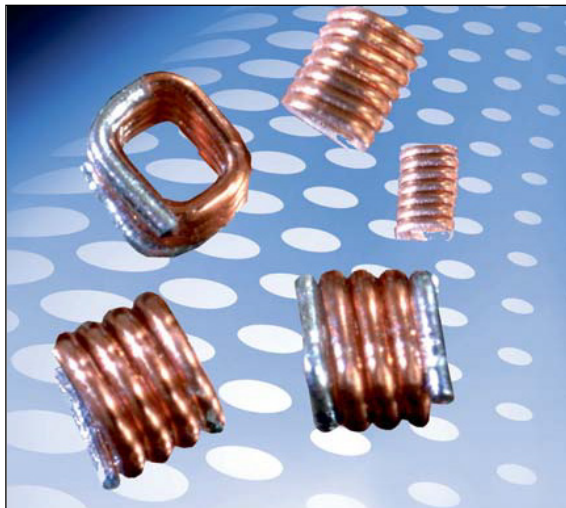


# RF Inductors

## AS Series – Square Air Core Inductors



### GENERAL DESCRIPTION

AVX Square Air Core RF Inductors, part of the wound air core inductor family, are ideal for RF circuits, broadband I/O filtering, frequency selection, or impedance matching. The unique square cross section of the air core inductor provides better performance, and offers manufacturing advantages over toroidal coils.

### FEATURES

- Square cross section construction
- Available in 0806, 0807, and 0908 sizes
- 20 Inductance values ranging from 5.5nH to 27.3nH
- High Q
- High Current
- Excellent SRF

### APPLICATIONS

- RF Applications
- RF Circuits
- Broadband I/O Filtering
- Impedance Matching

### HOW TO ORDER

<b>AS</b> ↓	<b>06</b> ↓	<b>05N5</b> ↓	<b>J</b> ↓	<b>T</b> ↓	<b>R</b> ↓
<b>Air Core Inductor</b> (Square Cross Section)	<b>Size</b> 06 = 0806 07 = 0807 08 = 0908	<b>Inductance</b> 05N5 = 5.5nH 06N0 = 6.0nH 12N3 = 12.3nH	<b>Tolerance</b> G = 2% J = 5% K = 10%	<b>Termination</b> T = Sn/Ag over Cu (96.5% Sn, 3% Ag, 0.5% Cu)	<b>Packaging</b> R = 7 inch reel (2000 pieces per reel)



### ELECTRICAL SPECIFICATIONS

Technical Data	All technical data related to an ambient temperature of +25°C
Inductance Range	5.5nH to 27.3nH
Inductance Tolerance	2%, 5%, 10%
Rated Current	2.7A, 2.9A, 4.4A
Operating Temperature	-40°C to +125°C
Termination	96.5% Tin/3% Silver over 0.5% Copper

