



### Features

- High Q value - self-resonant frequency
- Tight tolerance
- Flat top and bottom for mechanical stability and pick & place processes
- Surface mount
- RoHS compliant\*

### Applications

- High frequency television and radio receivers
- Radio transmitters
- RF amplifiers
- Tuning applications

### Sustainability

- Responsibly sourced and produced
- Meets EU 94/62/EC standards

### Product Overview

The ACXX15SQ Series Air Coil Inductors feature high Q values up to 100 with inductances ranging from 6.9 to 22 nH. Engineered with tight tolerance, DCR ratings from 6.0 to 10.0 mΩ max., and rated current of 2.7 A, their flat top and bottom for mechanical stability makes this series suitable for pick-and-place processes for surface mount designs.

These Air Coil Inductors are available with an operating temperature range of -25 °C to +125 °C and are well-suited for use in high frequency television and radio receivers, radio transmitters, RF amplifier and tuning applications.

### Electrical Specifications (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Bourns Part Number	Inductance		Q Min.	Test Frequency (MHz)	DCR (mΩ) Max.	SRF (GHz) Min.	Rated Current (A) Max.	Turns
	L (nH)	Tolerance** (%)						
AC1615SQ-6N9_	6.9	±2, ±5	100	400	6.0	4.6	2.7	3
AC1615SQ-10N_	10.2	±2, ±5	100	400	7.0	4.0	2.7	4
AC1615SQ-11N_	11.2	±2, ±5	90	400	6.3	3.6	2.7	4
AC2015SQ-14N_	13.7	±2, ±5	100	400	8.0	4.3	2.7	5
AC2015SQ-17N_	17	±2, ±5	100	400	9.0	4.0	2.7	6
AC2015SQ-22N_	22	±2, ±5	100	400	10.0	3.5	2.7	7

Note: Underscore indicates Inductance Tolerance Code: G = ±2 %, J = ±5 %

### General Specifications

Operating Temperature ..... -25 °C to +125 °C  
 Storage Temperature ..... -25 °C to +85 °C  
 Temperature Rise ..... 20 °C  
 Moisture Sensitivity Level ..... 1  
 ESD Classification (HBM) ..... N/A

### Materials

Wire ..... Enameled Copper  
 Terminal Finish ..... Sn  
 Packaging ..... 2,000 pcs. per reel

### Contact Information

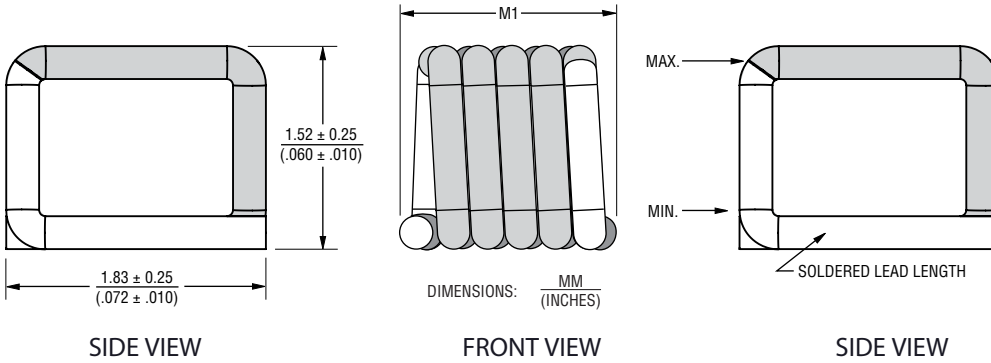
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\* RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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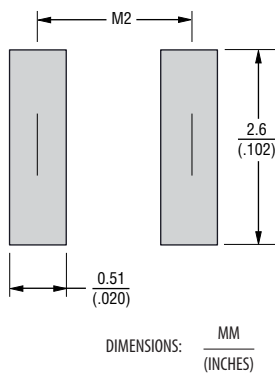


### Product Dimensions



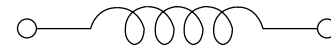
Part Number	Dimension M1
AC1615SQ-6N9_	$\frac{1.30 \pm 0.10}{(.051 \pm .004)}$
AC1615SQ-10N_	$\frac{1.63 \pm 0.10}{(.064 \pm .004)}$
AC1615SQ-11N_	$\frac{1.55 \pm 0.15}{(.061 \pm .006)}$
AC2015SQ-14N_	$\frac{1.93 \pm 0.15}{(.076 \pm .006)}$
AC2015SQ-17N_	$\frac{2.29 \pm 0.15}{(.090 \pm .006)}$
AC2015SQ-22N_	$\frac{2.59 \pm 0.15}{(1.02 \pm .006)}$

