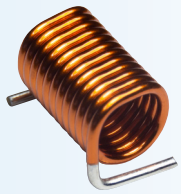
BOURNS®

ACXX57SQ 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

Bourns® ACXX57SQ Series Air Coil inductors feature a high Q value of 140, low inductance from 90 to 300 nH, and tight tolerance options of ±2 % and ±5 %. This series delivers high SRF from 0.72 to 1.15 GHz and rated currents from 3.7 to 5.7 A. Their flat top and bottom surfaces provide mechanical stability, making them suitable for pick-and-place processes in 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 (%)					
AC5057SQ-90N_	90	±2, ±5	140	50	5.5	1.15	5.0
AC6057SQ-R11_	110	±2, ±5	140	50	6.5	1.00	5.7
AC6057SQ-R13_	130	±2, ±5	140	50	7.5	1.00	5.4
AC7057SQ-R16_	160	±2, ±5	140	50	8.25	1.00	5.7
AC8057SQ-R18_	180	±2, ±5	140	50	9.5	1.10	5.0
AC1057SQ-R22_	220	±2, ±5	140	50	11.0	1.00	5.0
AC1257SQ-R27_	270	±2, ±5	140	50	12.5	0.80	4.3
AC1257SQ-R30_	300	±2, ±5	140	50	13.8	0.72	3.7

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 ..... SnAgCu
Packaging ..... 750 pcs. per reel

Contact Information

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Europe	+36 88 885 877	eurocus@bourns.com
Mexico	+52 614 478 0400	mexicus@bourns.com
The Americas	+1-951 781-5500	americus@bourns.com

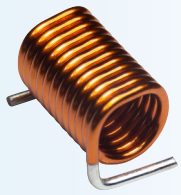
* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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Users should verify actual device performance in their specific applications.

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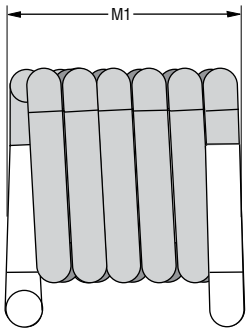
ACXX57SQ SERIES

Air Coil Inductors

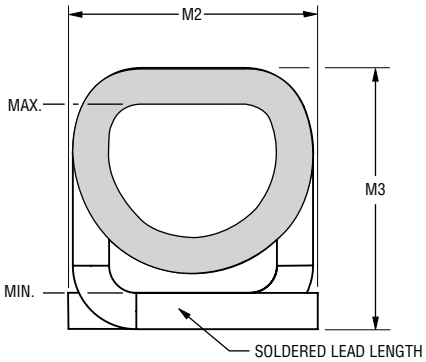


*RoHS COMPLIANT

Product Dimensions



SIDE VIEW

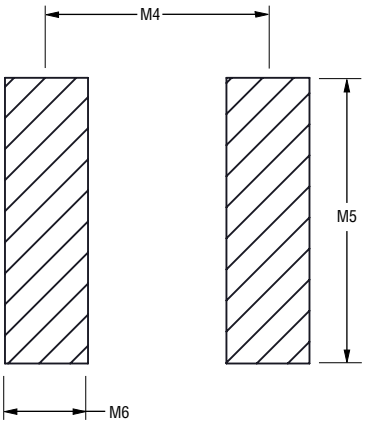


FRONT VIEW

DIMENSIONS: MM (INCHES)

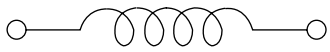
Part Number	Dimension M1	Dimension M2	Dimension M3
AC5057SQ-90N_	5.21 ± 0.38 (.205 ± .015)	5.46 ± 0.25 (.215 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC6057SQ-R11_	6.35 ± 0.38 (.250 ± .015)	5.59 ± 0.25 (.220 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC6057SQ-R13_	6.73 ± 0.38 (.265 ± .015)	5.59 ± 0.25 (.220 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC7057SQ-R16_	7.37 ± 0.38 (.290 ± .015)	5.59 ± 0.25 (.220 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC8057SQ-R18_	8.13 ± 0.38 (.320 ± .015)	5.59 ± 0.25 (.220 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC1057SQ-R22_	9.91 ± 0.38 (.390 ± .015)	5.59 ± 0.25 (.220 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC1257SQ-R27_	11.68 ± 0.38 (.460 ± .015)	5.59 ± 0.25 (.220 ± .010)	5.69 ± 0.25 (.224 ± .010)
AC1257SQ-R30_	11.94 ± 0.38 (.470 ± .015)	5.72 ± 0.25 (.225 ± .010)	5.69 ± 0.25 (.224 ± .010)