### ELECTRICAL SPECIFICATIONS

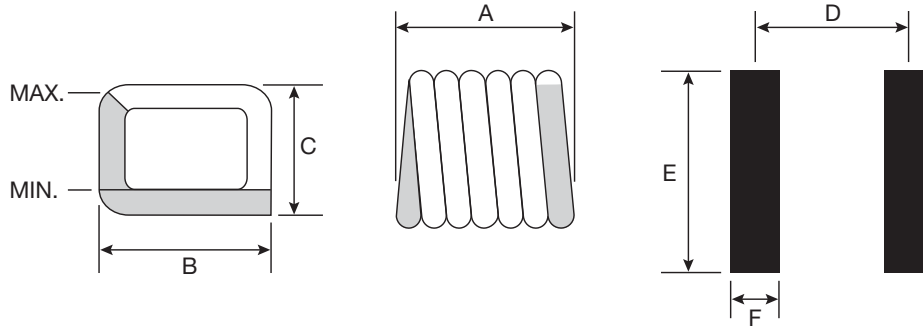
AVX P/N	Turns	Inductance (nH)	Tolerance (%)	Q min.	Test Freq. (MHz)	DCR max (mΩ)	SRF (GHz)	I <sub>r</sub> max (A)
AS0605N5*TR	3	5.5	G, J, K	60	400	3.4	4.9	2.9
AS0606N0*TR	3	6	G, J, K	64	400	6	5.2	2.9
AS0608N9*TR	4	8.9	G, J, K	90	400	7	4.3	2.9
AS0612N3*TR	5	12.3	G, J, K	90	400	8	4.8	2.9
AS0615N7*TR	6	15.7	G, J, K	90	400	9	4.4	2.9
AS0619N4*TR	7	19.4	G, J, K	90	400	10	4	2.9
AS0706N9*TR	3	6.9	G, J, K	100	400	6	4.6	2.7
AS0710N2*TR	4	10.2	G, J, K	100	400	7	4	2.7
AS0711N2*TR	4	11.2	G, J, K	90	400	6.3	3.6	2.7
AS0713N7*TR	5	13.7	G, J, K	100	400	8	4.3	2.7
AS0717N0*TR	6	17	G, J, K	100	400	9	4	2.7
AS0722N0*TR	7	22	G, J, K	100	400	10	3.5	2.7
AS0808N1*TR	3	8.1	G, J, K	130	400	6	5.2	4.4
AS0812N1*TR	4	12.1	G, J, K	130	400	7	4.3	4.4
AS0814N7*TR	4	14.7	G, J, K	90	400	7.2	3	4.4
AS0816N6*TR	5	16.6	G, J, K	130	400	8	3.4	4.4
AS0821N5*TR	6	21.5	G, J, K	130	400	9	3.7	4.4
AS0823N0*TR	6	23	G, J, K	130	400	10	2.6	4.4
AS0825N0*TR	7	25	G, J, K	130	400	10	2.5	4.4
AS0827N3*TR	7	27.3	G, J, K	130	400	10	3.2	4.4

- 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. Operating Temperature range: -40°C to +125°C  
 5. Electrical Specifications at 25°C  
 6. MSL: Level 1

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### PHYSICAL DIMENSIONS



mm (inches)

Part Number	A	B	C	D	E	F
AS0605N5*TR	1.346±0.102 (0.053±0.004)	1.829±0.254 (0.072±0.01)	1.397±0.102 (0.055±0.004)	0.962 (0.038)	2.60 (0.102)	0.51 (0.020)
AS0606N0*TR	1.295±0.102 (0.051±0.004)	1.829±0.254 (0.072±0.01)	1.397±0.102 (0.055±0.004)	0.99 (0.390)	2.60 (0.102)	0.51 (0.020)
AS0608N9*TR	1.626±0.152 (0.640±0.006)	1.829±0.254 (0.072±0.01)	1.397±0.102 (0.055±0.004)	1.27 (0.050)	2.60 (0.102)	0.51 (0.020)
AS0612N3*TR	1.930±0.152 (0.076±0.006)	1.829±0.254 (0.072±0.01)	1.397±0.102 (0.055±0.004)	1.63 (0.064)	2.60 (0.102)	0.51 (0.020)
AS0615N7*TR	2.286±0.152 (0.09±0.006)	1.829±0.254 (0.072±0.01)	1.397±0.102 (0.055±0.004)	1.96 (0.070)	2.60 (0.102)	0.51 (0.020)
AS0619N4*TR	2.591±0.152 (0.102±0.006)	1.829±0.254 (0.072±0.01)	1.397±0.102 (0.055±0.004)	2.29 (0.090)	2.60 (0.102)	0.51 (0.020)
AS0706N9*TR	1.295±0.102 (0.051±0.004)	1.829±0.254 (0.072±0.01)	1.524±0.254 (0.060±0.010)	1.02 (0.040)	2.60 (0.102)	0.51 (0.020)
AS0710N2*TR	1.626±0.152 (0.064±0.006)	1.829±0.254 (0.072±0.01)	1.524±0.254 (0.060±0.010)	1.32 (0.052)	2.60 (0.102)	0.51 (0.020)
AS0711N2*TR	1.549±0.152 (0.061±0.006)	1.829±0.254 (0.072±0.01)	1.524±0.254 (0.060±0.010)	1.24 (0.049)	2.60 (0.102)	0.51 (0.020)
AS0713N7*TR	1.930±0.152 (0.076±0.006)	1.829±0.254 (0.072±0.01)	1.524±0.254 (0.060±0.010)	1.57 (0.062)	2.60 (0.102)	0.51 (0.020)
AS0717N0*TR	2.286±0.152 (0.09±0.006)	1.829±0.254 (0.072±0.01)	1.524±0.254 (0.060±0.010)	1.93 (0.076)	2.60 (0.102)	0.51 (0.020)
AS0722N0*TR	2.591±0.152 (0.102±0.006)	1.829±0.254 (0.072±0.01)	1.524±0.254 (0.060±0.010)	2.29 (0.090)	2.60 (0.102)	0.51 (0.020)
AS0808N1*TR	1.473±0.152 (0.058±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	1.12 (0.044)	2.80 (0.110)	0.64 (0.025)
AS0812N0*TR	1.854±0.152 (0.073±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	1.45 (0.570)	2.80 (0.110)	0.64 (0.025)
AS0814N7*TR	1.549±0.152 (0.061±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	1.24 (0.049)	2.80 (0.110)	0.64 (0.025)
AS0816N6*TR	2.210±0.152 (0.087±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	1.83 (0.072)	2.80 (0.110)	0.64 (0.025)
AS0821N5*TR	2.565±0.152 (0.101±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	2.18 (0.086)	2.80 (0.110)	0.64 (0.025)
AS0823N0*TR	2.235±0.152 (0.088±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	1.90 (0.075)	2.80 (0.110)	0.64 (0.025)
AS0825N0*TR	2.972±0.152 (0.117±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	2.57 (0.101)	2.80 (0.110)	0.64 (0.025)
AS0827N3*TR	2.972±0.152 (0.117±0.006)	2.134±0.152 (0.084±0.006)	1.829±0.152 (0.072±0.006)	2.57 (0.101)	2.80 (0.110)	0.64 (0.025)

