BOURNS®

AC3028SQ SERIES

Air Coil Inductors

*RoHS COMPLIANT

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 AC3028SQ Series Air Coil Inductors feature high Q values of 200 with inductances ranging from 27 to 47 nH. Engineered with tight tolerance, DCR ratings from 8.1 to 11.3 mΩ max., and rated current from 4.4 to 5.5 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_A = 25 °C Unless Otherwise Noted)

Bourns Part Number	Inductance		Q Typ.	Test Frequency (MHz)	DCR (mΩ) Max.	SRF (GHz) Min.	Rated Current (A) Max.
	L (nH)	Tolerance** (%)					
AC3028SQ-27N_	27	±2, ±5	200	400	8.1	2.6	5.5
AC3028SQ-30N_	30	±2, ±5	200	400	8.3	2.4	5.5
AC3028SQ-33N_	33	±2, ±5	200	400	9.5	2.3	4.8
AC3028SQ-36N_	36	±2, ±5	200	400	9.8	2.3	4.8
AC3028SQ-39N_	39	±2, ±5	200	400	10.0	2.2	4.8
AC3028SQ-43N_	43	±2, ±5	200	400	10.8	2.2	4.4
AC3028SQ-47N_	47	±2, ±5	200	400	11.3	2.2	4.4

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 ..... 2,500 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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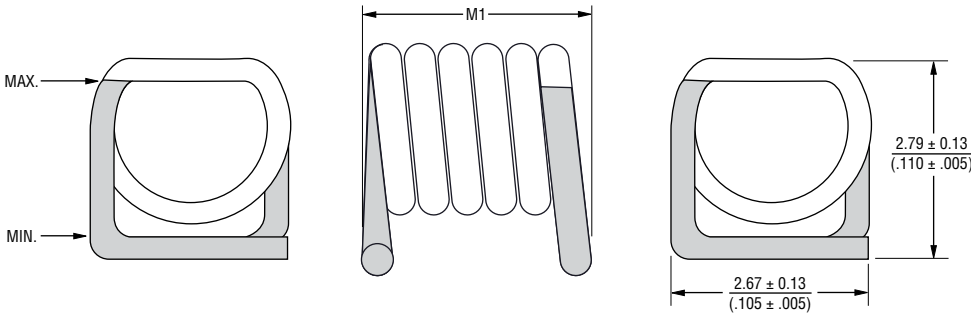
Product Dimensions

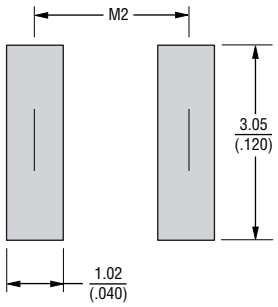


SIDE VIEW FRONT VIEW SIDE VIEW

Part Number	Dimension M1
AC3028SQ-27N_ ~ AC3028SQ-30N_	2.67 ± 0.25 (.105 ± .010)
AC3028SQ-33N_ ~ AC3028SQ-39N_	2.92 ± 0.25 (.115 ± .010)
AC3028SQ-43N_ ~ AC3028SQ-47N_	3.30 ± 0.25 (.130 ± .010)

DIMENSIONS: MM / (INCHES)

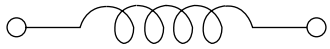
Recommended Layout



Part Number	Dimension M2
AC3028SQ-27N_ ~ AC3028SQ-30N_	2.29 (.090)
AC3028SQ-33N_ ~ AC3028SQ-39N_	2.54 (.100)
AC3028SQ-43N_ ~ AC3028SQ-47N_	2.79 (.110)

DIMENSIONS: MM / (INCHES)

