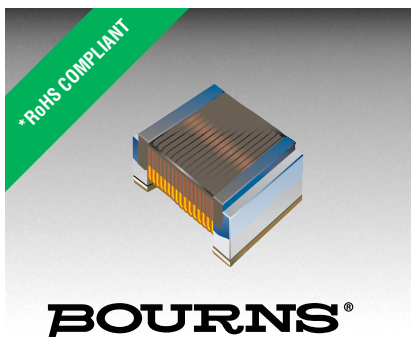




## Features

- 0402 miniature size
- Ceramic core provides stable electrical characteristics
- High Q
- High self-resonant frequency
- Flat top surface for automated assembly
- RoHS compliant\* and halogen free\*\*

## Applications

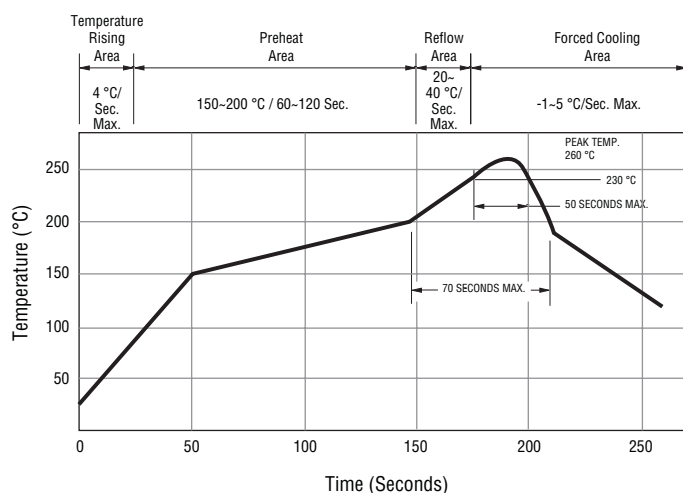
- RF modules
- Cellular phones
- GPS receivers
- Wireless PDAs, LANs
- CATV filters, tuners
- Cable modems, set-top boxes

# CW100505 Series High Q Ceramic Chip Inductors

## Electrical Specifications

| Bourns® Part No. | Inductance |         | Q    | Test Freq.<br>(MHz) | SRF<br>(MHz) | DCR<br>(Ohms) | I <sub>rms</sub><br>(mA) |
|------------------|------------|---------|------|---------------------|--------------|---------------|--------------------------|
|                  | L (nH)     | Tol.    | Min. | L / Q               | Min.         |               | Max.                     |
| CW100505-1N0D    | 1.0        | ±0.3 nH | 13   | 250                 | 6000         | 0.045         | 1360                     |
| CW100505-2N2D    | 2.2        | ±0.3 nH | 18   | 250                 | 6000         | 0.070         | 960                      |
| CW100505-2N7D    | 2.7        | ±0.3 nH | 16   | 250                 | 6000         | 0.120         | 640                      |
| CW100505-3N3J    | 3.3        | ±5 %    | 20   | 250                 | 6000         | 0.066         | 840                      |
| CW100505-3N9J    | 3.9        | ±5 %    | 20   | 250                 | 5800         | 0.066         | 840                      |
| CW100505-4N7J    | 4.7        | ±5 %    | 15   | 250                 | 4775         | 0.130         | 640                      |
| CW100505-5N6J    | 5.6        | ±5 %    | 23   | 250                 | 5800         | 0.083         | 760                      |
| CW100505-6N8J    | 6.8        | ±5 %    | 20   | 250                 | 4800         | 0.083         | 680                      |
| CW100505-8N2J    | 8.2        | ±5 %    | 25   | 250                 | 4400         | 0.104         | 680                      |
| CW100505-10NJ    | 10.0       | ±5 %    | 23   | 250                 | 3900         | 0.195         | 480                      |
| CW100505-12NJ    | 12.0       | ±5 %    | 26   | 250                 | 3600         | 0.120         | 640                      |
| CW100505-15NJ    | 15.0       | ±5 %    | 26   | 250                 | 3280         | 0.172         | 560                      |
| CW100505-18NJ    | 18.0       | ±5 %    | 25   | 250                 | 3100         | 0.230         | 420                      |
| CW100505-22NJ    | 22.0       | ±5 %    | 25   | 250                 | 2800         | 0.300         | 400                      |
| CW100505-27NJ    | 27.0       | ±5 %    | 26   | 250                 | 2480         | 0.298         | 400                      |
| CW100505-33NJ    | 33.0       | ±5 %    | 24   | 250                 | 2350         | 0.350         | 400                      |
| CW100505-39NJ    | 39.0       | ±5 %    | 25   | 250                 | 2100         | 0.550         | 320                      |
| CW100505-47NJ    | 47.0       | ±5 %    | 26   | 200                 | 2100         | 0.830         | 210                      |
| CW100505-56NJ    | 56.0       | ±5 %    | 22   | 200                 | 1760         | 0.970         | 200                      |
| CW100505-68NJ    | 68.0       | ±5 %    | 22   | 200                 | 1620         | 1.120         | 180                      |
| CW100505-82NJ    | 82.0       | ±5 %    | 20   | 150                 | 1500         | 1.250         | 150                      |
| CW100505-R10J    | 100.0      | ±5 %    | 20   | 150                 | 1300         | 2.520         | 120                      |
| CW100505-R12J    | 120.0      | ±5 %    | 20   | 150                 | 1100         | 2.660         | 110                      |