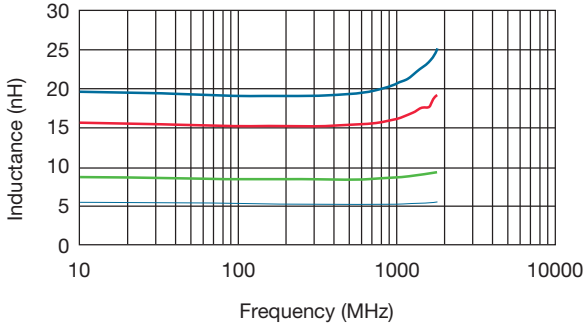
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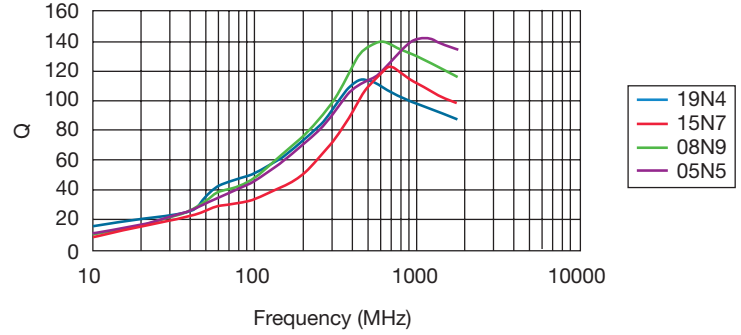
### PERFORMANCE SPECIFICATIONS

