

# Square Air Core RF Inductors



## AS Series



### 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> Size	<b>Inductance</b>	<b>Tolerance</b>	<b>Termination</b>	<b>Packaging</b>
	06 = 0806 07 = 0807 08 = 0908	05N5 = 5.5nH 06N0 = 6.0nH 12N3 = 12.3nH	G = 2% J = 5% K = 10%	T = Sn/Ag over Cu (96.5% Sn, 3% Ag, 0.5% Cu)	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

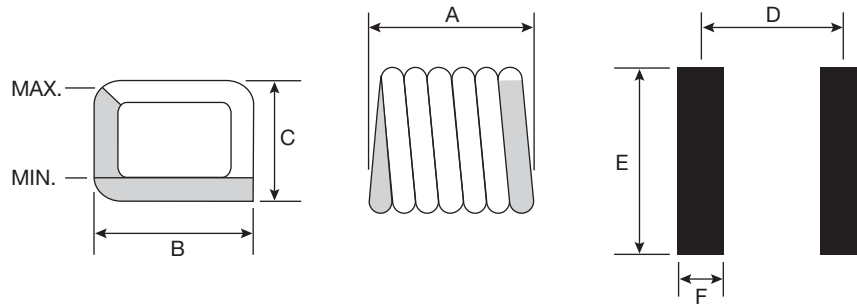


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### PHYSICAL DIMENSIONS



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)

