

Data Sheet

Customer: _____

Product: SMD Micro Spring Air Coil – RSA series _____

Size : 0906/1606 _____

Issued Date: 22-March-2023 _____

Edition: Ver. 2 _____

Record of change

Date	Ver.	Description	Page
20-Jul.-2015	1		
22-Mar.-2023	2	Revised Dimension & Inductance & Curves	1,2,3

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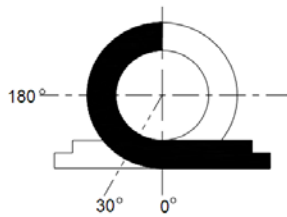
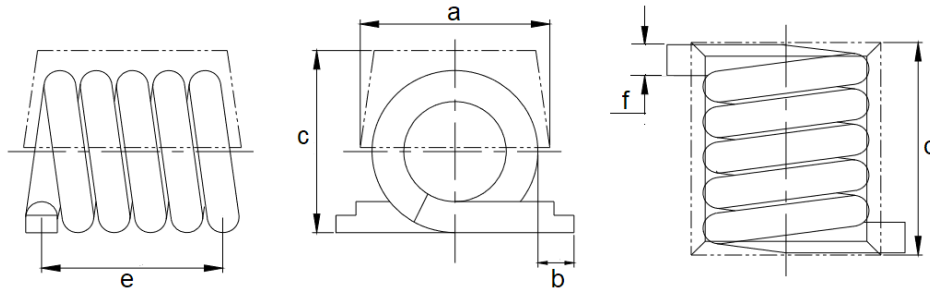
Prepared by	Checked by	Approved by	Accepted by (customer)
22-March-2023	22-March-2023	22-March-2023	
Hwa Wu	Andy Hsu	Arthur Su	

Feature:

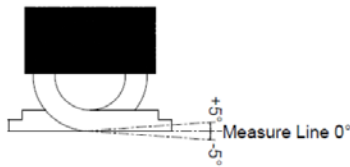
- Small air core inductors feature high Q and tight tolerances
- Solder coated leads ensure reliable soldering.
- 9 inductance values from 1.65 to 12.55 nH
- Flat top and bottom for reliable pick and place and mechanical stability

※Graphic is only for dimensionally application.

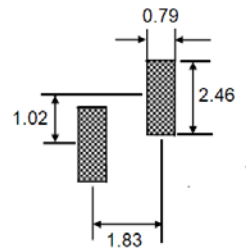
1. MECHANICAL DIMENSION:



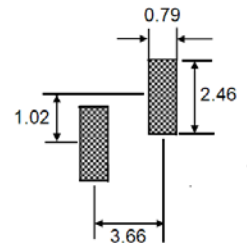
TINNED LENGTH BETWEEN 30° AND 180°



※CO-PLANE ≤ 0.10mm



Recommended Patterns
(Size 0906)



Recommended Patterns
(Size 1606)

Unit : mm

Size	a	b	c	d	e	f
0906	1.42±0.13	0.89±0.25	1.37±0.15	2.21±0.25	1.83±0.25	0.38±0.05
1606	1.42±0.13	0.89±0.25	1.37±0.15	4.04±0.30	3.66±0.25	0.38±0.05

2. ELECTRICAL SPECIFICATION :

PART NO.	Turns	Tolerance	Inductance (nH)	Q (Min.)	Test Freq (MHZ)	DCR Max. (mΩ)	SRF (GHZ) Min.	Rated current (A)Max.
RSA0906T-02A□□	2	J , K	1.65	100	800	4.0	10.0	1.6
RSA0906T-03A□□	3	G , J , K	2.55	100	800	5.0	8.2	1.6
RSA0906T-04A□□	4	G , J , K	3.85	100	800	6.0	7.5	1.6
RSA0906T-05A□□	5	G , J	5.4	100	800	8.0	7.0	1.6

PART NO.	Turns	Tolerance	Inductance (nH)	Q (Min.)	Test Freq (MHZ)	DCR Max. (mΩ)	SRF (GHZ) Min.	Rated current (A)Max.
RSA1606T-06B□□	6	G , J	5.60	100	800	9.0	6.5	1.6
RSA1606T-07B□□	7	G , J	7.15	100	800	10.0	6.0	1.6
RSA1606T-08B□□	8	G , J	8.80	100	800	12.0	6.0	1.6
RSA1606T-09B□□	9	G , J	9.85	100	800	13.0	5.2	1.6
RSA1606T-10B□□	10	G , J	12.55	100	800	14.0	4.6	1.6

