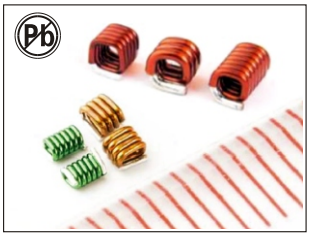
SMD Coil
SMAR SERIES



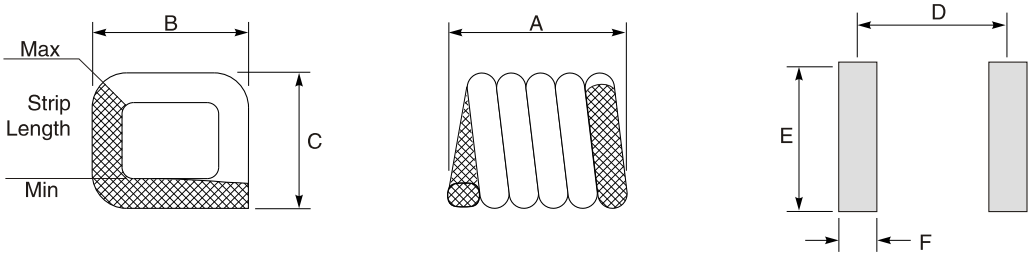
FEATURES:

- Inductance values from 5.5 nH up to 27.3 nH.
- Excellent Quality Factor– up to 130.
- High self–resonant frequency.
- Ultra–miniature size, hight currents up to 4.4 Amps.
- All value availbale in 2%, 5% tolerance.
- Ag–solder coated leads ensure reliable soldering.
- Flat top and bottom for reliable pick and place and mechanical stability.

APPLICATIONS:

- Especially for RF applications.
- Ideal for high current applications.
- Broad band filter.
- RF–Decoupling.

PHYSICAL CHARACTERISTICS:



Part No.	A ±0.15	B ±0.15	C ±0.15	D	E	F	Weight (mg)
SMAR1814–5N5□	1.35	1.83	1.40	0.96	2.60	0.51	9.9
SMAR1814–6N0□	1.30	1.83	1.40	0.99	2.60	0.51	8.5
SMAR1814–8N9□	1.63	1.83	1.40	1.27	2.60	0.51	10.8
SMAR1814–12N□	1.93	1.83	1.40	1.63	2.60	0.51	13.6
SMAR1814–16N□	2.29	1.83	1.40	1.96	2.60	0.51	16.1
SMAR1814–19N□	2.59	1.83	1.40	2.3	2.60	0.51	18.7
SMAR1815–6N9□	1.30	1.83	1.52	1.02	2.60	0.51	9.1
SMAR1815–10N□	1.63	1.83	1.52	1.32	2.60	0.51	11.5
SMAR1815–11N□	1.55	1.83	1.52	1.24	2.60	0.51	11.5
SMAR1815–14N□	1.93	1.83	1.52	1.57	2.60	0.51	14.0
SMAR1815–17N□	2.29	1.83	1.52	1.93	2.60	0.51	16.8
SMAR1815–22N□	2.59	1.83	1.52	2.30	2.60	0.51	19.4
SMAR2118–8N1□	1.47	2.14	1.83	1.12	2.80	0.64	12.8
SMAR2118–12N□	1.85	2.14	1.83	1.45	2.80	0.64	16.9
SMAR2118–14N□	1.55	2.14	1.83	1.24	2.80	0.64	13.5
SMAR2118–17N□	2.21	2.14	1.83	1.83	2.80	0.64	21.1
SMAR2118–22N□	2.56	2.14	1.83	2.18	2.80	0.64	24.7
SMAR2118–23N□	2.24	2.14	1.83	1.90	2.80	0.64	19.2
SMAR2118–25N□	2.97	2.14	1.83	2.57	2.80	0.64	27.6
SMAR2118–27N□	2.97	2.14	1.83	2.57	2.80	0.64	28.7

Packaging code

- S=7" machine–ready reel. EIA–48 Embossed plastic tape. 2000 pcs/reel
- S=13" machine–ready reel. EIA–48 Embossed plastic tape. 7500 pcs/reel

