±5, ±10%	15	7.9	48	3.1	490
7R8	7.8	±5, ±10%	15	7.9	40	3.35	420
8R2	8.2	±5, ±10%	15	7.9	38	3.5	450
100	10	±5, ±10%	15	7.9	32	4.46	370
150	15	±5, ±10%	14	7.9	25	9.5	240

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ELECTRICAL CHARACTERISTICS

SIW05- Large Current Type

Codes	Inductance (µH)	Tolerance	Q typ.	Test Freq. (MHz)	SRF (MHz) typ.	DCR (Ω) max.	IDC (mA) max.
R10	0.1	±10, ±20%	9	7.9	1700	0.091	2400
R15	0.15	±10, ±20%	12	7.9	1500	0.104	1900
R22	0.22	±10, ±20%	12	7.9	1500	0.13	1700
R33	0.33	±10, ±20%	12	7.9	900	0.156	1400
R47	0.47	±10, ±20%	14	7.9	850	0.156	1400
R56	0.56	±10, ±20%	14	7.9	360	0.195	1200
R68	0.68	±10, ±20%	14	7.9	290	0.195	1200
R82	0.82	±10, ±20%	14	7.9	208	0.195	1100
1R0	1	±10, ±20%	14	7.9	208	0.169	1100
1R2	1.2	±10, ±20%	14	7.9	159	0.208	960
1R5	1.5	±10, ±20%	14	7.9	159	0.221	920
1R8	1.8	±10, ±20%	14	7.9	112	0.26	860
2R2	2.2	±10, ±20%	13	7.9	87	0.286	740
2R7	2.7	±10, ±20%	13	7.9	72	0.325	680
3R3	3.3	±10, ±20%	12	7.9	70	0.364	620
3R9	3.9	±10, ±20%	14	7.9	61	0.494	580
4R7	4.7	±10, ±20%	14	7.9	51	0.559	520
5R6	5.6	±10, ±20%	12	7.9	47	0.65	480
6R8	6.8	±10, ±20%	14	7.9	46	0.884	420
8R2	8.2	±10, ±20%	13	7.9	33	0.949	400
100	10	±5, ±10,±20%	14	2.5	31	1.105	360
120	12	±5, ±10,±20%	14	2.5	30	1.17	340
150	15	±5, ±10,±20%	15	2.5	28	1.82	300
180	18	±5, ±10,±20%	15	2.5	27	2.01	280
220	22	±5, ±10,±20%	15	2.5	20	2.288	240
270	27	±5, ±10,±20%	15	2.5	17	2.6	220
330	33	±5, ±10,±20%	15	2.5	17	3.055	200
390	39	±5, ±10,±20%	14	2.5	15	4.355	180
470	47	±5, ±10,±20%	14	2.5	15	4.42	160
560	56	±5, ±10,±20%	14	2.5	10	5.746	150
680	68	±5, ±10,±20%	14	2.5	10	5.785	140
820	82	±5, ±10,±20%	14	2.5	10	9.75	100
101	100	±5, ±10,±20%	10	1	9	9.75	100
221	220	±5, ±10,±20%	8	1	4	30.03	70