### Recommended Layout



Part Number	Dimension M2
AC1615SQ-6N9_	$\frac{1.02}{(.040)}$
AC1615SQ-10N_	$\frac{1.32}{(.052)}$
AC1615SQ-11N_	$\frac{1.24}{(.049)}$
AC2015SQ-14N_	$\frac{1.63}{(.064)}$
AC2015SQ-17N_	$\frac{1.96}{(.077)}$
AC2015SQ-22N_	$\frac{2.29}{(.090)}$

### Electrical Schematic



### How to Order

**ACXX15SQ - 14N J**

Series \_\_\_\_\_

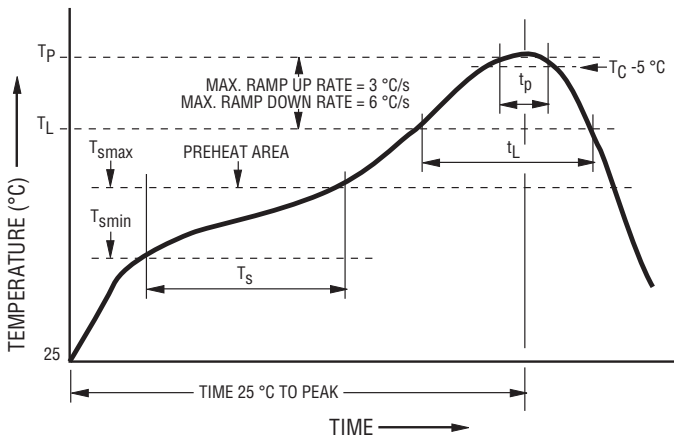
Value Code \_\_\_\_\_

Tolerance \_\_\_\_\_

G = ±2 %

J = ±5 %

### Soldering Profile



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. ( $T_{smin}$ ) Temperature Max. ( $T_{smax}$ ) Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150 °C 200 °C 60~120 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Liquidous Temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60~150 seconds
Peak Package Body Temperature ( $T_p$ )	255~260 °C
Time ( $t_p$ ) within 5 °C of the specified classification temperature ( $T_c$ )	< 30 seconds
Ramp Down Rate ( $T_p$ to $T_L$ )	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

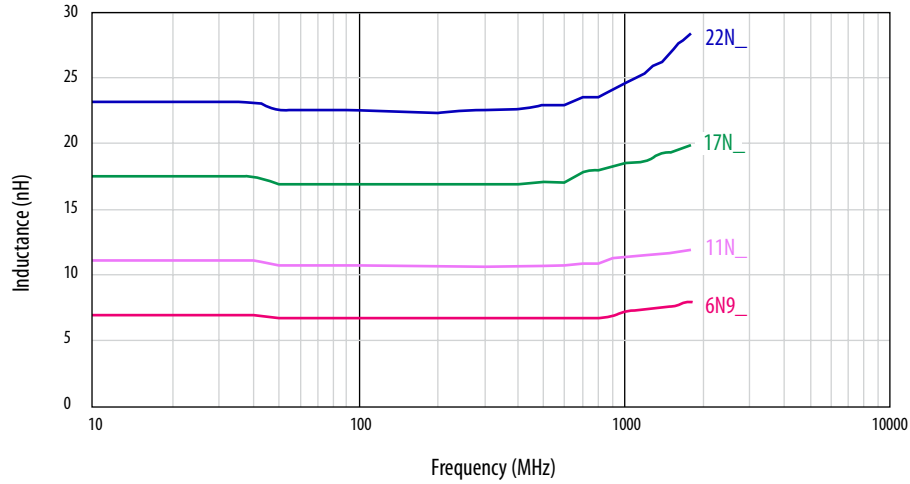
NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures or longer durations, could impact performance.

Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

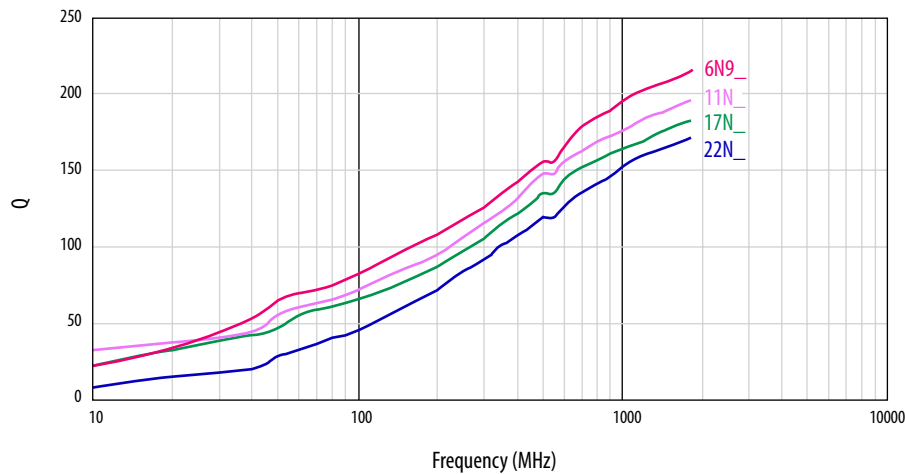
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**Inductance vs. Frequency**



