



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 (μ H)					
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 = $\pm 10\%$, M = $\pm 20\%$.
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.

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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 $\leq 20\%$

Moisture Sensitivity Level..... 1

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

Materials

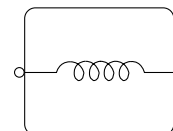
Core..... Ferrite

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 _____

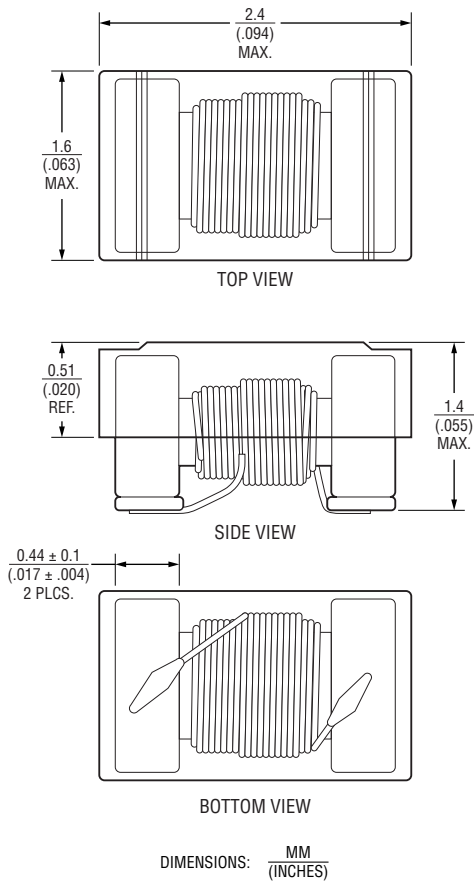
K = $\pm 10\%$

M = $\pm 20\%$

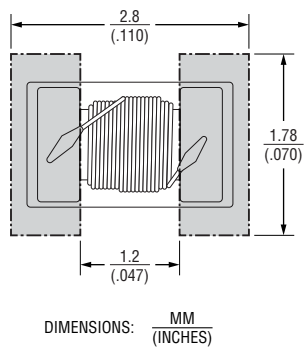