NOTE :

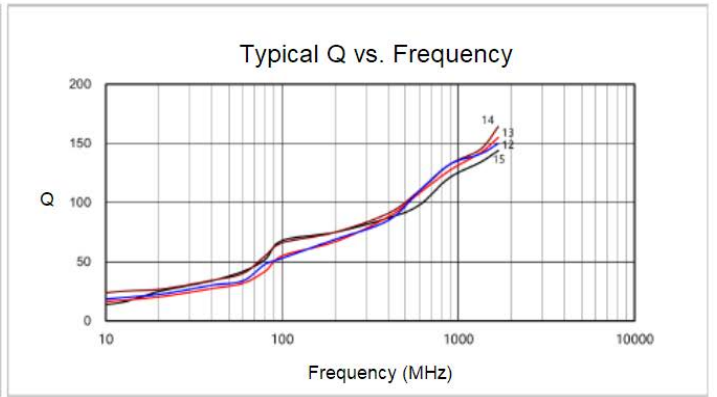
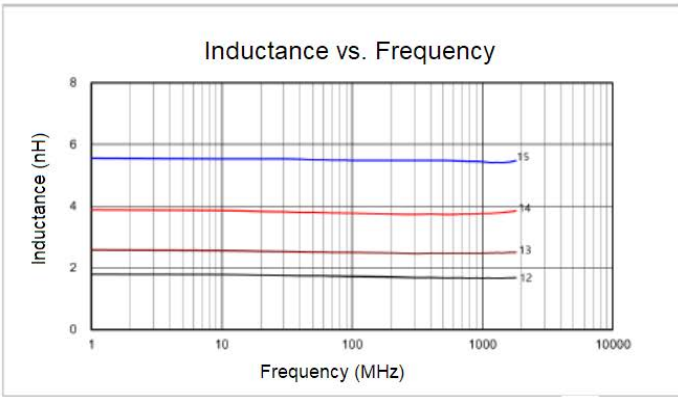
1. Tolerance : G:±2%,J:±5%, K:±10%
2. Inductance & Q measured on the HP4291B. With HP16193A test fixture.
3. SRF measured using the HP8753E.
4. RDC measured on Chroma 16502 or equivalent.
5. Operating temperature range: -25°C ~ +125°C.
6. Storage temperature range : component : -25°C ~ +85°C
7. Electrical specifications at 25°C.
8. MSL : LEVEL 1

※ ※ Last two digits of the part no. :

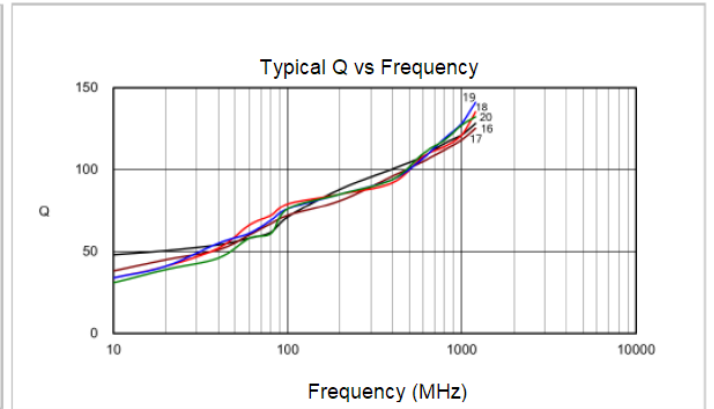
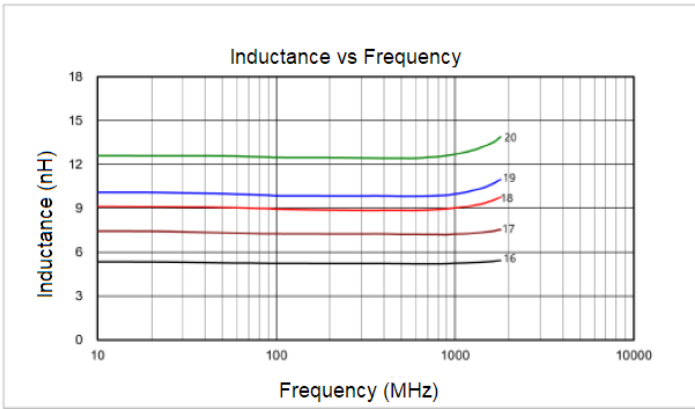
□: Tolerance □: Internal Code