ELECTRICAL CHARACTERISTICS: @25℃

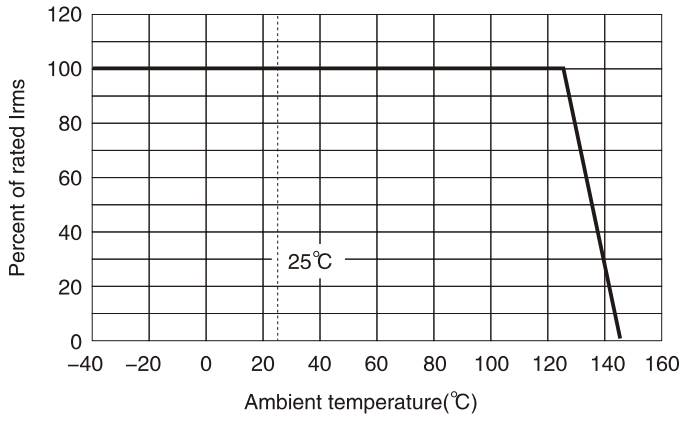
Part No.	Inductance (nH)	Tol ± %	Q Typ.	SRF(GHz) Typ.	DCR(mΩ) Max	Irms (A)
SMAR1814–5N5□	5.5	2,5	60	4.9	3.4	2.9
SMAR1814–6N0□	6.0	2,5	64	5.2	6.0	2.9
SMAR1814–8N9□	8.9	2,5	90	4.3	7.0	2.9
SMAR1814–12N□	12.0	2,5	90	4.8	8.0	2.9
SMAR1814–16N□	16.0	2,5	90	4.4	9.0	2.9
SMAR1814–19N□	19.0	2,5	90	4.0	10.0	2.9
SMAR1815–6N9□	6.9	2,5	100	4.6	6.0	2.7
SMAR1815–10N□	10.0	2,5	100	4.0	7.0	2.7
SMAR1815–11N□	11.0	2,5	90	3.6	6.3	2.7
SMAR1815–14N□	14.0	2,5	100	4.3	8.0	2.7
SMAR1815–17N□	17.0	2,5	100	4.0	9.0	2.7
SMAR1815–22N□	22.0	2,5	100	3.5	10.0	2.7
SMAR2118–8N1□	8.1	2,5	130	5.2	6.0	4.4
SMAR2118–12N□	12.0	2,5	130	4.3	7.0	4.4
SMAR2118–14N□	14.0	2,5	90	3.0	7.2	4.4
SMAR2118–17N□	17.0	2,5	130	3.4	8.0	4.4
SMAR2118–22N□	22.0	2,5	130	3.7	9.0	4.4
SMAR2118–23N□	23.0	2,5	130	2.6	10.0	4.4
SMAR2118–25N□	25.0	2.5	130	2.5	10.0	4.4
SMAR2118–27N□	27.0	2.5	130	3.2	10.0	4.4

□ Inductance Tolerance: G: ±2%, J: ±5%

Notes:

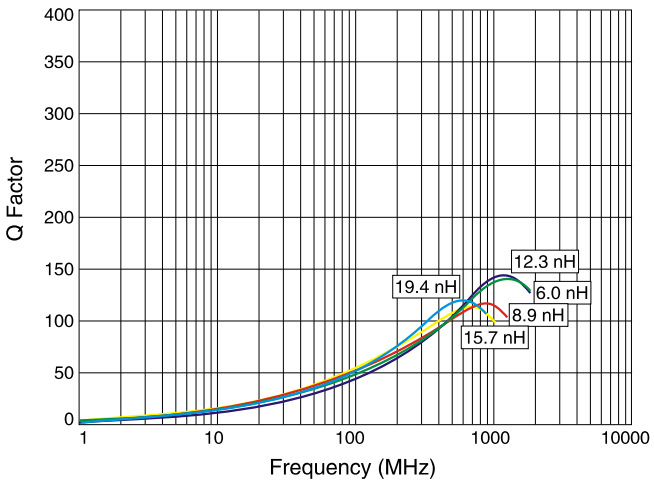
1. Inductance meansured at 400MHz, 0.1Vrms, 0 A using HP4287A LCR meter or equivalent with 9699 test fixture.
2. Q meansured at 400MHz, using HP4287A LCR meter or equivalent.
3. SRF meansured using HP8753 network analyzer and SMD test fixture.
4. Irms: Current that causes a 20℃ temperature rise from 25℃ ambient.
5. Resistance to soldering heat : Max three 40s reflows at 260℃, parts cooled to room temperature between cycles.
6. Temperature Cofficient of Inductance: +5 to + 70ppm/℃.
7. Operating temperature: –40℃ ~ +125℃, (Including coil's self temperature rise).
8. Ambient temperature: –40℃ ~ +125℃. (refering to Irms)
9. Storage temperature(on tape & reel packing): –40℃ ~ +80℃; 75% RH max.