Recommended Layout



Part Number	Dimension M4	Dimension M5	Dimension M6
AC5057SQ-90N_	4.45 (.175)	6.48 (.255)	2.16 (.085)
AC6057SQ-R11_	5.84 (.230)	6.73 (.265)	2.16 (.085)
AC6057SQ-R13_	6.22 (.245)	6.73 (.265)	2.16 (.085)
AC7057SQ-R16_	6.60 (.260)	6.73 (.265)	2.16 (.085)
AC8057SQ-R18_	7.37 (.290)	6.73 (.265)	2.16 (.085)
AC1057SQ-R22_	9.14 (.360)	6.73 (.265)	2.16 (.085)
AC1257SQ-R27_	10.67 (.420)	6.73 (.265)	2.16 (.085)
AC1257SQ-R30_	11.18 (.440)	6.73 (.265)	2.16 (.085)

Electrical Schematic



How to Order

ACXX57SQ - 90N J

Series

Value Code

Tolerance

G = ±2 %

J = ±5 %

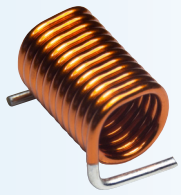
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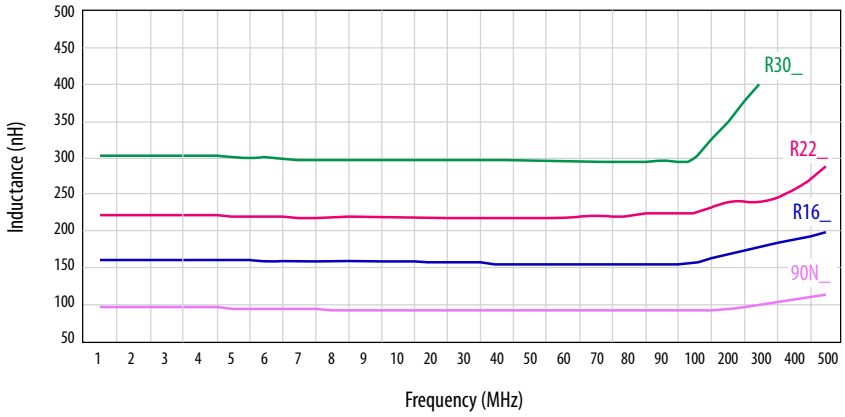
ACXX57SQ SERIES

Air Coil Inductors

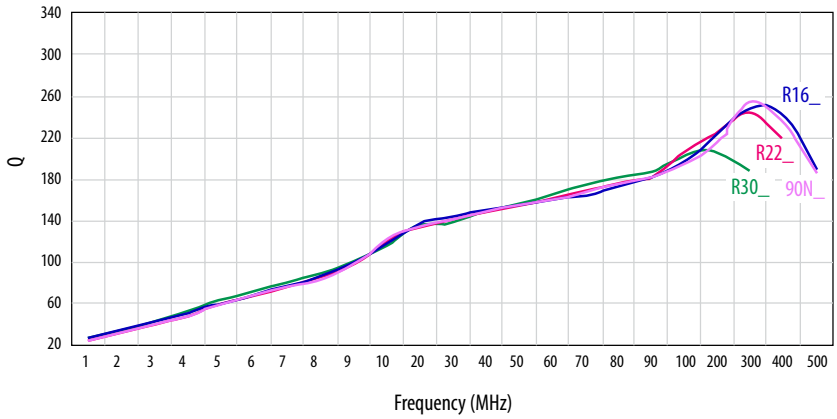


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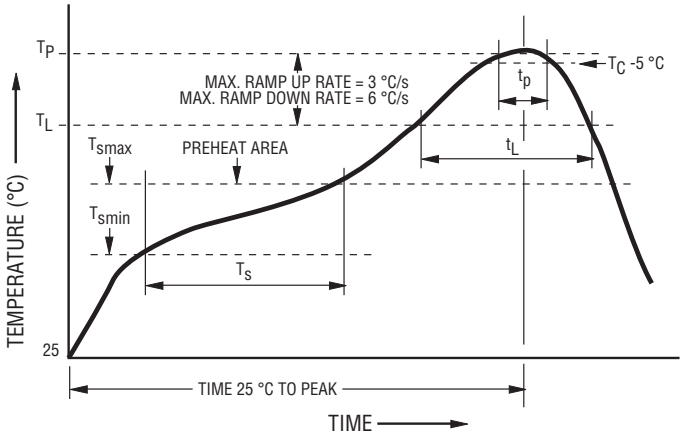
Inductance vs. Frequency



Typical Q vs. Frequency



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.
Liquidus 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.