#### AS06

Inductance vs. Frequency

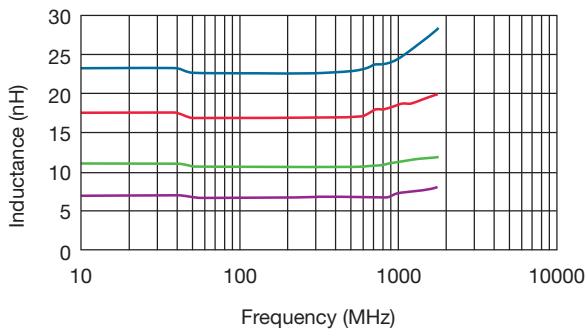


Typical Q vs. Frequency

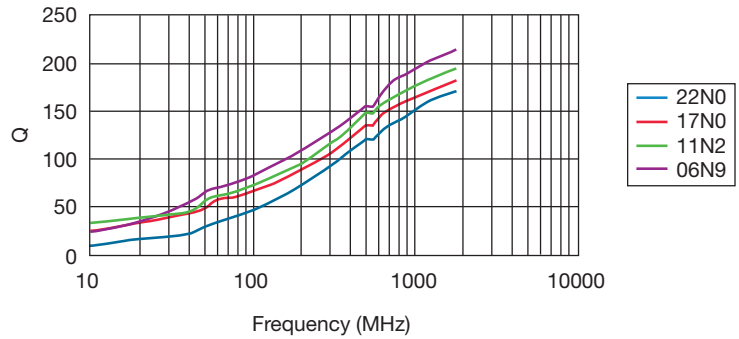


#### AS07

Inductance vs. Frequency

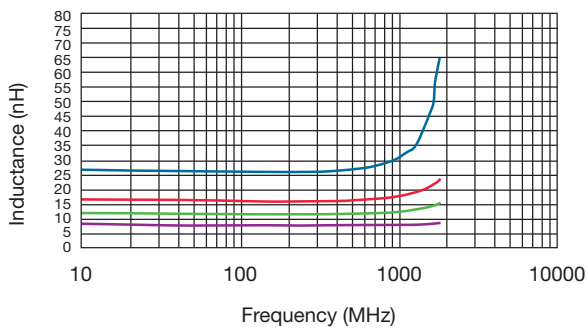


Typical Q vs. Frequency

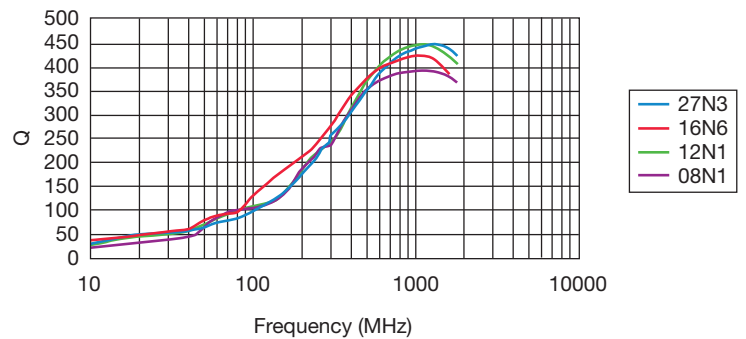


#### AS08

Inductance vs. Frequency



Typical Q vs. Frequency

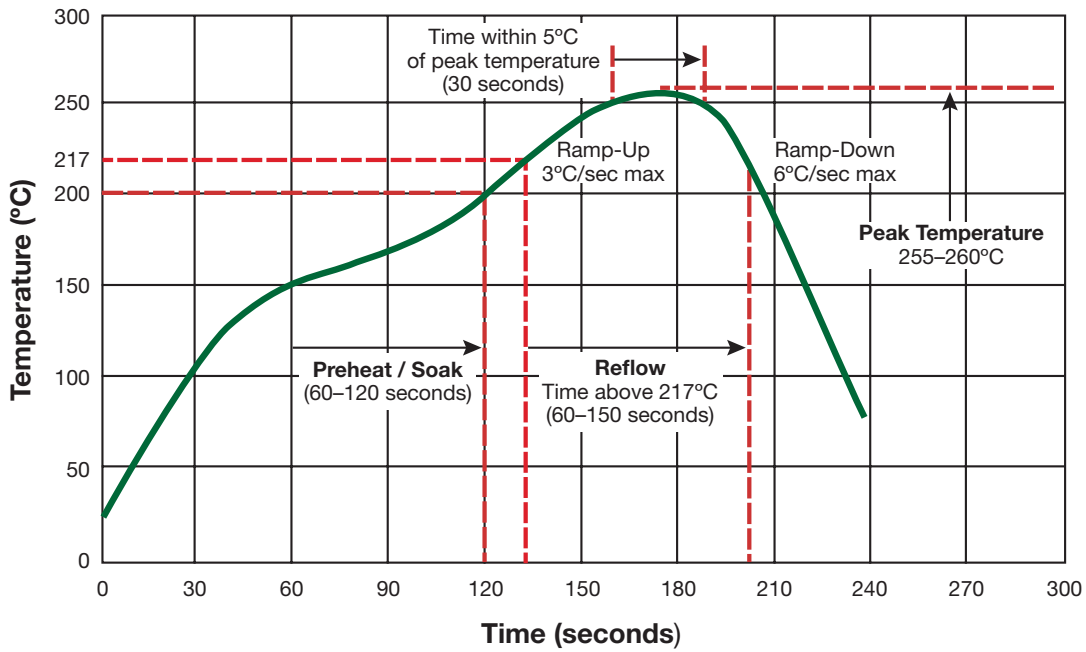


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## AS Series – Square Air Core Inductors