**Typical Q vs. Frequency**

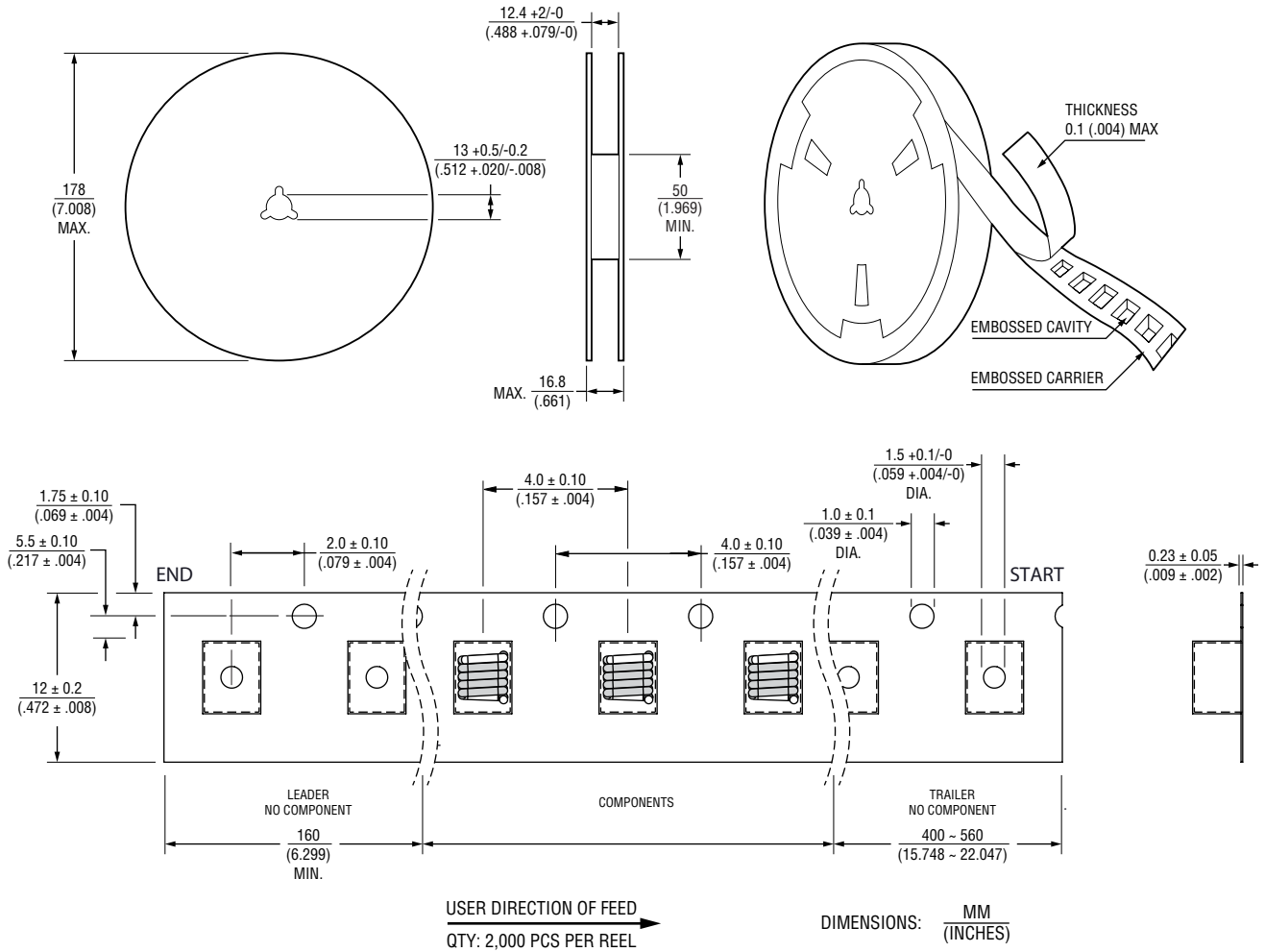


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**Packaging Specifications**



REV. 01/26

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