



## 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 ACXX18SQ Series Air Coil Inductors feature high Q values up to 130 with inductances ranging from 8.1 to 33 nH. Engineered with tight tolerance, DCR ratings from 6.0 to 12.0 mΩ max., and rated current of 4.4 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** (%)						
AC1618SQ-8N1_	8.1	±2, ±5	130	400	6.0	5.2	4.4	3
AC1618SQ-12N_	12.1	±2, ±5	130	400	7.0	4.3	4.4	4
AC1618SQ-15N_	14.7	±2, ±5	90	400	7.2	3.0	4.4	4
AC2218SQ-17N_	16.6	±2, ±5	130	400	8.0	3.4	4.4	5
AC2218SQ-22N_	21.5	±2, ±5	130	400	9.0	3.7	4.4	6
AC2218SQ-23N_	23	±2, ±5	130	400	10.0	2.6	4.4	6
AC3018SQ-25N_	25	±2, ±5	130	400	10.0	2.5	4.4	7
AC3018SQ-27N_	27.3	±2, ±5	130	400	10.0	3.2	4.4	7
AC3018SQ-33N_	33	±2, ±5	130	400	12.0	3.2	4.4	8

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

## Contact Information

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The Americas	+1-951 781-5500	<a href="mailto:americus@bourns.com">americus@bourns.com</a>

## Materials

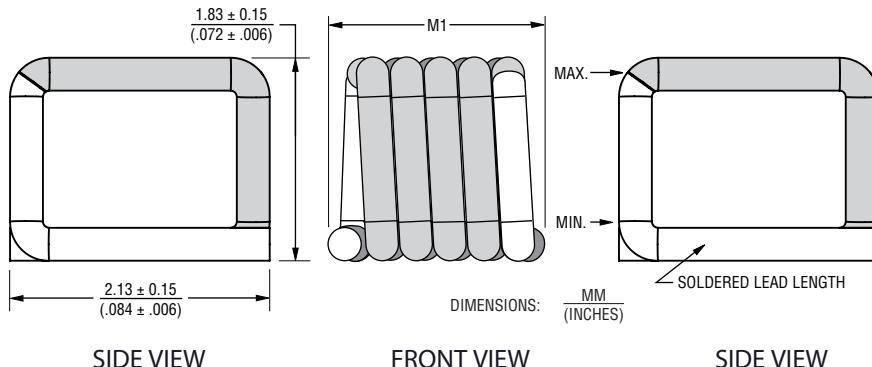
Wire .....	Enamelled Copper
Terminal Finish.....	Sn
Packaging .....	2,000 pcs. per reel

\* 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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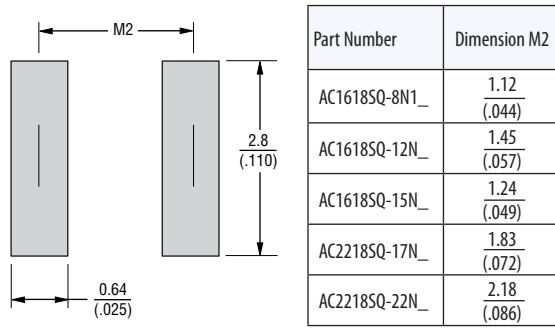
## Product Dimensions



Part Number	Dimension M1
AC1618SQ-8N1	$1.47 \pm 0.15$ (.058 $\pm$ .006)
AC1618SQ-12N	$1.85 \pm 0.15$ (.073 $\pm$ .006)
AC1618SQ-15N	$1.55 \pm 0.15$ (.061 $\pm$ .006)
AC2218SQ-17N	$2.21 \pm 0.15$ (.087 $\pm$ .006)
AC2218SQ-22N	$2.57 \pm 0.15$ (.101 $\pm$ .006)

Part Number	Dimension M1
AC2218SQ-23N	$2.24 \pm 0.15$ (.088 $\pm$ .006)
AC3018SQ-25N	$2.97 \pm 0.15$ (.117 $\pm$ .006)
AC3018SQ-27N	$2.97 \pm 0.15$ (.117 $\pm$ .006)
AC3018SQ-33N	$2.97 \pm 0.15$ (.117 $\pm$ .006)