### TYPICAL ROHS REFLOW PROFILE

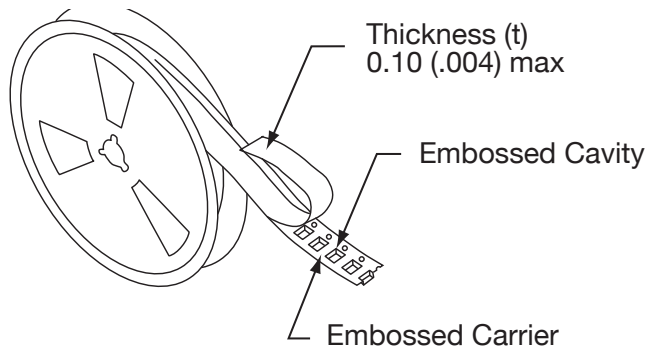


Test Condition	Standard Source
IR/convection reflow: Peak Temp 255°C ~260°C for 3~5 sec. in air, through 3 Cycle. Temperature Ramp:+1~4°C/sec.; Above 217°C, must keep 90 s -120 s.	Reference MIL-STD 202G Method 210F Test Condition K (Reflow)

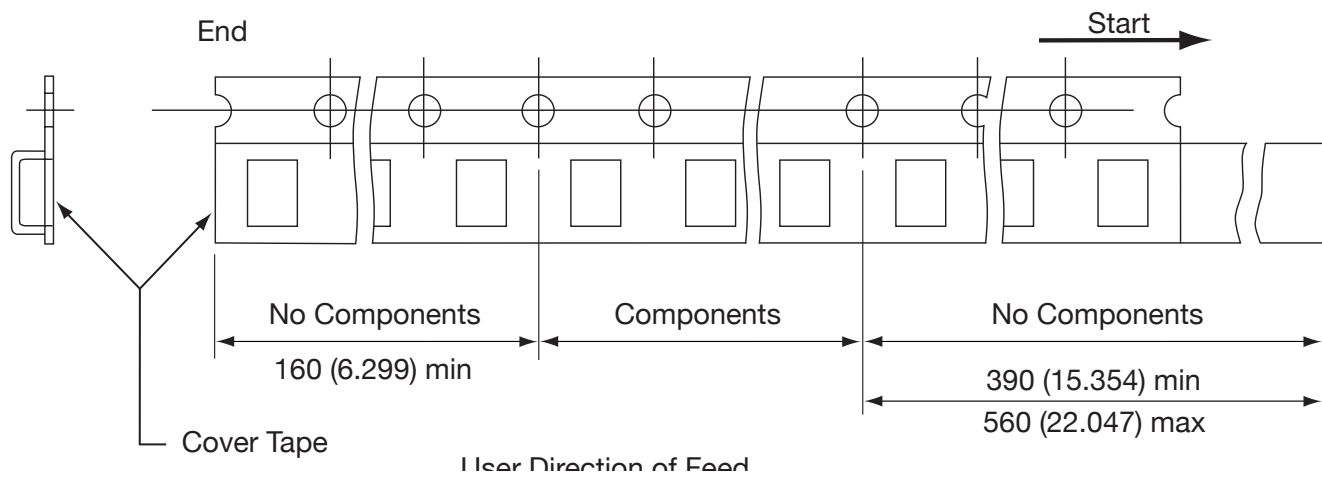
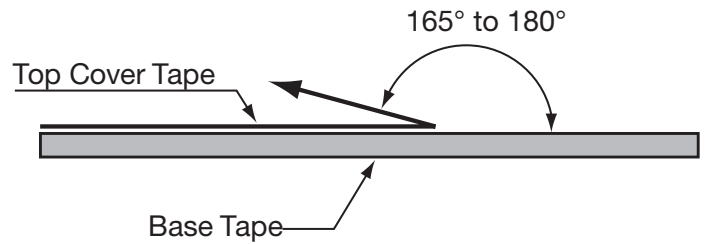
# RF Inductors