Irms derating

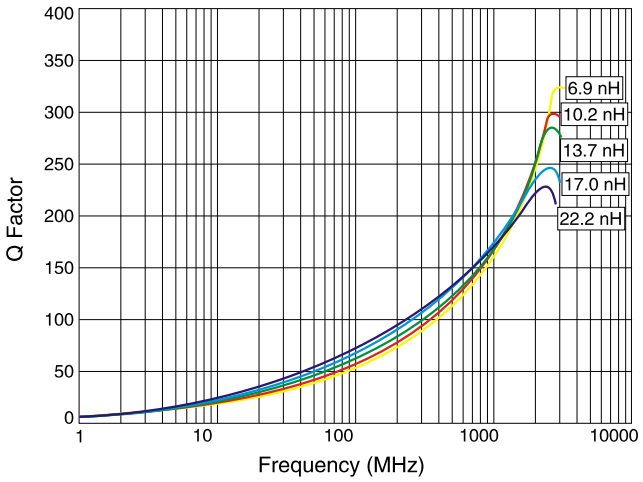


Typical Q vs Frequency

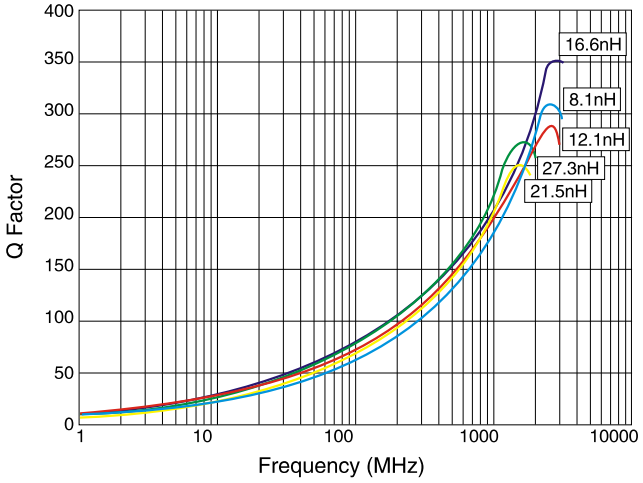
SMAR1814



SMAR1815

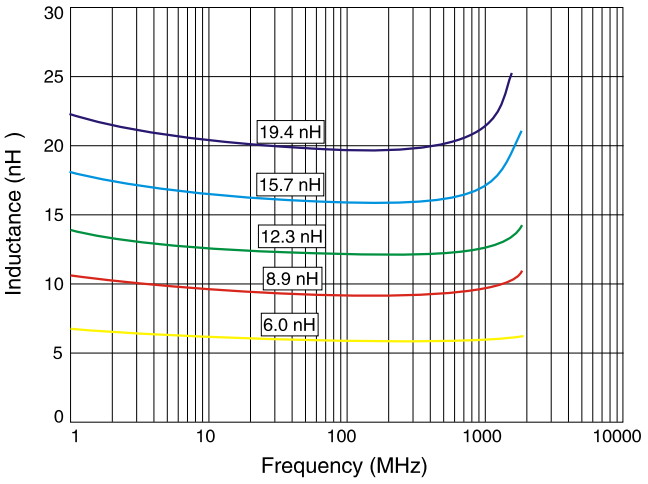


SMAR2118

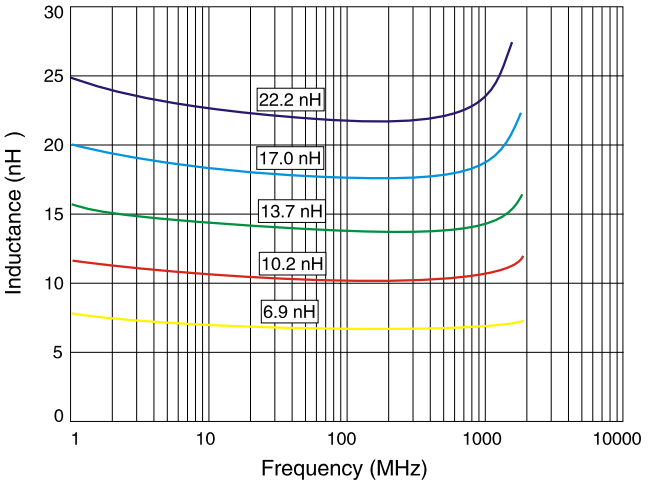


Typical L vs Frequency

SMAR1814



SMAR1815



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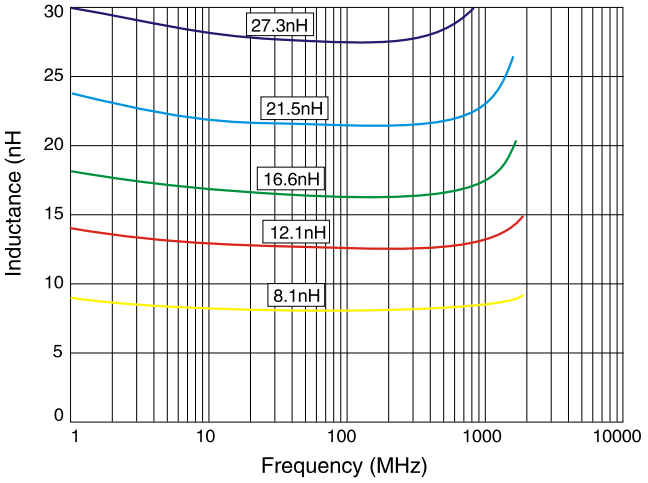
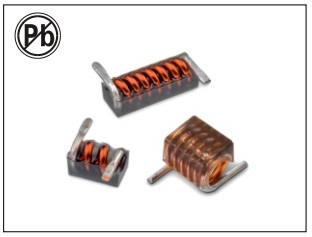


SMD Coil
SMAR SERIES



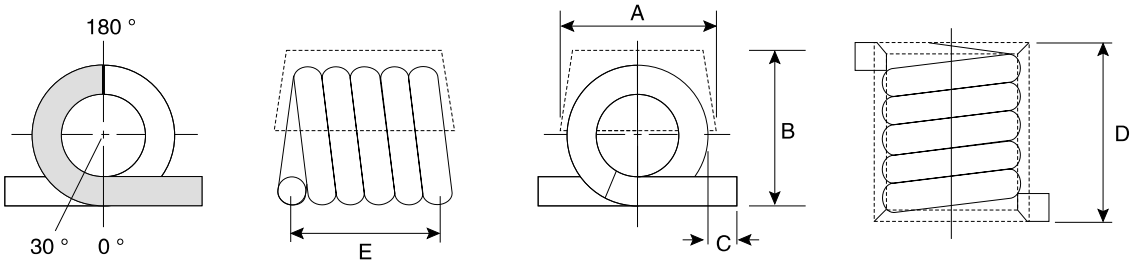
FEATURES:

- Air Core Construction
- High Q
- High Current
- Excellent SRF
- Many inductance values ranging from 1.65nH to 538nH
- Inductance Tolerance 2%, 5%, 10%
- Rated Current 1.5A to 4.0A
- Operating temperature: –40℃ ~ +125℃
- Storage temperature: –40℃ ~ +85℃

APPLICATIONS:

- RF Applications
- RF Circuits
- Broadband I/O Filtering
- Impedance Matching/Tuning
- Decoupling/Bypassing

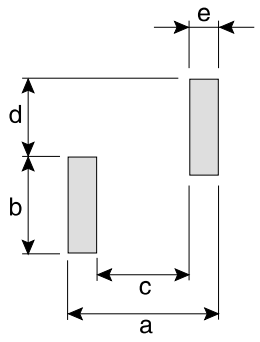
PHYSICAL CHARACTERISTICS:



