



Features

- Miniature size
- High self-resonant frequency
- High current
- Low DCR
- AEC-Q200 compliant
- RoHS compliant* and halogen free**

Applications

- Automotive systems
- Noise filters
- DC power lines

CWF2012A Series – 0805 Chip Inductors

Electrical Specifications @ 25 °C

Bourns Part No.	Inductance	Q Typ.	L & Q Test Freq. / Voltage	SRF (MHz) Min.	DCR (Ω) Max.	Rated Current ² (mA) Max.
	L (μH)					
CWF2012A-R47x ¹	0.47	10	7.96 MHz / 0.5 V	720	0.20	750
CWF2012A-R56x	0.56			665	0.21	730
CWF2012A-R68x	0.68			565	0.28	670
CWF2012A-R82x	0.82			545	0.31	650
CWF2012A-1R0x	1.00			525	0.34	615
CWF2012A-1R2x	1.20			473	0.39	550
CWF2012A-1R5x	1.50			300	0.45	520
CWF2012A-1R8x	1.80			230	0.48	500
CWF2012A-2R2x	2.20			215	0.67	420
CWF2012A-2R7x	2.70			140	0.74	410
CWF2012A-3R3x	3.30			95	0.81	385
CWF2012A-3R9x	3.90			57	0.88	372
CWF2012A-4R7x	4.70			51	0.99	345
CWF2012A-5R6x	5.60			44	1.06	335
CWF2012A-6R8x	6.80			39	1.21	315
CWF2012A-8R2x	8.20			33	1.33	295
CWF2012A-100x	10.0		2.52 MHz / 0.5 V	30	1.79	260
CWF2012A-120x	12.0			27	1.98	250
CWF2012A-150x	15.0			22	2.68	215
CWF2012A-180x	18.0			20	3.12	195
CWF2012A-220x	22.0			18	3.48	180
CWF2012A-270x	27.0			16	3.84	170
CWF2012A-330x	33.0			15	4.34	145

Notes:

1. "x" indicates Inductance Tolerance: K = ±10 %, M = ±20 %.
2. Rated Current: Applying the current to coils, the inductance change shall be less than 20 % of initial value.

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WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

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General Specifications

Operating Temperature

..... -55 °C to +125 °C
(Temperature rise included)