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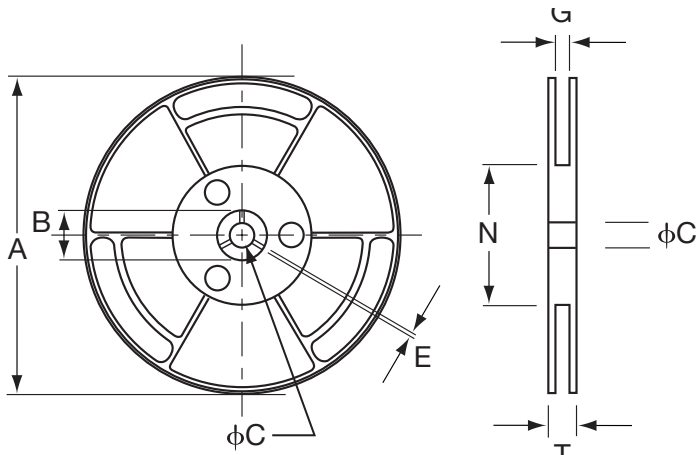
### PACKAGING SPECIFICATIONS



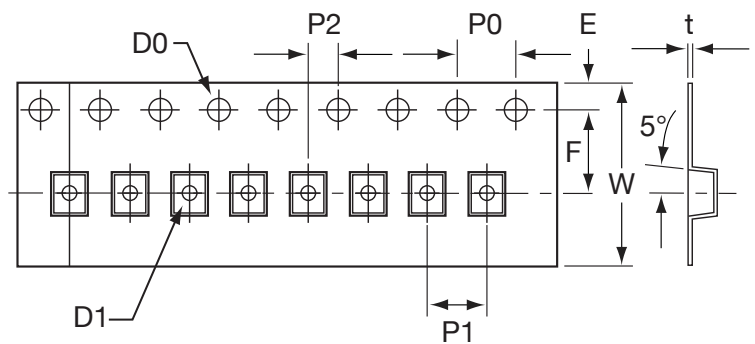
10 to 130 grams in the arrow direction



### CARRIER TAPE REELS



### DIMENSIONS OF CARRIER TAPE



mm (inches)

ITEM	A	B	C	G	N	T	W	E	F	P1	P2	P0	D0	D1	t
DIM.	178 (7.008)	25 (0.984)	15 (0.591)	12.5 (0.492)	75 (2.953)	16.4 (0.646)	12.0 (0.472)	1.75 (0.069)	5.50 (0.217)	4.00 (0.157)	2.0 (0.079)	4.0 (0.157)	1.5 (0.059)	1.0 (0.039)	0.23 (0.009)
TOL.	±2.0 (0.079)	±1.0 (0.039)	±0.5 (0.020)	±1.5 (0.059)	±2.0 (0.079)	±1.5 (0.059)	±0.2 (0.008)	±0.1 (0.004)	±0.1 (0.004)	±0.1 (0.004)	±0.1 (0.004)	±0.1 (0.004)	±0.1 (0.004)	±0.1 (0.004)	±0.05 (0.020)