

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

CWF1612A Series – 0603 Chip Inductors

Electrical Specifications @ 25 °C

Bourns Part No.	Inductance L (µH)	Q Typ.	L & Q Test Freq. / Voltage	SRF (MHz) Typ.	DCR (Ω) Max.	IDC[2] (mA) Max.
CWF1612A-47NK	0.047	17	7.9 MHz / 0.5 V	1700	0.075	1500
CWF1612A-72NK	0.072			1700	0.12	1500
CWF1612A-R10K	0.10			1500	0.12	1500
CWF1612A-R12K	0.12			1350	0.15	1500
CWF1612A-R15K	0.15			1350	0.15	1450
CWF1612A-R18K	0.18			1150	0.15	1400
CWF1612A-R33K	0.33			850	0.46	900
CWF1612A-R39K	0.39			810	0.51	1100
CWF1612A-R47K	0.47			720	0.62	1050
CWF1612A-R56K	0.56			600	0.44	850
CWF1612A-R68K	0.68			600	0.52	850
CWF1612A-R82K	0.82			480	0.69	750
CWF1612A-R91K	0.91			330	0.76	670
CWF1612A-1R0K	1.00			310	0.81	600
CWF1612A-1R2K	1.20			270	0.87	550
CWF1612A-1R5K	1.50			270	1.06	540
CWF1612A-1R8K	1.80			230	1.1	520
CWF1612A-2R2K	2.20			130	1.2	500
CWF1612A-2R7K	2.70			105	1.5	480
CWF1612A-3R3K	3.30			84	1.5	440
CWF1612A-3R9K	3.90			80	1.6	430
CWF1612A-4R7x[1]	4.70	18		69	2.1	420
CWF1612A-5R6x	5.60			65	2.6	350
CWF1612A-6R8x	6.80	19		55	3.1	330
CWF1612A-7R8x	7.80	17		47	3.5	320
CWF1612A-8R2x	8.20			42	3.8	300
CWF1612A-100x	10.00	19		40	4.8	270

Notes:
1. "x" indicates Inductance Tolerance: J = ±5 %, K = ±10 %.
2. IDC: Applying the current to coils, the inductance change shall be less than 20 % of initial value.

Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

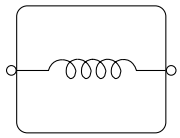
General Specifications

Operating Temperature
..... -55 °C to +125 °C
(Temperature rise included)
Storage Temperature
..... -55 °C to +125 °C
Rated Current
.....Inductance drops ≤20 % at IDC
Moisture Sensitivity Level.....1
ESD Classification (HBM).....N/A

Materials

Core..... Ferrite
Wire .....Enameled copper
Terminal Finish ..... Sn
Packaging..... 3000 pcs. per 7-inch reel

Electrical Schematic



How to Order

CWF1612A - 47N K

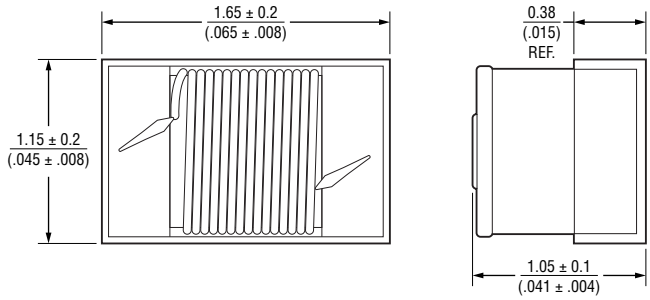
Model
Value Code (see table)
Tolerance
J = ±5 %
K = ±10 %

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

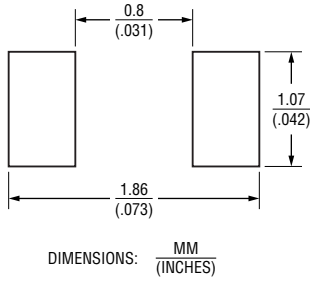
* RoHS Directive 2015/863, Mar 31, 2015 and Annex.
** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.
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Product Dimensions