Molded Signal Chip Inductor
Wire Wound Ferrite Type

SIW-NLV Series

MERITEK

ELECTRICAL CHARACTERISTICS

SIW08- Large Current Type

Codes	Inductance (µH)	Tolerance	Q typ.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
78N	0.078	±5, ±10%	19	7.9	1000	0.042	3200
R10	0.1	±5, ±10%	35	25	1500	0.05	3200
R22	0.22	±5, ±10%	35	25	800	0.15	2900
R39	0.39	±5, ±10%	35	25	460	0.2	2100
R47	0.47	±10%	35	25	460	0.2	2100
R56	0.56	±5, ±10%	35	25	360	0.26	1800
R68	0.68	±5, ±10%	35	25	400	0.3	1700
R82	0.82	±5, ±10%	35	25	360	0.35	1400
1R0	1	±10%	32	7.9	340	0.34	1700
1R1	1.1	±10%	25	7.9	300	0.34	1500
1R2	1.2	±5, ±10%	25	7.9	300	0.25	1600
1R5	1.5	±5, ±10%	32	7.9	230	0.42	1200
1R8	1.8	±5, ±10%	27	7.9	180	0.45	1100
2R2	2.2	±5, ±10%	27	7.9	140	0.5	1100
2R7	2.7	±5, ±10%	27	7.9	130	0.55	1000
3R3	3.3	±5, ±10%	27	7.9	125	0.6	1000
3R9	3.9	±5, ±10%	27	7.9	100	0.8	990
4R7	4.7	±5, ±10%	30	7.9	90	0.9	880
5R6	5.6	±5, ±10%	27	7.9	60	1	850
6R8	6.8	±5, ±10%	27	7.9	60	1.05	840
8R2	8.2	±5, ±10%	25	7.9	55	1.2	810
100	10	±5, ±10%	23	2.5	55	1.55	700
120	12	±5, ±10%	23	2.5	36	2.1	580
150	15	±5, ±10%	23	2.5	36	2.38	580
180	18	±5, ±10%	23	2.5	32	2.5	520
220	22	±5, ±10%	23	2.5	29	2.92	500
270	27	±10%	23	2.5	22	3.7	450
330	33	±5, ±10%	23	2.5	21	4.1	420
390	39	±5, ±10%	18	2.5	15	5.5	340
470	47	±5, ±10%	23	2.5	17	7.8	310
680	68	±5, ±10%	20	2.5	9	11.5	220
101	100	±5, ±10%	13	1	4	13.2	210
151	150	±5, ±10%	13	1	3	22.5	170
221	220	±5, ±10%	13	1	3	26.5	160
271	270	±5, ±10%	13	1	2	32	135
331	330	±5, ±10%	13	1	2	32.5	130

Molded Signal Chip Inductor
Wire Wound Ferrite Type

SIW-NLV Series

MERITEK

ELECTRICAL CHARACTERISTICS

SIW10- Large Current Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1	±20%	10	7.96	100	0.156	770
1R5	1.5	±20%	10	7.96	80	0.195	580
2R2	2.2	±20%	10	7.96	65	0.26	480
3R3	3.3	±20%	10	7.96	55	0.325	400
4R7	4.7	±20%	10	7.96	45	0.52	320
6R8	6.8	±20%	10	7.96	35	0.65	280
100	10	±10%	15	2.52	28	1.105	220
150	15	±10%	15	2.52	25	1.69	180
220	22	±10%	15	2.52	20	2.6	145
270	27	±10%	15	2.52	17	3	125
330	33	±10%	15	2.52	15	3.64	115
470	47	±10%	20	2.52	13	5.46	105
680	68	±10%	20	2.52	10	8.45	85
820	82	±10%	20	2.52	9	8.71	80
101	100	±10%	20	0.796	8	10.14	75

SIW12- Large Current Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1	±10%	10	7.96	200	0.11	1050
1R2	1.2	±10%	10	7.96	160	0.12	1000
1R5	1.5	±10%	10	7.96	130	0.15	950
1R8	1.8	±10%	10	7.96	100	0.16	900
2R2	2.2	±10%	10	7.96	80	0.18	850
2R7	2.7	±10%	10	7.96	60	0.2	800
3R3	3.3	±10%	10	7.96	45	0.22	750
3R9	3.9	±10%	10	7.96	40	0.24	700
4R7	4.7	±10%	10	7.96	35	0.27	650
5R6	5.6	±10%	10	7.96	30	0.3	650
6R8	6.8	±10%	10	7.96	28	0.35	600
8R2	8.2	±10%	10	7.96	25	0.4	600
100	10	±10%	10	2.52	22	0.5	550
120	12	±10%	10	2.52	21	0.6	500
150	15	±10%	10	2.52	20	0.7	450
180	18	±10%	10	2.52	19	0.8	400
220	22	±10%	10	2.52	18	0.9	370
270	27	±10%	10	2.52	16	1.2	330
330	33	±10%	10	2.52	14	1.4	300
390	39	±10%	10	2.52	12	1.6	280
470	47	±10%	10	2.52	11.5	1.9	260
560	56	±10%	10	2.52	11	2.2	240
680	68	±10%	10	2.52	10	2.6	220