Tinned Length Side End Top

Part No.	A	B	C	D	E
SMAR1422	1.42 ± 0.13	1.37 ± 0.15	0.89 ± 0.25	2.21 ± 0.25	1.83 ± 0.25
SMAR1440	1.42 ± 0.13	1.37 ± 0.15	0.89 ± 0.25	4.04 ± 0.25	3.66 ± 0.3
SMAR3037	3.05Max	3.18Max	0.58 ± 0.38	3.68Max	2.92 ± 0.25
SMAR3068	3.05Max	3.18Max	0.58 ± 0.38	6.86Max	5.84 ± 0.25
SMAR3848	3.81Max	4.20Max	1.53 ± 0.39	4.83Max	4.32 ± 0.39
SMAR6310	6.35Max	5.90Max	1.02 ± 0.39	10.55Max	7.98 ± 0.51

RECOMMENDED LAND PATTERNS:



Part No.	a	b	c	d	e
SMAR1422	2.62	2.46	1.04	1.02	0.79
SMAR1440	4.45	2.46	2.87	1.02	0.79
SMAR3037	4.19	3.30	1.65	2.79	1.27
SMAR3068	7.24	3.30	4.70	2.79	1.27
SMAR3848	5.80	5.16	2.85	2.62	1.48
SMAR6310	10.0	4.70	2.95	2.42	2.04

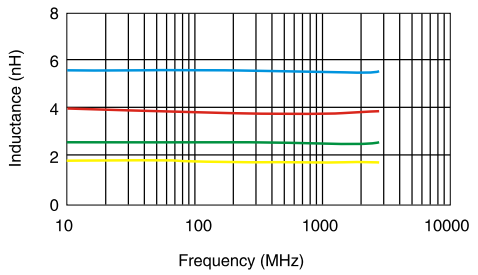
ELECTRICAL CHARACTERISTICS: @25℃

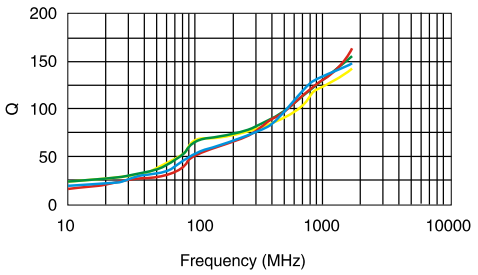
Part No.	Turns	Inductance (nH)	Tol ± %	Test freq. (MHz)	Q Typ.	SRF(GHz) Typ.	DCR(mΩ) Max	Irms (A)
SMAR1422-1N65□	2	1.65	10	800	100	10	4	1.6
SMAR1422-2N55□	3	2.55	5,10	800	100	8.2	5	1.6
SMAR1422-3N85□	4	3.85	2,5,10	800	100	7.5	6	1.6
SMAR1422-5N45□	5	5.45	2,5	800	100	7	8	1.6
SMAR1440-5N6□	6	5.6	2,5	800	100	6.5	9	1.6
SMAR1440-7N15□	7	7.15	2,5	800	100	6	10	1.6
SMAR1440-8N8□	8	8.8	2,5	800	100	6	12	1.6
SMAR1440-9N85□	9	9.85	2,5	800	100	5.2	13	1.6
SMAR1440-12N5□	10	12.55	2,5	800	100	4.6	14	1.6
SMAR3037-2N5□	1	2.5	10	150	145	12.5	1.1	4.0
SMAR3037-5N0□	2	5	5,10	150	140	6.5	1.8	4.0
SMAR3037-8N0□	3	8	2,5	150	140	5	2.6	4.0
SMAR3037-12N5□	4	12.5	2,5	150	137	3.3	3.4	4.0
SMAR3037-18N5□	5	18.5	2,5	150	132	2.5	3.9	4.0
SMAR3068-17N5□	6	17.5	2,5	150	100	2.2	4.5	4.0
SMAR3068-22N0□	7	22	2,5	150	102	2.1	5.2	4.0
SMAR3068-28N0□	8	28	2,5	150	105	1.8	6	4.0
SMAR3068-35N5□	9	35.5	2,5	150	112	1.5	6.8	4.0
SMAR3068-43N0□	10	43	2,5	150	106	1.2	7.9	4.0
SMAR3848-22N0□	4	22	2,5	150	100	3.2	4.2	3.0
SMAR3848-27N0□	5	27	2,5	150	100	2.7	4	3.5
SMAR3848-33N0□	5	33	2,5	150	100	2.5	4.8	3.0
SMAR3848-39N0□	6	39	2,5	150	100	2.1	4.4	3.0
SMAR3848-47N0□	6	47	2,5	150	100	2.1	5.6	3.0
SMAR3848-56N0□	7	56	2,5	150	100	1.5	6.2	3.0
SMAR3848-68N0□	7	68	2,5	150	100	1.5	8.2	2.5
SMAR3848-82N0□	8	82	2,5	150	100	1.3	9.4	2.5
SMAR3848-100N□	9	100	2,5	150	100	1.2	12.3	1.7
SMAR3848-120N□	9	120	2,5	150	100	1.1	17.3	1.5
SMAR6310-90N0□	9	90	2,5	50	95	1.14	15	3.5
SMAR6310-111N□	10	111	2,5	50	87	1.02	15	3.5
SMAR6310-130N□	11	130	2,5	50	87	0.900	20	3.0
SMAR6310-169N□	12	169	2,5	50	95	0.875	25	3.0
SMAR6310-206N□	13	206	2,5	50	95	0.800	30	3.0
SMAR6310-222N□	14	222	2,5	50	92	0.730	35	3.0
SMAR6310-246N□	15	246	2,5	50	95	0.685	35	3.0
SMAR6310-307N□	16	307	2,5	50	95	0.660	35	3.0
SMAR6310-380N□	17	380	2,5	50	95	0.590	50	2.5
SMAR6310-422N□	18	422	2,5	50	95	0.540	60	2.5
SMAR6310-491N□	19	491	2,5	50	95	0.535	65	2.0
SMAR6310-538N□	20	538	2,5	50	87	0.490	90	2.0