Electrical Schematic



How to Order

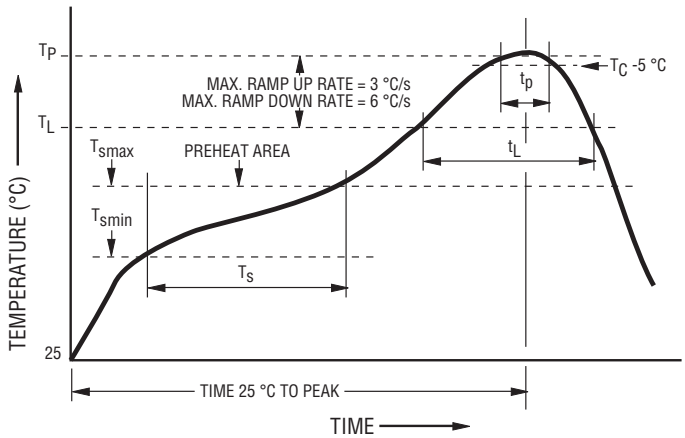
AC3028SQ - 27N J

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.

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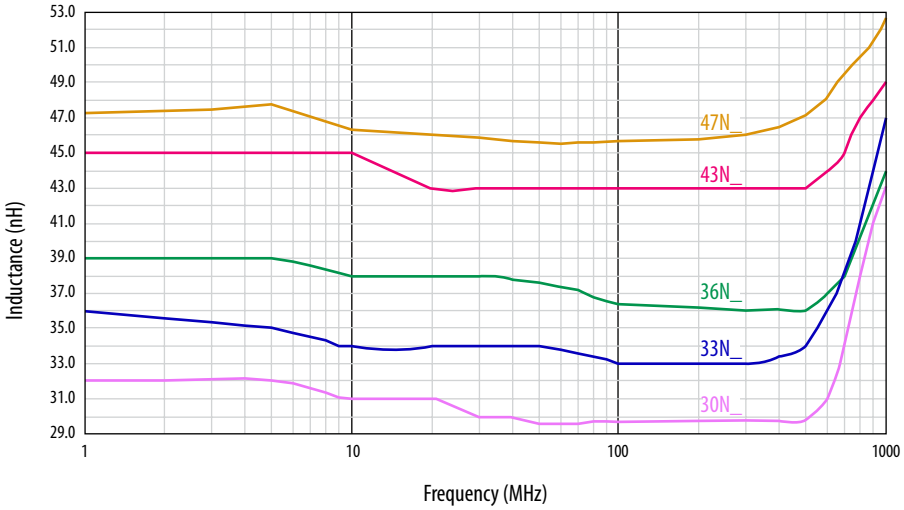
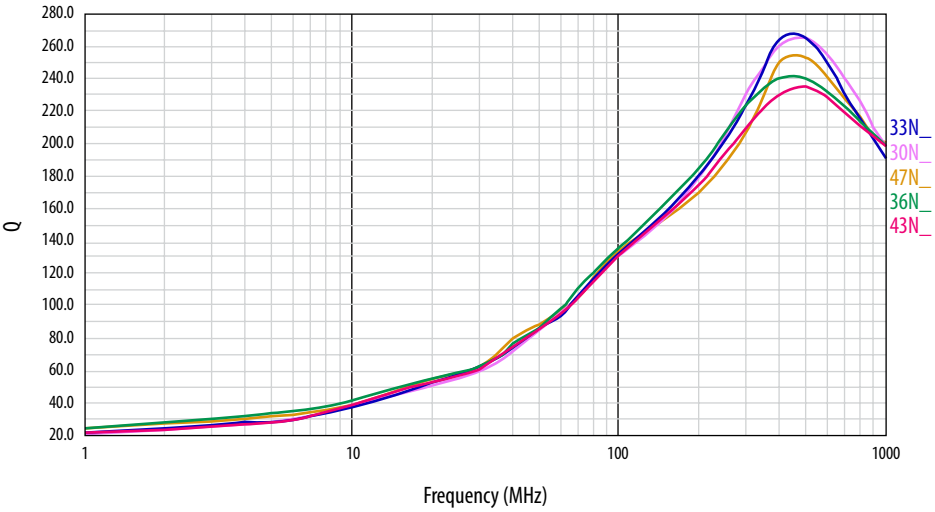
Inductance vs. Frequency