Molded Signal Chip Inductor
Wire Wound Ferrite Type

SIW-NLV Series

MERITEK

ELECTRICAL CHARACTERISTICS

SIW12- Large Current Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
820	82	±10%	10	2.52	9	3.5	200
101	100	±10%	20	0.796	8	4	180
121	120	±10%	20	0.796	7.5	4.5	160
151	150	±10%	20	0.796	7	6.5	140
181	180	±10%	20	0.796	6.5	7.5	120
221	220	±10%	20	0.796	5.5	9	120
271	270	±10%	20	0.796	5	11	100
331	330	±10%	20	0.796	4	13	90
391	390	±10%	20	0.796	3.8	23	80
471	470	±10%	20	0.796	3.5	26	75
561	560	±10%	20	0.796	2.8	30	70
681	680	±10%	20	0.796	2.6	40	65
821	820	±10%	20	0.796	2.5	45	60

SIW20- Large Current Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
1R0	1	±10,±20%	10	7.96	95	0.03	1800
1R2	1.2	±10, ±20%	10	7.96	70	0.035	1700
1R5	1.5	±10, ±20%	10	7.96	55	0.04	1600
1R8	1.8	±10, ±20%	10	7.96	47	0.05	1400
2R2	2.2	±10, ±20%	10	7.96	42	0.06	1300
2R7	2.7	±10, ±20%	10	7.96	37	0.07	1200
3R3	3.3	±10, ±20%	10	7.96	34	0.08	1120
3R9	3.9	±10, ±20%	10	7.96	32	0.09	1050
4R7	4.7	±10, ±20%	10	7.96	29	0.11	950
5R6	5.6	±10, ±20%	10	7.96	26	0.13	880
6R8	6.8	±10, ±20%	10	7.96	24	0.15	810
8R2	8.2	±10, ±20%	10	7.96	22	0.18	750
100	10	±10, ±20%	10	2.52	19	0.21	690
120	12	±10, ±20%	10	2.52	17	0.25	630
150	15	±10, ±20%	10	2.52	16	0.3	580
180	18	±10, ±20%	10	2.52	14	0.36	530
220	22	±5, ±10%	10	2.52	13	0.43	480
270	27	±5, ±10%	10	2.52	11.5	0.52	440
330	33	±5, ±10%	10	2.52	10.5	0.62	400
390	39	±5, ±10%	10	2.52	9.5	0.72	370
470	47	±5, ±10%	10	2.52	8.5	0.85	340
560	56	±5, ±10%	10	2.52	7.8	1	310
680	68	±5, ±10%	10	2.52	7	1.2	290
820	82	±5, ±10%	10	2.52	6.4	1.4	270
101	100	±5, ±10%	20	0.796	6	1.6	250

Molded Signal Chip Inductor
Wire Wound Ferrite Type

SIW-NLV Series

MERITEK

ELECTRICAL CHARACTERISTICS

SIW20- Large Current Type

Codes	Inductance (µH)	Tolerance	Q min.	Test Freq. (MHz)	SRF (MHz) min.	DCR (Ω) max.	IDC (mA) max.
121	120	±5, ±10%	20	0.796	5.4	1.9	230
151	150	±5, ±10%	20	0.796	4.8	2.2	210
181	180	±5, ±10%	20	0.796	4.4	2.8	190
221	220	±5, ±10%	20	0.796	3.9	3.4	170
271	270	±5, ±10%	20	0.796	3.6	4.2	155
331	330	±5, ±10%	20	0.796	3.2	4.9	140
391	390	±5, ±10%	20	0.796	2.9	5.8	130
471	470	±5, ±10%	20	0.796	2.6	7	120
561	560	±5, ±10%	20	0.796	2.4	8.5	110
681	680	±5, ±10%	20	0.796	2.2	10	100
821	820	±5, ±10%	20	0.796	2	13	90
102	1000	±5, ±10%	20	0.252	1.8	15	85