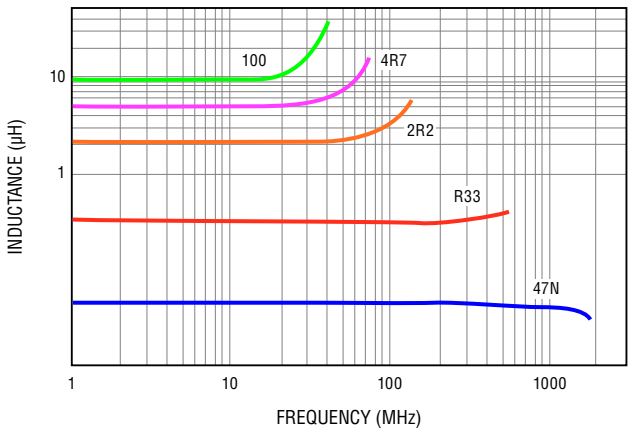


Recommended Layout

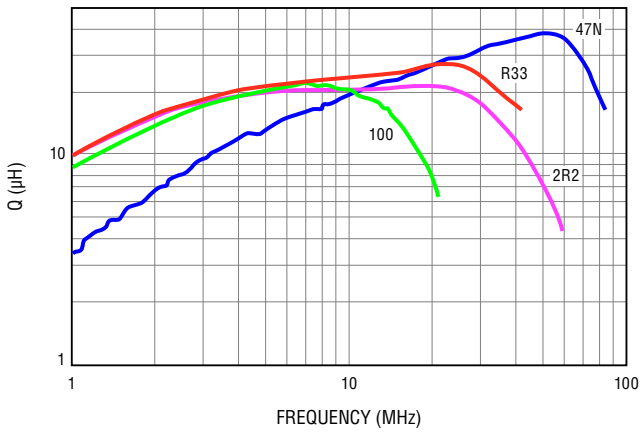


Typical Curves

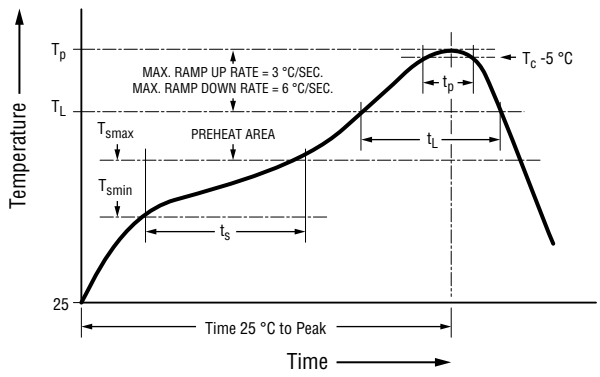
Inductance vs. Frequency



Q vs. Frequency



Soldering Profile



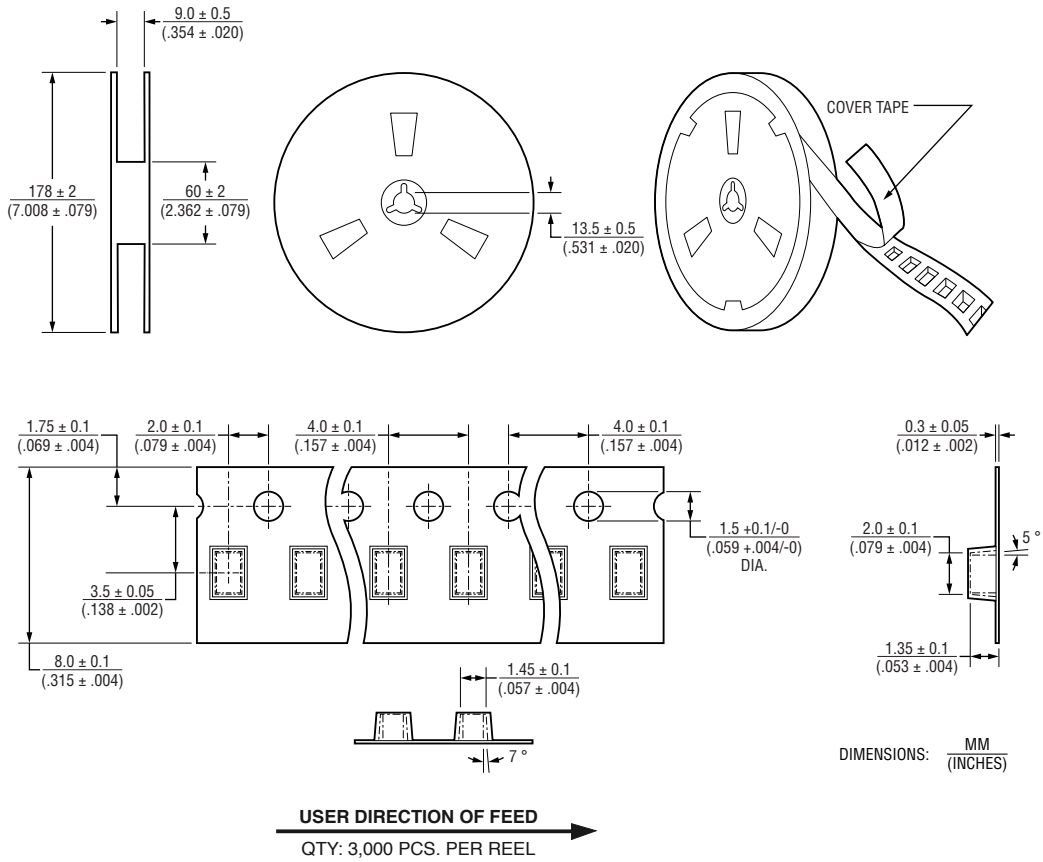
REFLOW TIMES: 3 TIMES MAX.

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.

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Packaging Specifications



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REV. 02/25

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