Typical Q vs. Frequency



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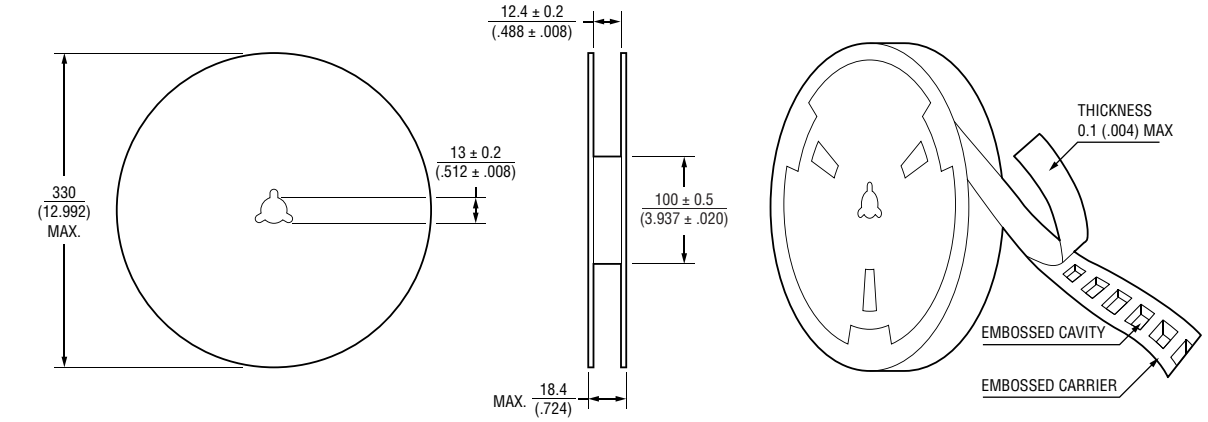
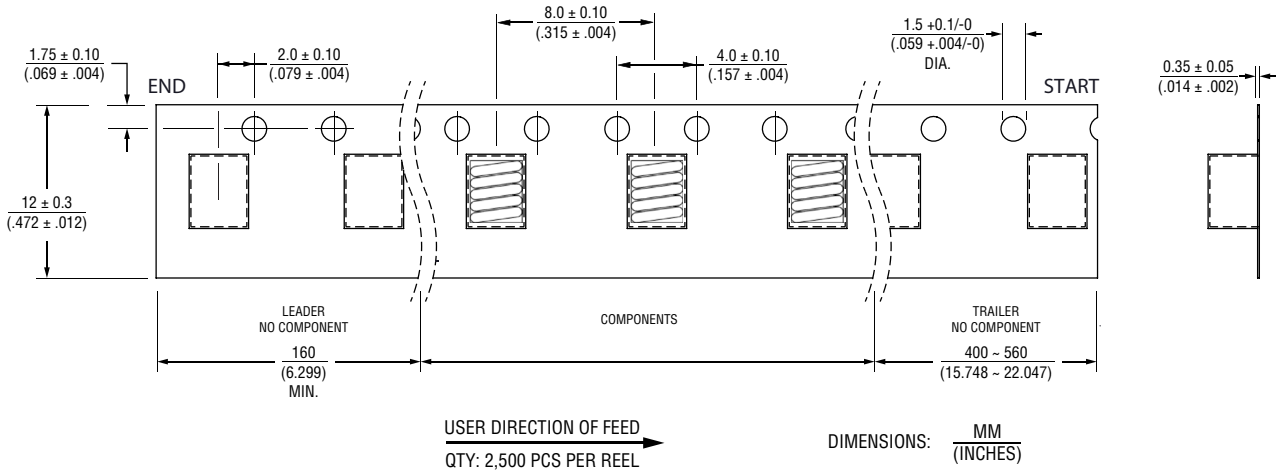
Packaging Specifications





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