## Soldering Profile



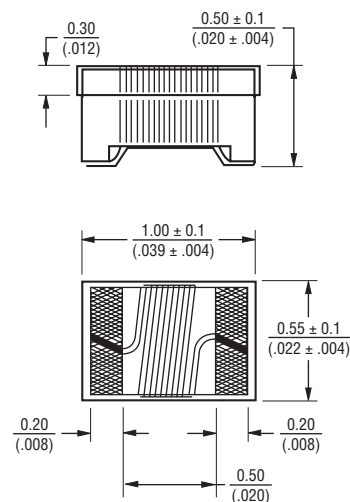
## General Specifications

Operating Temperature .....-55 °C to +125 °C  
(Temperature rise included)  
Storage Temperature .....-55 °C to +125 °C  
Resistance to Soldering Heat ..... +260 °C, 5 sec. max.  
Temperature Rise ..... 15 °C at rated I<sub>rms</sub>

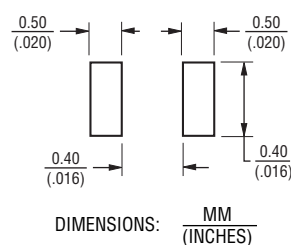
## Materials

Core.....Ceramic  
Wire.....Enamelled copper (Class H)  
Terminal.....Mo/Mn+Ni+Au  
Packaging.... 10,000 pcs. per 7-inch reel

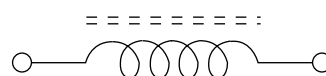
## Product Dimensions



## Recommended Layout



## Schematic



\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

\*\* Bourns follows the prevailing definition of "halogen free" in the industry. 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.

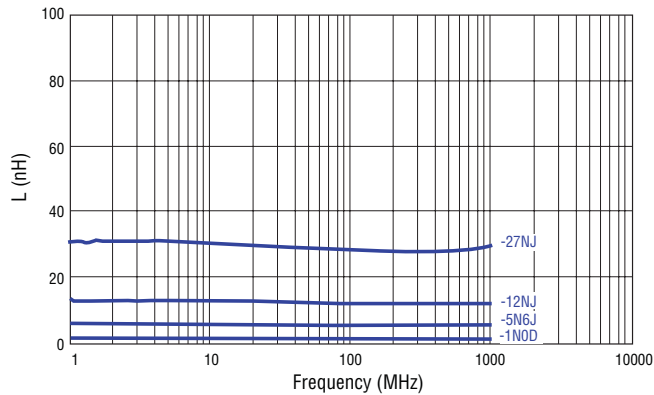
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

