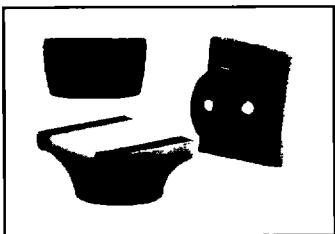


# MODEL WCS

## Inductors

Surface Mount, Conformal Coated



### FEATURES

- High Q and SRF
- Non standard tolerances are also available in all types
- Maximum protection with minimum size as a result of full encapsulation in a thermo-setting mineral filled plastic jacket
- Conformally coated models offer similar electrical and mechanical properties to the molded military and industrial models
- Assured uniformity of product, a result of stringent Quality Control and Inspection procedures at every production stage

### STANDARD ELECTRICAL SPECIFICATIONS

| MODEL    | IND.<br>( $\mu$ H) | TOL. | Q<br>MIN. | TEST<br>FREQ.<br>(MHz) | SRF<br>MIN.<br>(MHz) | DCR<br>MAX.<br>(Ohms) | RATED DC<br>CURRENT<br>(mA) |
|----------|--------------------|------|-----------|------------------------|----------------------|-----------------------|-----------------------------|
| WCS .010 | + 10%              | 48   | 50        | 900                    | .050                 | 650                   |                             |
| WCS .012 | + 10%              | 48   | 50        | 900                    | .055                 | 650                   |                             |
| WCS .015 | + 10%              | 48   | 50        | 900                    | .060                 | 650                   |                             |
| WCS .018 | + 10%              | 48   | 50        | 900                    | .065                 | 650                   |                             |
| WCS .022 | + 10%              | 48   | 50        | 900                    | .070                 | 650                   |                             |
| WCS .027 | + 10%              | 48   | 50        | 900                    | .075                 | 650                   |                             |
| WCS .033 | + 10%              | 48   | 50        | 900                    | .075                 | 650                   |                             |
| WCS .039 | + 10%              | 48   | 50        | 900                    | .080                 | 650                   |                             |
| WCS .047 | + 10%              | 48   | 50        | 850                    | .085                 | 650                   |                             |
| WCS .056 | + 10%              | 48   | 50        | 800                    | .088                 | 650                   |                             |
| WCS .068 | + 10%              | 48   | 50        | 750                    | .093                 | 650                   |                             |
| WCS .082 | + 10%              | 48   | 50        | 700                    | .095                 | 650                   |                             |
| WCS .100 | + 10%              | 50   | 25        | 600                    | .075                 | 650                   |                             |
| WCS .120 | + 10%              | 50   | 25        | 550                    | .075                 | 650                   |                             |
| WCS .150 | + 10%              | 50   | 25        | 420                    | .085                 | 650                   |                             |
| WCS .180 | + 10%              | 50   | 25        | 390                    | .100                 | 650                   |                             |
| WCS .220 | + 10%              | 50   | 25        | 340                    | .110                 | 640                   |                             |
| WCS .270 | + 10%              | 50   | 25        | 290                    | .120                 | 620                   |                             |
| WCS .330 | + 10%              | 50   | 25        | 230                    | .140                 | 590                   |                             |
| WCS .390 | + 10%              | 50   | 25        | 210                    | .160                 | 550                   |                             |
| WCS .470 | + 10%              | 50   | 25        | 190                    | .180                 | 520                   |                             |
| WCS .560 | + 10%              | 50   | 25        | 180                    | .200                 | 500                   |                             |
| WCS .680 | + 10%              | 50   | 25        | 170                    | .230                 | 460                   |                             |
| WCS .820 | + 10%              | 50   | 25        | 150                    | .260                 | 430                   |                             |
| WCS 1.0  | + 10%              | 50   | 25        | 140                    | .340                 | 380                   |                             |
| WCS 1.2  | + 10%              | 36   | 7.9       | 130                    | .420                 | 370                   |                             |
| WCS 1.5  | + 10%              | 36   | 7.9       | 120                    | .560                 | 320                   |                             |
| WCS 1.8  | + 10%              | 36   | 7.9       | 100                    | .760                 | 280                   |                             |
| WCS 2.2  | + 10%              | 36   | 7.9       | 98                     | .930                 | 250                   |                             |