7

# Square Air Core RF Inductors

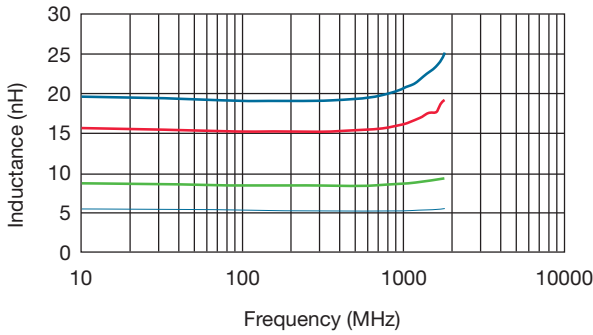


## AS Series

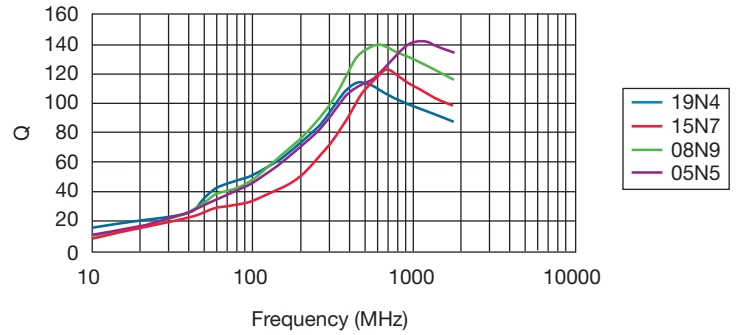
### PERFORMANCE SPECIFICATIONS

#### AS06

Inductance vs. Frequency

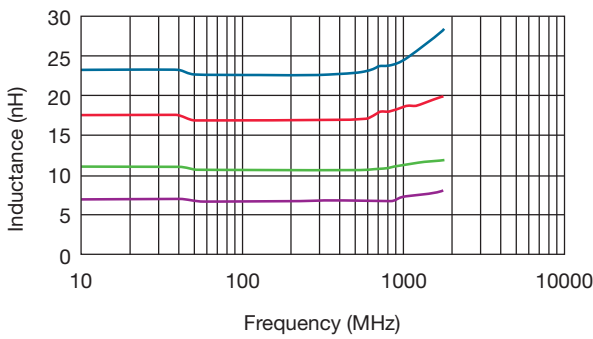


Typical Q vs. Frequency

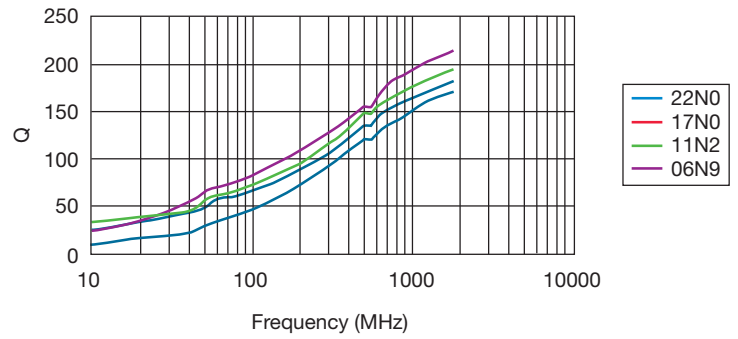


#### AS07

Inductance vs. Frequency

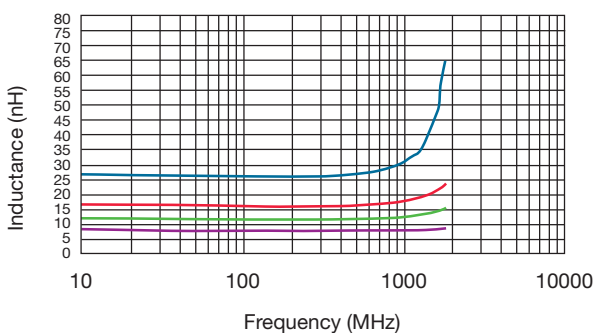


Typical Q vs. Frequency

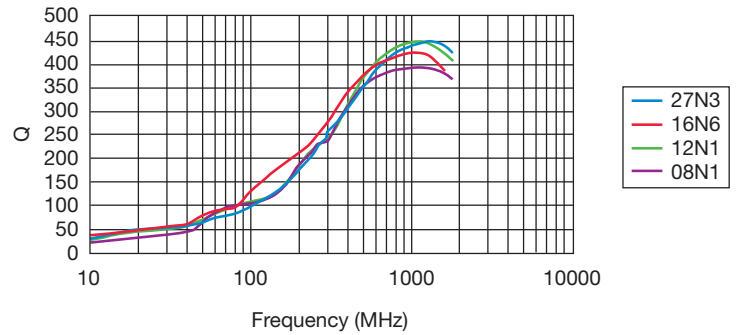


#### AS08

Inductance vs. Frequency



Typical Q vs. Frequency



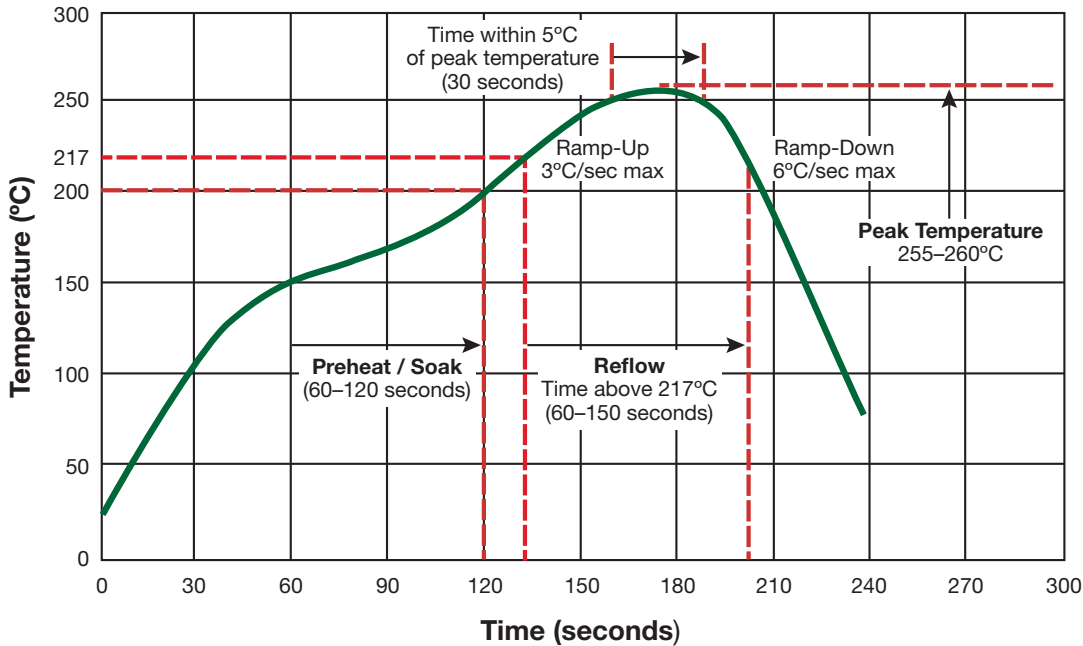
7

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### TYPICAL RoHS REFLOW PROFILE