DIMENSION

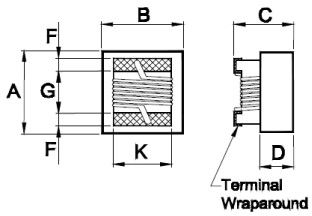


Figure 1

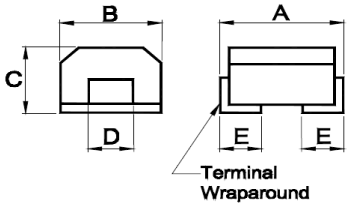


Figure 2

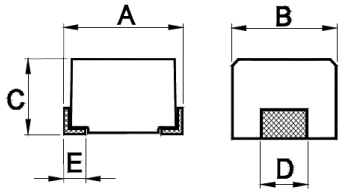
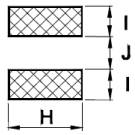


Figure 3



Pad Layout

Unit: mm

Size Type	Figure	A	B	C	D	E	F	G	H	I	J	K	Weight (g) 1000 pcs
0603	1	1.80max	1.20max	1.00max	0.45	-	0.33	0.95	1.02	0.64	0.64	1.05	9.6
0805	1	2.40max	1.71max	1.45max	0.65	-	0.44	1.02	1.78	1.02	0.76	1.27	14
1008	1	2.92max	2.79max	2.10max	1.20	-	0.45	1.52	2.54	1.02	1.27	2.03	30
1210	2	3.2±0.4	2.5±0.2	2.2±0.2	1.0±0.2	0.6-0/+0.3	-	-	1.40	1.00	1.80	-	40
1812	2	4.5±0.3	3.2±0.2	3.2±0.2	1.20	1.0-0/+0.3	-	-	1.60	1.50	2.20	-	160
2220	3	5.6±0.3	5.0±0.2	4.0±0.3	4±0.2	0.7±0.2	-	-	4.50	2.00	4.00	-	300

RELIABILITY TEST CONDITON AND REQUIREMENT

Item	Test Conditions / Equipment	Requirement
Inductance	HP4291 or HP4284	Refer to spec
Q	HP4291 or HP4284	Refer to spec
SRF	HP4291	Refer to spec
DC Resistance	Agilent 34401A	Refer to spec
Rated DC Current	Applied the current to coils, the inductance change should be less than 10% to initial value	Refer to spec

RELIABILITY TEST CONDITON AND REQUIREMENT

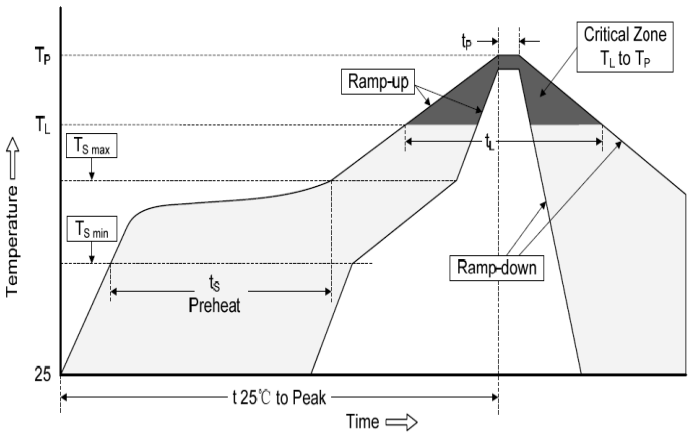
Item	Test Conditions / Equipment	Requirement
Solderability	Lead-free inductor: after fluxing(alpha 100 or equivalent), inductor shall be dipped in a melted solder bath at 245±5°C, 5±0.5 seconds	The electrodes shall be at least 90% covered with new solder coating
Resistance to Soldering Heat	Pre-heating: 150°C, 1 min, Solder Temperature: 260±5°C, Immersion Time:10±1 Seconds	Appearance: No damage
Vibration	Test device shall be soldered on the substrate. Oscillation Frequency: 10 to 55 to 10Hz for 1 min; Amplitude: 1.5mm; Time:2hrs for each axis(X, Y&Z), total 6hrs	Appearance: No damage L change: within ±10% Q change: within ±30% DCR: within specification
Temperature Cycle	One cycle: Step 1: -25±3, 30 min Step 2: 25±2, 3 Step 3: 85±2, 30 Step 4: 25±2, 3 Total: 100 cycles Measured after exposure in the room condition for 24 hrs	Appearance: No damage L change: within ±10% Q change: within ±30% DCR: within specification
Damp Heat with Load	Temperature: 40±2°C, Humidity: 90~95% RH Time: 1000hrs Measured after exposure in the room condition for 24 hrs	Appearance: No damage L change: within ±10% Q change: within ±30% DCR: within specification
High Temperature Storage	Temperature: 85±3°C, Time: 1000hrs Applied Current: Rated Current Measured after exposure in the room condition for 24 hrs	Appearance: No damage L change: within ±10% Q change: within ±30% DCR: within specification
Low Temperature Storage	Temperature: -25±3°C, Time: 1000rs Measured after exposure in the room condition for 24 hrs	Appearance: No damage L change: within ±10% Q change: within ±30% DCR: within specification