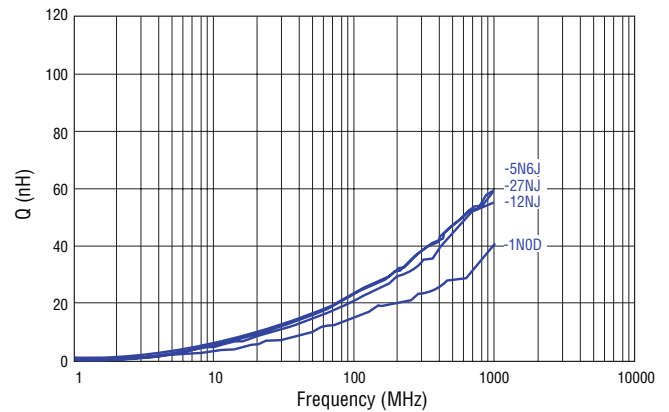
# CW100505 Series High Q Ceramic Chip Inductors

**BOURNS®**

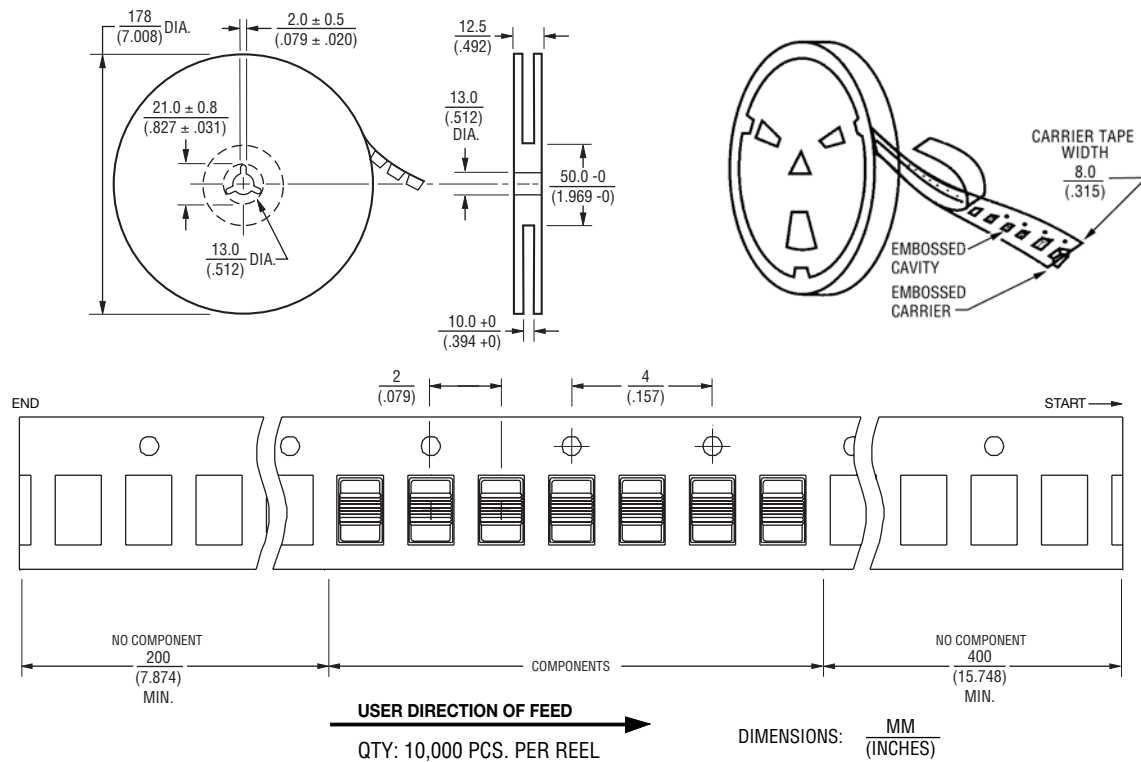
**L vs. Frequency**



**Q vs. Frequency**



## Packaging Specifications



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04/12

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