7

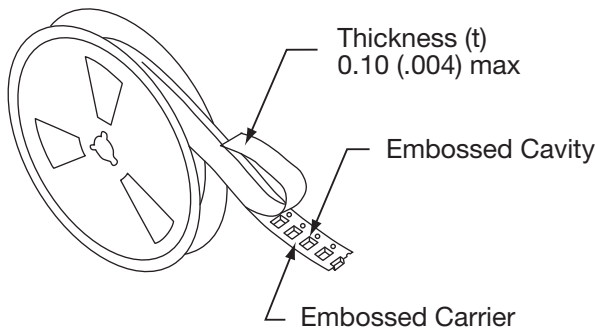


# Square Air Core RF Inductors

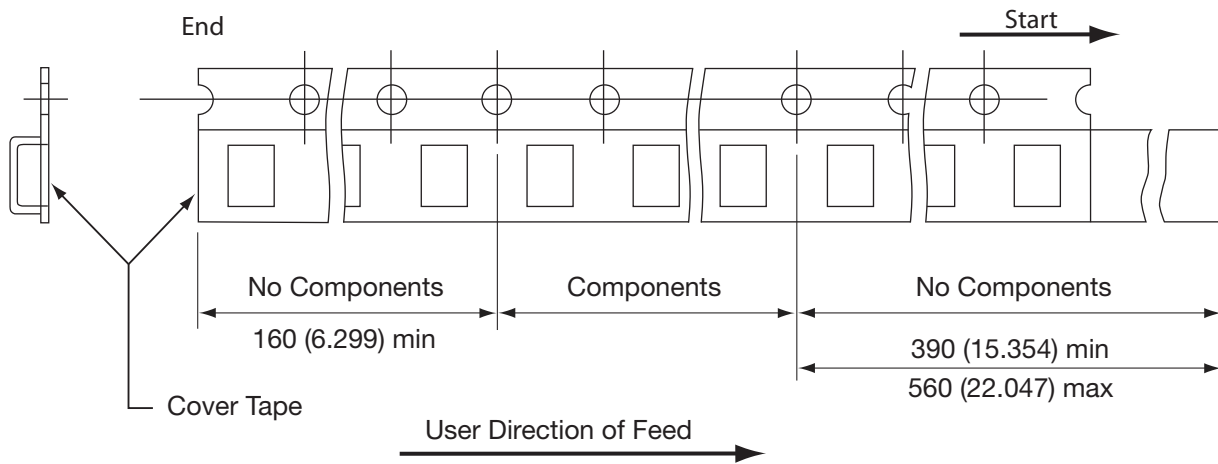
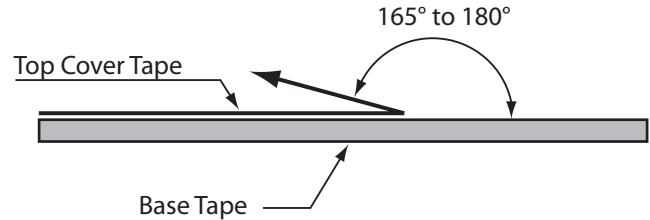


## AS Series

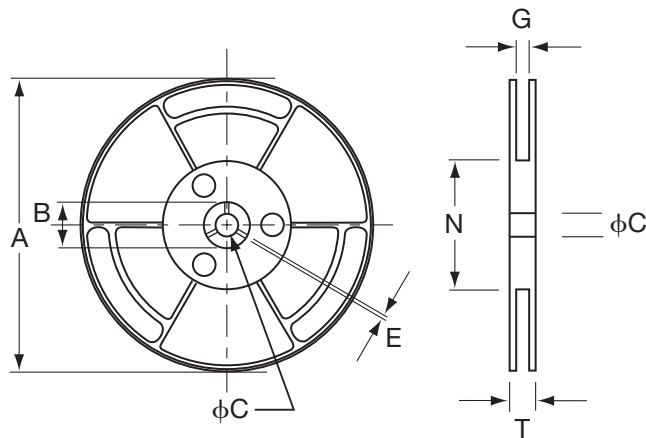
### PACKAGING SPECIFICATIONS



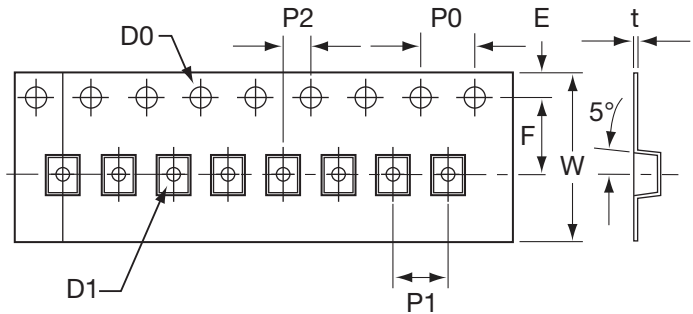
- The force for tearing off cover tape is 10 to 130 grams in the arrow direction



### 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
<b>DIM.</b>	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)
<b>TOL.</b>	±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)

7