□ Inductance Tolerance: G: ±2%, J: ±5%,K: ±10%

Inductance vs. Frequency

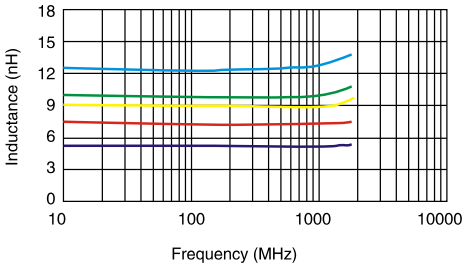
Typical Q vs. Frequency

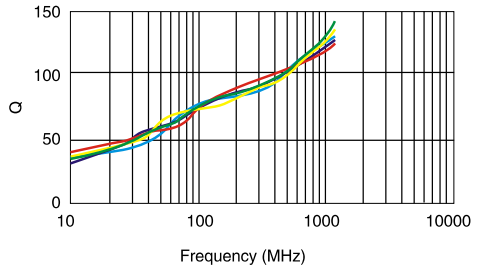




SMAR1422

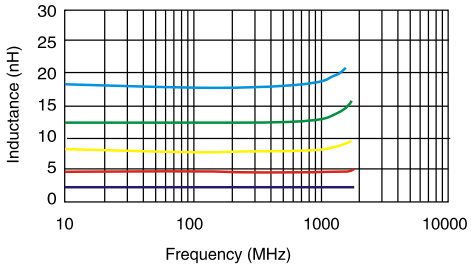
- 5.45nH
- 3.85nH
- 2.55nH
- 1.65nH

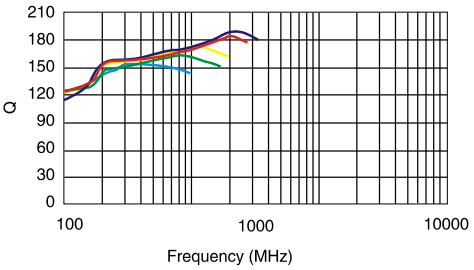




SMAR1440

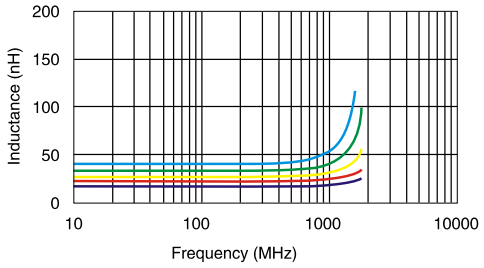
- 5.60nH
- 7.15nH
- 8.80nH
- 9.85nH
- 12.6nH