Storage Temperature

..... -55 °C to +125 °C

Saturation Current

..... Inductance drops ≤20 %

Moisture Sensitivity Level..... 1

ESD Classification (HBM)..... N/A

Materials

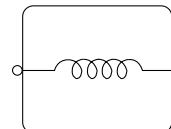
Core..... Ferrite

Wire..... Enameled copper

Terminal Finish..... Sn

Packaging..... 2000 pcs. per 7-inch reel

Electrical Schematic



How to Order

CWF2012A - R47 M

Model _____

Value Code (see table) _____

Tolerance _____

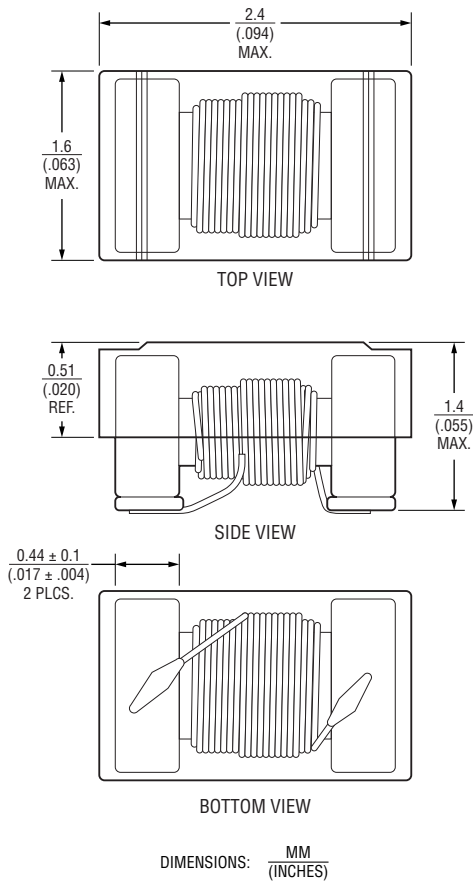
K = ±10 %

M = ±20 %

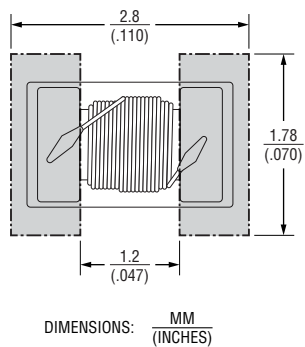
CWF2012A Series – 0805 Chip Inductors

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Product Dimensions

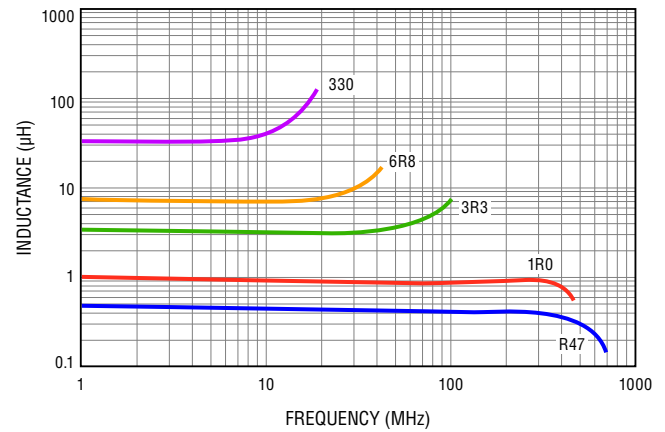


Recommended Layout

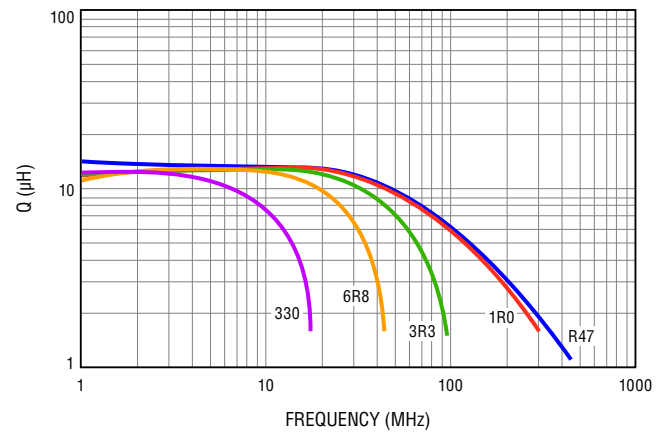


Typical Curves

Inductance vs. Frequency



Q vs. Frequency



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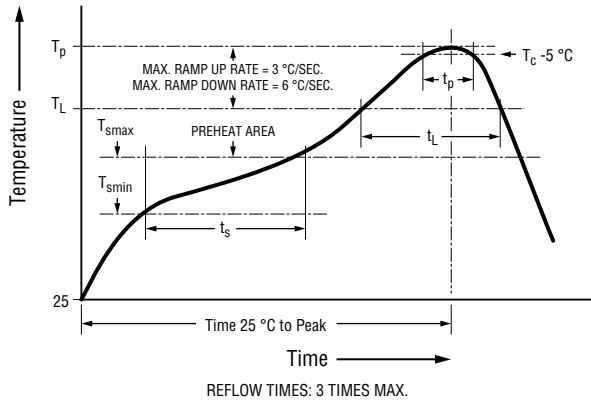
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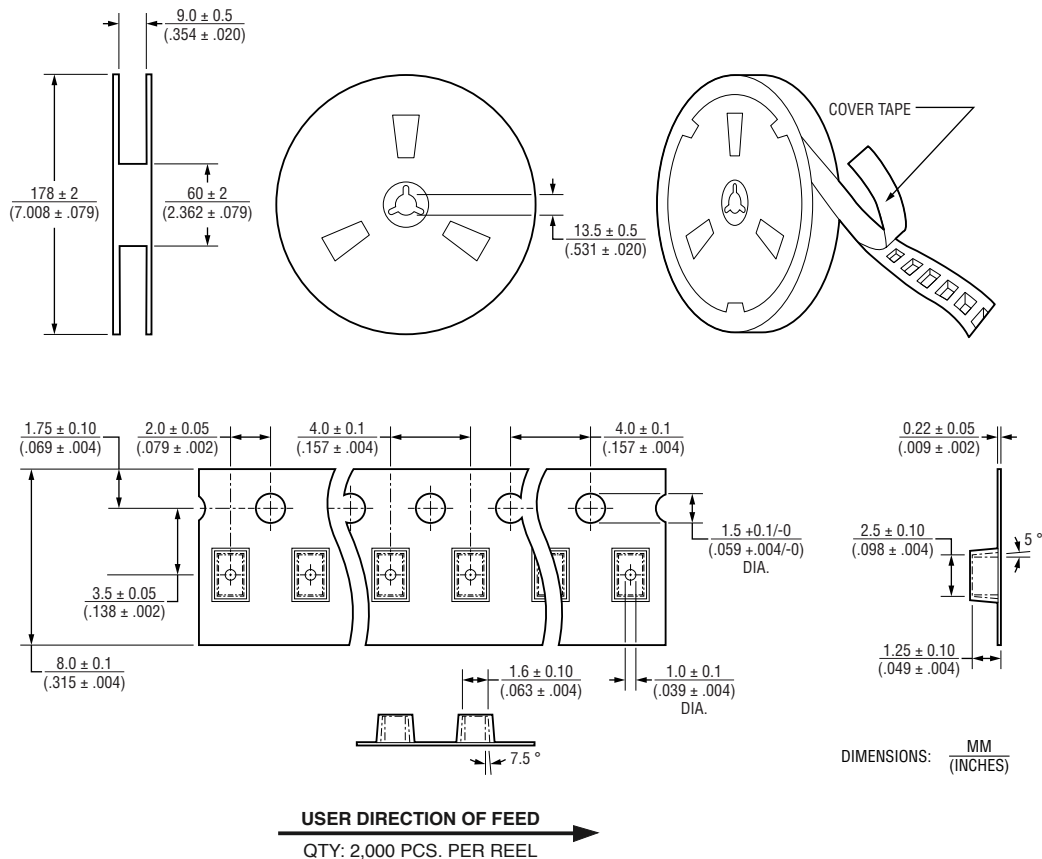
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Soldering Profile



Profile Feature	Pb Free Assembly
Preheat - 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
Reflow temperature	260 °C
Time (t_p) at $T_c - 5 °C$ (T_p should be equal to or less than 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.

Packaging Specifications



REV. 03/25

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