3. CHARACTERISTIC CURVES :

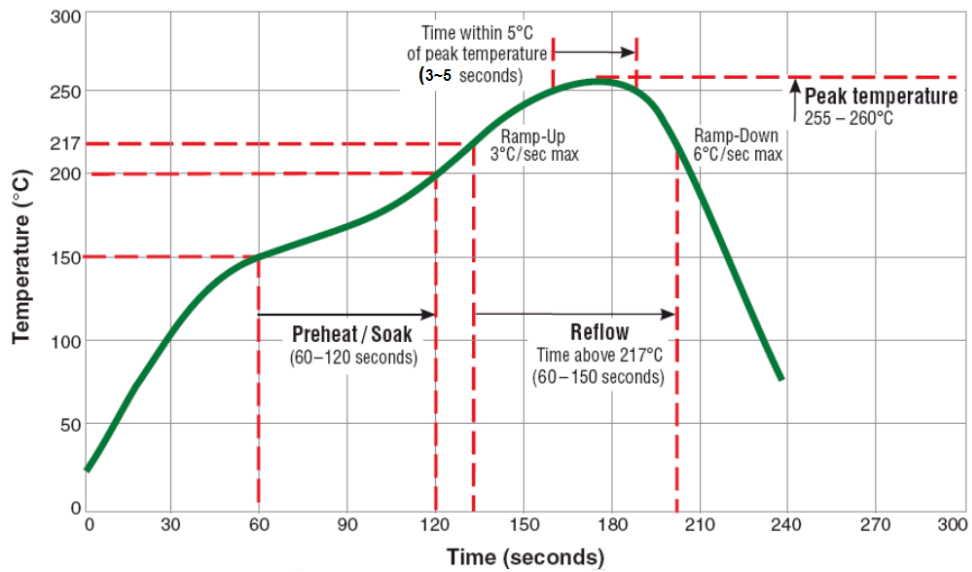
RSA0906



RSA1606



4. Typical RoHS Reflow Profile :



5. RELIABILITY PERFORMANCE :

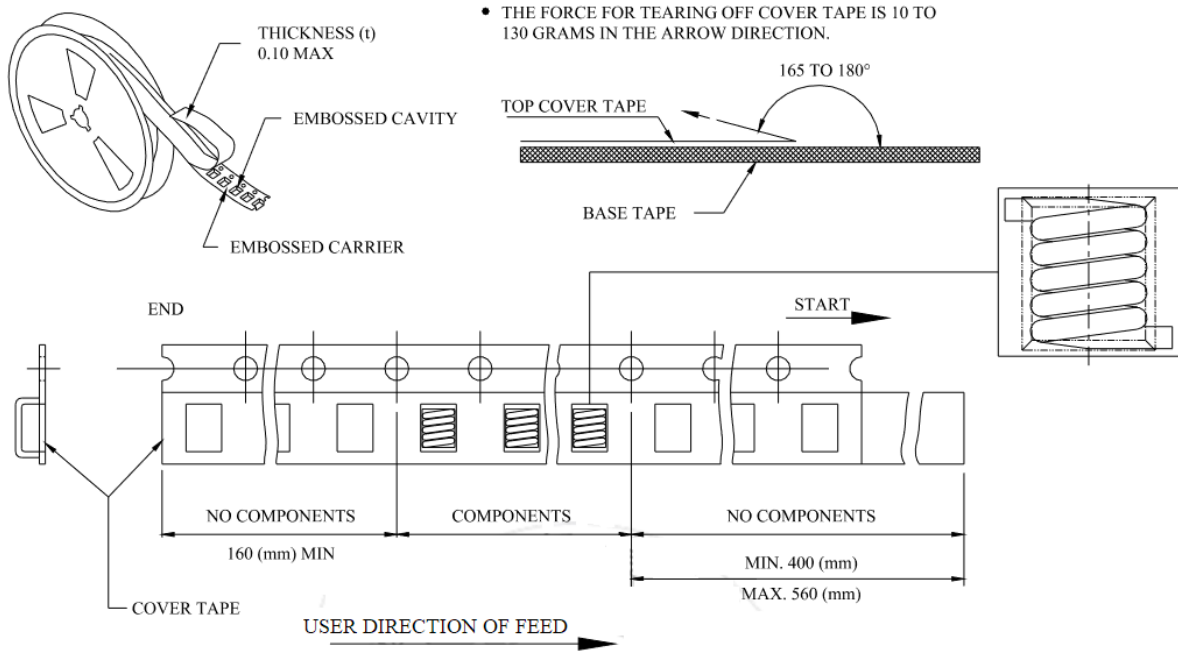
Reliability Experiment For Electrical :