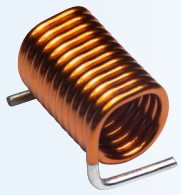
NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures or longer durations, could impact performance.

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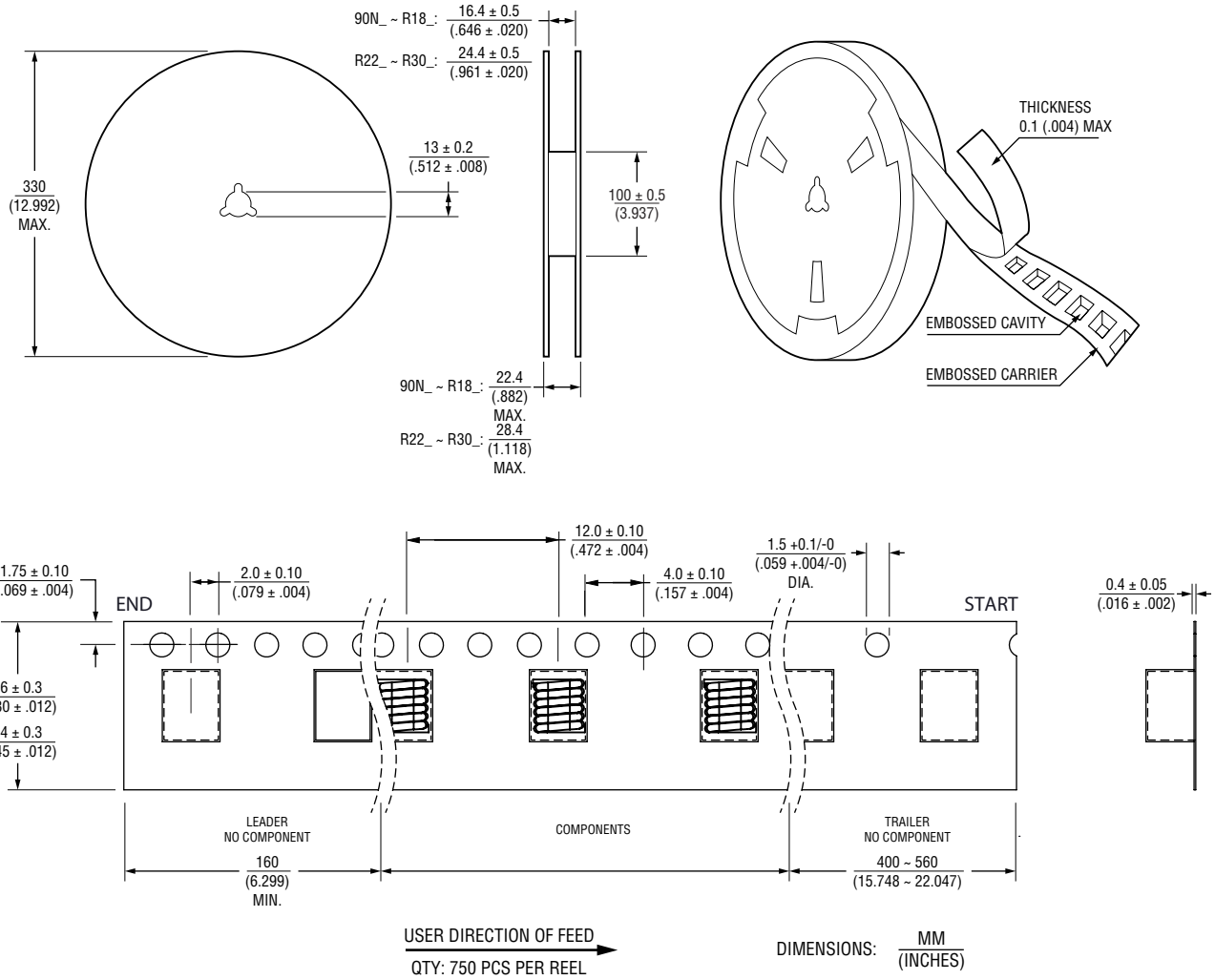
ACXX57SQ SERIES

Air Coil Inductors



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Packaging Specifications



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