CWF2012A Series – 0805 Chip Inductors

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Product Dimensions

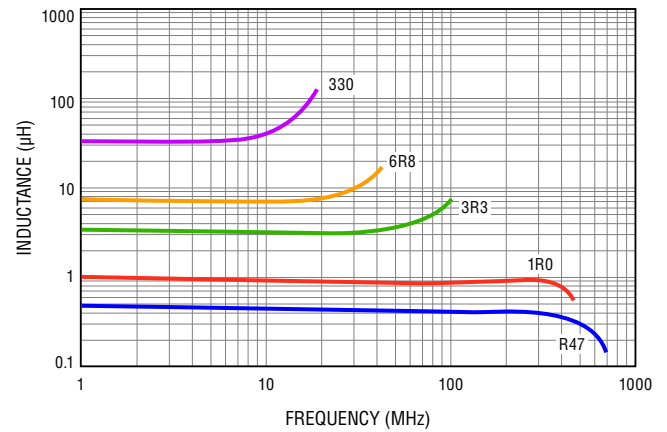


Recommended Layout

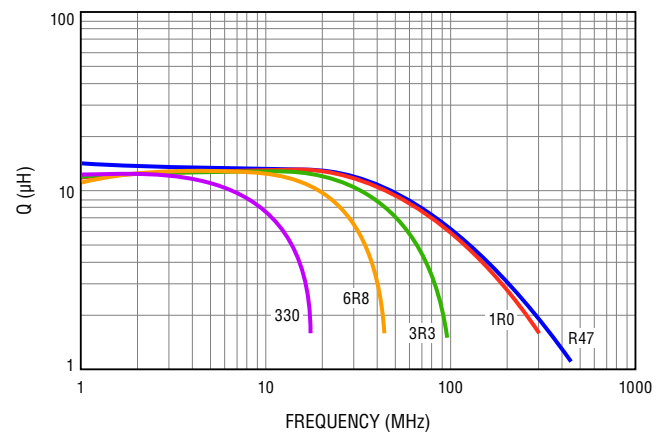


Typical Curves

Inductance vs. Frequency



Q vs. Frequency



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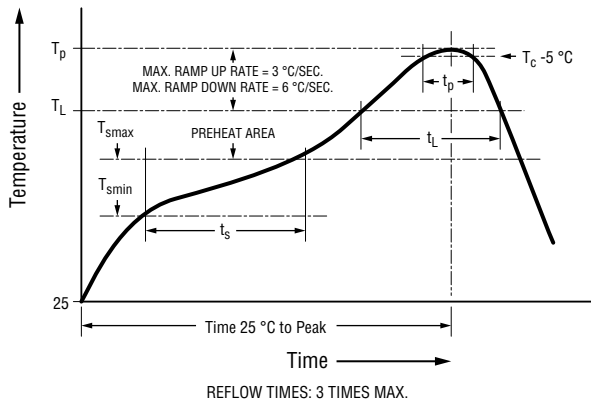
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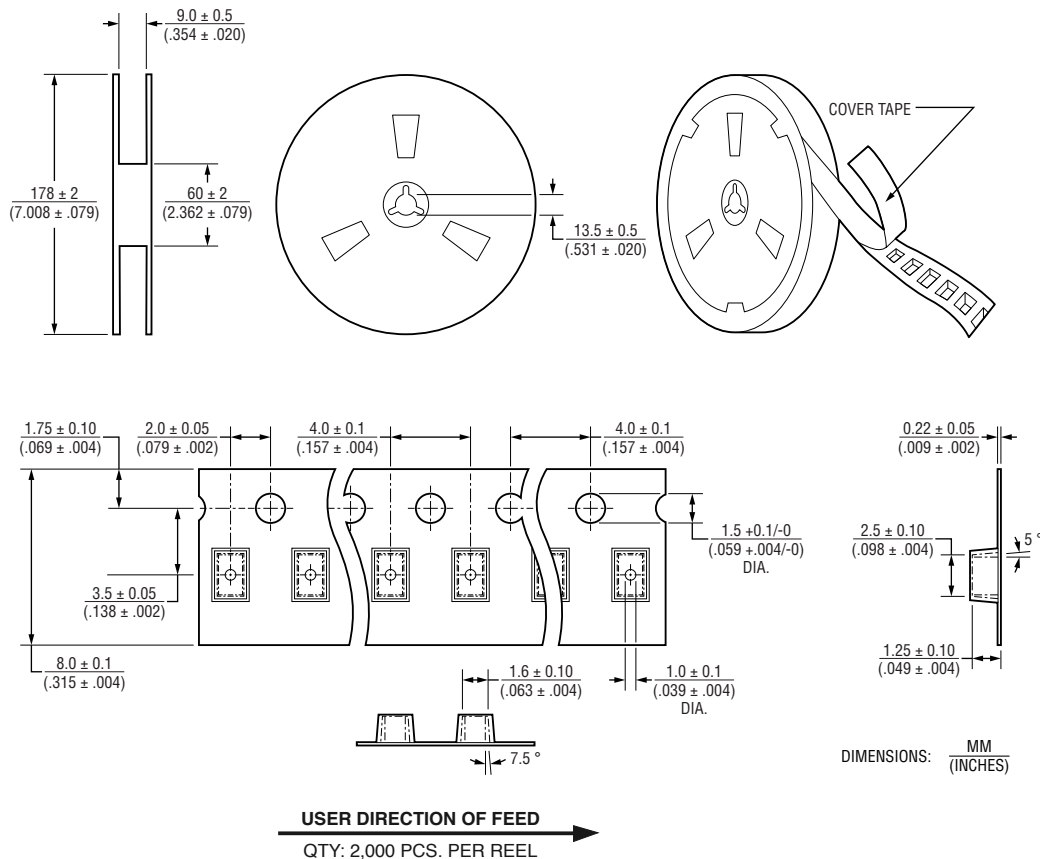
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Soldering Profile



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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