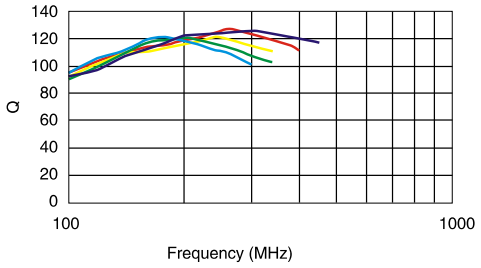




SMAR3037

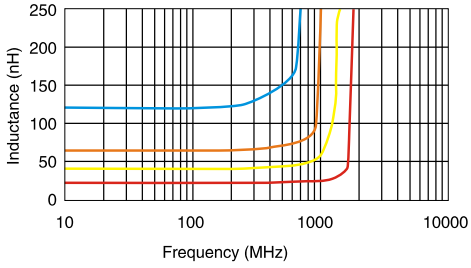
- 2.50nH
- 5.00nH
- 8.00nH
- 12.5nH
- 18.5nH

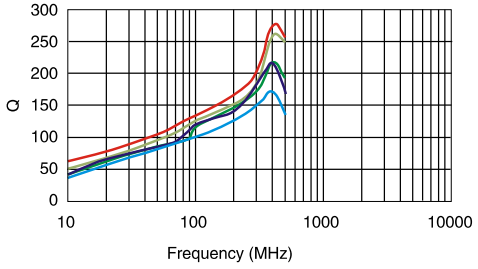




SMAR3068

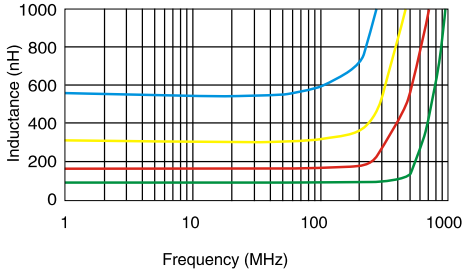
- 17.5nH
- 22.0nH
- 28.0nH
- 35.5nH
- 43.0nH