## Recommended Layout



Part Number	Dimension M2
AC2218SQ-23N	$1.9$ (.075)
AC3018SQ-25N	$2.57$ (.101)
AC3018SQ-27N	$2.57$ (.101)
AC3018SQ-33N	$2.57$ (.101)

## Electrical Schematic

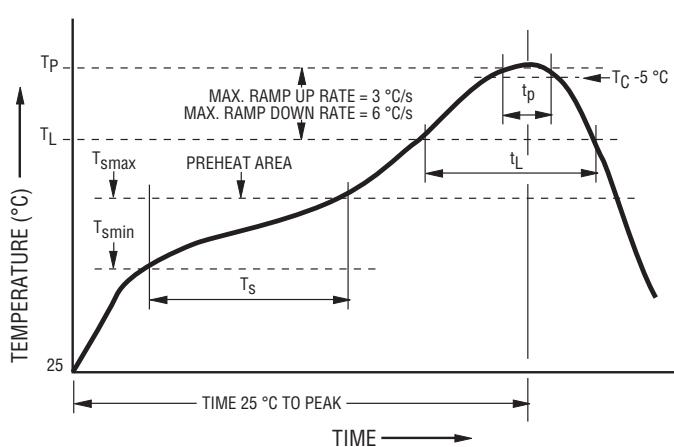


## How to Order

ACXX18SQ - 15N J

Series \_\_\_\_\_  
 Value Code \_\_\_\_\_  
 Tolerance \_\_\_\_\_  
 G =  $\pm 2\%$   
 J =  $\pm 5\%$

## 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.

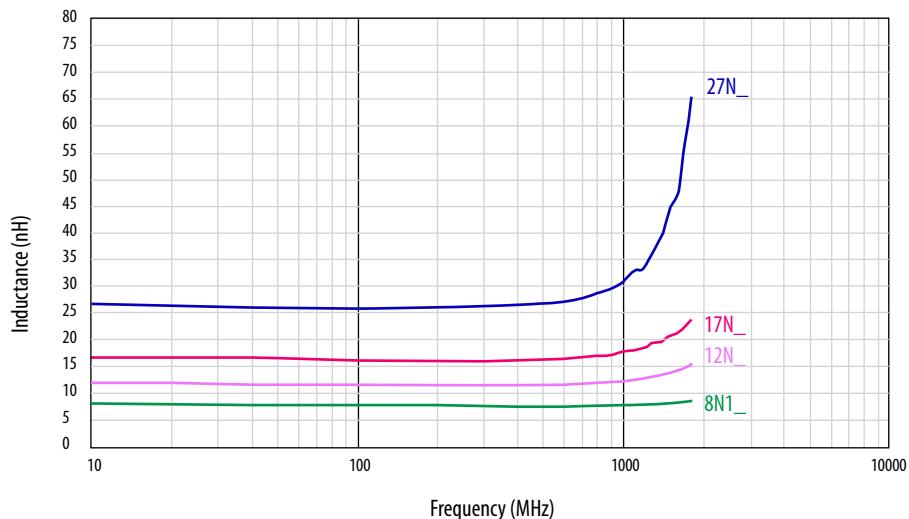
NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures or longer durations, could impact performance.

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

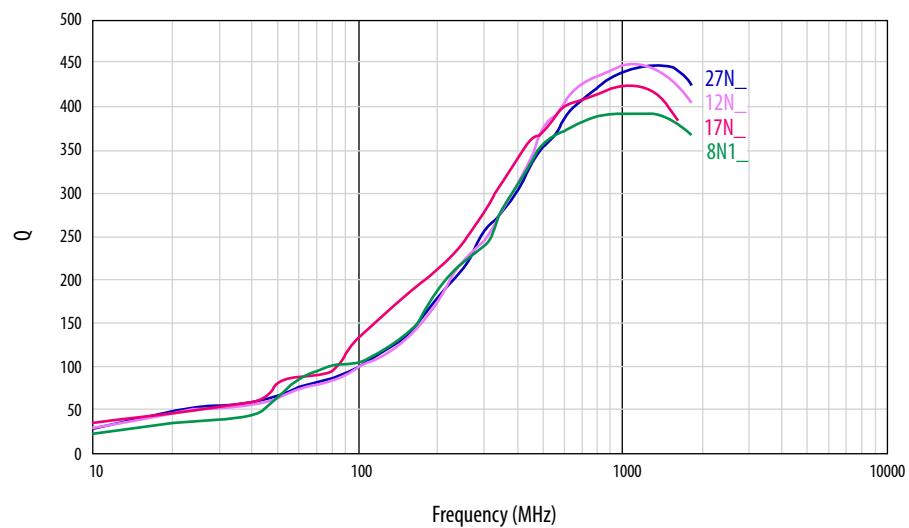
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## Inductance vs. Frequency