Step	Temperature (°C)	Time (min.)
1	-25±3	30
2	25±2	3
3	85±2	30
4	25±2	3

Notes:
1. Storage Temperature: 15 ~28°C; Humidity<80%RH
2. Operating Temperature Range: -40~85°C

RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	**Temp. Min $T_{s(min)}$**	150°C
	Temp. Max $T_{s(max)}$	180°C
	Time (min. to max.) (t_s)	90~120sec
Average ramp up rate (T_L) to peak		3°C/s
$T_{s(max)}$ to T_L (Ramp-up rate)		3°C/s
Reflow	**Temp. (T_L)**	220°C
	Time (min. to max.) (t_L)	60sec Max
Peak Temperature (T_P)		265°C
Time of T_P (t_p)		10s Max
Ramp-down Rate		6°C/s



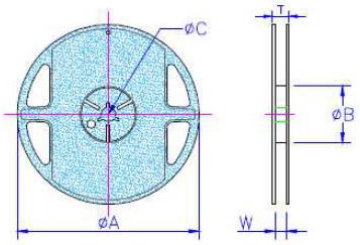
Molded Signal Chip Inductor
Wire Wound Ferrite Type

SIW-NLV Series

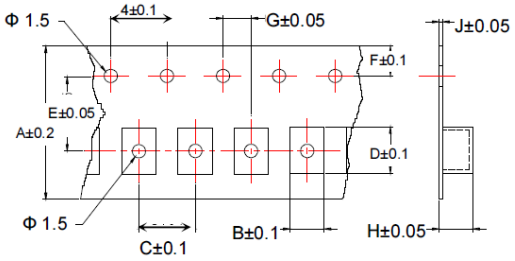
MERITEK

PACKAGING DIMENSION

Reel Specification



Plastic Tape Specification



Size	Reel Dimension (mm)					Quantity (EA)
	ØA	ØB	ØC	W	T	
0603	178.0±2.0	60±0.5	13±0.3	9±0.3	12±1.0	4,000
0805	178.0±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2,000
1008	178.0±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2,000
1210	178.0±2.0	60±0.5	13±0.3	9±0.3	12±1.0	2,000
1812	178.0±2.0	80±0.5	13±0.3	13.2±0.3	16±1.0	500
2220	330±2.0	100±0.5	13±0.3	17.4±0.3	22±1.0	1,000

Size	Tape Dimensions (mm)								
	A	B	C	D	E	F	G	H	J
0603	8	1.25	4	1.90	3.5	1.75	2	1.00	0.23
0805	8	1.85	4	2.55	3.5	1.75	2	1.45	0.23
1008	8	2.80	4	2.95	3.5	1.75	2	2.22	0.23
1210	8	2.96	4	3.60	3.5	1.75	2	2.40	0.23
1812	12	3.30	8	5.00	5.5	1.75	2	3.50	0.30
2220	16	5.35	12	6.10	1.5	1.75	2	5.50	0.35

*Specifications subject to change without notice.