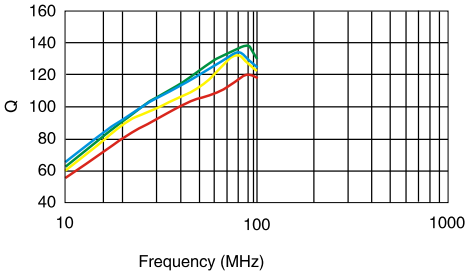




SMAR3848

- 22.0nH
- 39.0nH
- 47.0nH
- 56.0nH
- 68.0nH
- 82.0nH
- 120nH

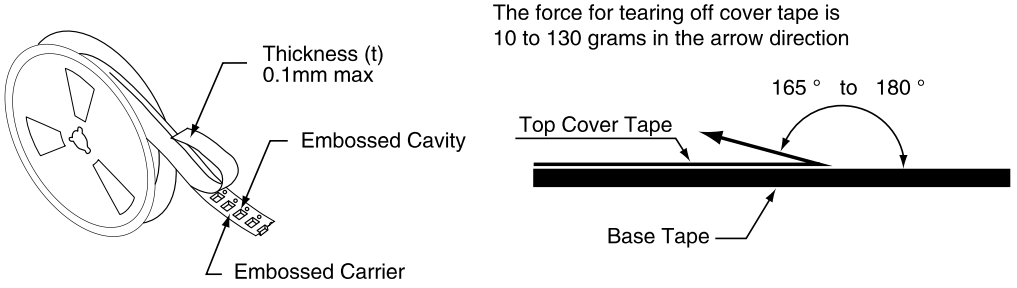


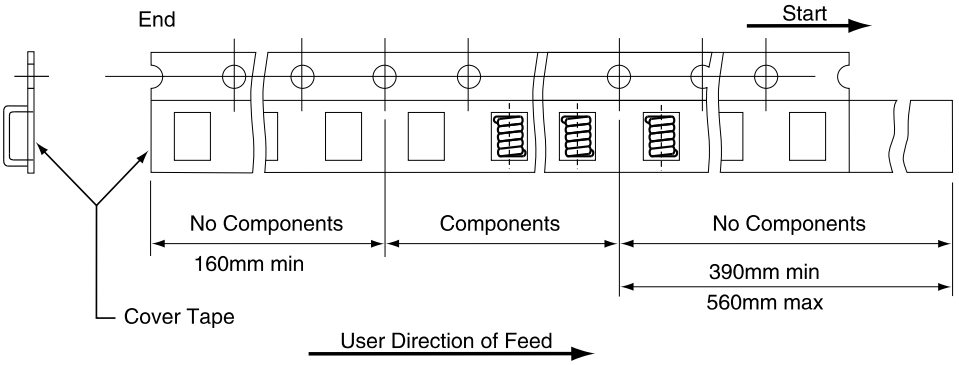


SMAR6310

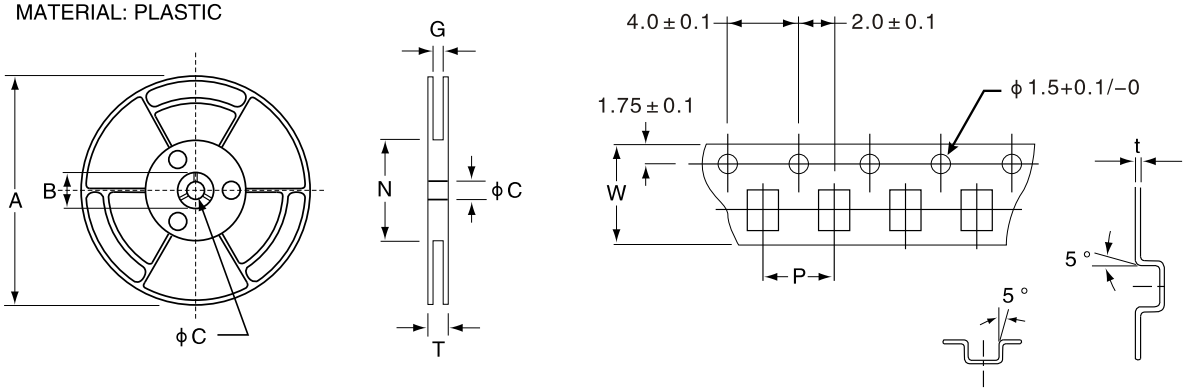
- 90.0nH
- 169nH
- 307nH
- 538nH

PACKAGING SPECIFICATIONS





MATERIAL: PLASTIC



Part No.	A	B	C	N	G	T	W	P	t
SMAR1422	178 ± 2	21 ± 0.8	13 ± 0.8	75 ± 2	8.4+1.5/–0	12.5+1.5/–0	8 ± 0.3	4 ± 0.1	0.3 ± 0.05
SMAR1440	178 ± 2	21 ± 0.8	13+0.5/–0.2	50Min	12.4+2/–0	18.4Max	12 ± 0.3	4 ± 0.1	0.35 ± 0.05
SMAR3037	178 ± 2	25 ± 1	15 ± 0.5	75 ± 2	12.5+1.5/–0	16.4+1.5/–0	12 ± 0.2	8 ± 0.1	0.25 ± 0.05
SMAR3068	178 ± 2	50 ± 1	15 ± 0.5	75 ± 2	16.5+1.5/–0	20.4+1.5/–0	16 ± 0.2	8 ± 0.1	0.25 ± 0.05
SMAR3848	340Max	20.2Min	13 ± 0.5	100Ref	16.5 ± 0.5	25.5 ± 0.5	16 ± 0.3	12 ± 0.1	0.3 ± 0.5
SMAR6310	340Max	20.2Min	13 ± 0.5	100Ref	24.5 ± 0.5	30.4 ± 0.5	24 ± 0.3	12 ± 0.1	0.35 ± 0.05

TYPICAL RoHS REFLOW PROFILE