Test Item	Accept criteria	Test Condition	Standard Source
Humidity Test	1.Change from an initial value L:within±5% 2.no visible damage.	+40°C± 2°C, humidity of 90% ±5% (total 96 hours).	MIL-STD-202H Method 103 Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: +125°C±2°C. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition B
Low Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: -25°C±2°C. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	1.Change from an initial value L:within±5% 2.no visible damage.	+125°C±5°C (30 minutes) ~ -65±5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	Reference MIL-STD-202H Method 107 Test Condition B-2
Life Test	1.Change from an initial value L:within±5% 2.no visible damage.	+70°C±5°C (250Hours).	Reference MIL-STD-202H Method 108 Test Condition B

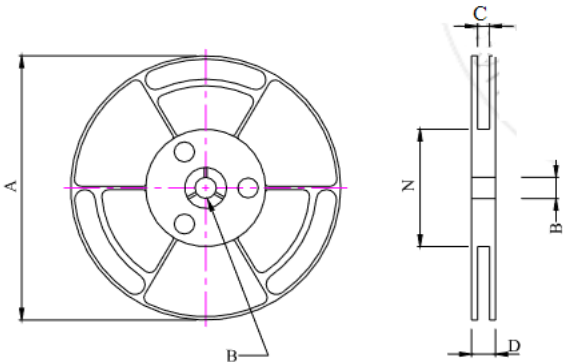
Reliability Experiment For Physical :

Test Item	Accept criteria	Test Condition	Standard Source
Vibration Test	1.Change from an initial value L:within±5% 2.no visible damage	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202H Method 201
Solder Heat Resistance Test	1.no visible dama	IR/convection reflow: Peak Temp 250±5°C for 30±5Sec. in air, Through 3 Cycle. Temperature Ramp:+1~4°C/sec.; Above 183°C, must keep 90 s -120 s.	Reference MIL-STD-202H Method 210 Test Condition K (Reflow)
Solder Ability Test	1. Lead must have 95% above coverage.	Solder temp: 245±5°C Immersion time: 5 second. Immersion rate: 25±6mm/sec.	J-STD-002D Test condition B1

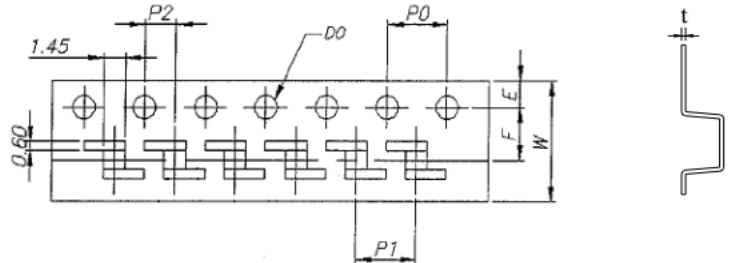
6. PACKAGING :



■ CARRIER TAPE REELS MATERIAL : PLASTIC



■ DIMENSIONS OF CARRIER TAPE



Unit : mm

Size	A	B	C	D	E	F	N	t	W	D0	P0	P1	P2
0906	178	13	8.4	12.5	1.75	3.50	75	0.23	8.0	1.50	4.0	4.0	2.0
	±2.0	±0.8	+1.5/-0	+1.5/-0	±0.10	±0.10	±2.0	±0.05	±0.20	+0.1/-0	±0.10	±0.10	±0.10

Size	A	B	C	D	E	F	N	t	W	D0	P0	P1	P2
1606	180	13	12.4	16.8	1.75	5.50	50	0.35	12.0	1.50	4.0	4.0	2.0
	±2.0	±0.8	+2.0/-0	MAX.	±0.10	±0.05	MIN.	±0.05	±0.30	+0.1/-0	±0.10	±0.10	±0.10