## Typical Q vs. Frequency

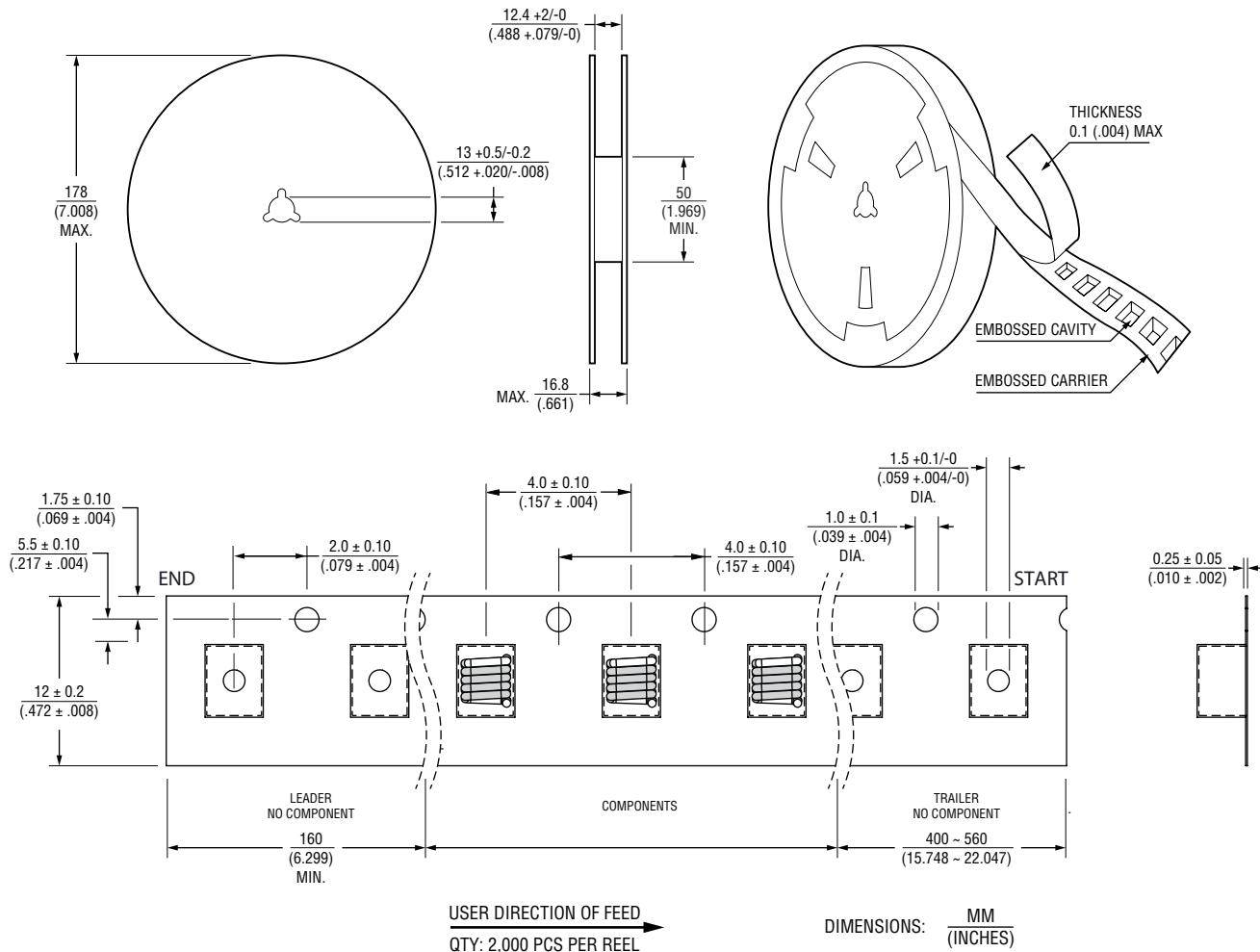


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## Packaging Specifications



REV. 01/26

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