| WCS 2.7  | + 10%              | 40   | 7.9       | 91                     | 1.2                  | 220                   |                             |
| WCS 3.3  | + 10%              | 40   | 7.9       | 76                     | 1.3                  | 210                   |                             |
| WCS 3.9  | + 10%              | 47   | 7.9       | 48                     | 1.5                  | 200                   |                             |
| WCS 4.7  | + 10%              | 47   | 7.9       | 46                     | 1.7                  | 180                   |                             |
| WCS 5.6  | + 10%              | 44   | 7.9       | 42                     | 1.8                  | 170                   |                             |
| WCS 6.8  | + 10%              | 40   | 7.9       | 39                     | 1.9                  | 160                   |                             |
| WCS 8.2  | + 10%              | 40   | 7.9       | 30                     | 2.4                  | 150                   |                             |
| WCS 10   | + 10%              | 46   | 7.9       | 26                     | 3.2                  | 130                   |                             |
| WCS 12   | + 10%              | 41   | 2.5       | 24                     | 3.7                  | 120                   |                             |
| WCS 15   | + 10%              | 46   | 2.5       | 23                     | 3.8                  | 110                   |                             |
| WCS 18   | + 10%              | 46   | 2.5       | 22                     | 4.2                  | 100                   |                             |
| WCS 22   | + 10%              | 47   | 2.5       | 18                     | 5.5                  | 98                    |                             |
| WCS 27   | + 10%              | 47   | 2.5       | 17                     | 6.1                  | 95                    |                             |
| WCS 33   | + 10%              | 47   | 2.5       | 13                     | 6.6                  | 92                    |                             |
| WCS 39   | + 10%              | 50   | 2.5       | 12                     | 7.0                  | 88                    |                             |
| WCS 47   | + 10%              | 50   | 2.5       | 11                     | 8.3                  | 85                    |                             |
| WCS 56   | + 10%              | 50   | 2.5       | 10                     | 8.9                  | 82                    |                             |
| WCS 68   | + 10%              | 50   | 2.5       | 9.1                    | 13.0                 | 67                    |                             |
| WCS 82   | + 10%              | 50   | 2.5       | 8.6                    | 14.0                 | 65                    |                             |
| WCS 100  | + 10%              | 47   | 2.5       | 7.6                    | 16.0                 | 61                    |                             |
| WCS 120  | + 10%              | 30   | .790      | 6.8                    | 17.0                 | 59                    |                             |
| WCS 150  | + 10%              | 32   | .790      | 5.6                    | 18.0                 | 57                    |                             |
| WCS 180  | + 10%              | 32   | .790      | 4.5                    | 22.0                 | 52                    |                             |
| WCS 220  | + 10%              | 32   | .790      | 4.0                    | 28.0                 | 46                    |                             |
| WCS 270  | + 10%              | 32   | .790      | 3.8                    | 32.0                 | 43                    |                             |
| WCS 330  | + 10%              | 32   | .790      | 3.5                    | 44.0                 | 37                    |                             |
| WCS 390  | + 10%              | 32   | .790      | 3.4                    | 48.0                 | 35                    |                             |
| WCS 470  | + 10%              | 28   | .790      | 3.2                    | 75.0                 | 28                    |                             |
| WCS 560  | + 10%              | 28   | .790      | 2.8                    | 81.0                 | 27                    |                             |
| WCS 680  | + 10%              | 28   | .790      | 2.7                    | 93.0                 | 23                    |                             |
| WCS 820  | + 10%              | 28   | .790      | 2.0                    | 112.0                | 21                    |                             |
| WCS 1000 | + 10%              | 28   | .790      | 1.7                    | 120.0                | 19                    |                             |

### APPLICATIONS

Thick film, high density and hybrid circuitry. Resonant circuits and decoupling applications.

### CONSTRUCTION

Bobbin epoxied to an alumina substrate with metallized termination pads (either palladium silver, silver/nickel barrier/gold or silver/nickel barrier/tin lead coat) wound with magnet wire. The wire is welded to the pads for ultra high reliability. The unit is conformally coated.

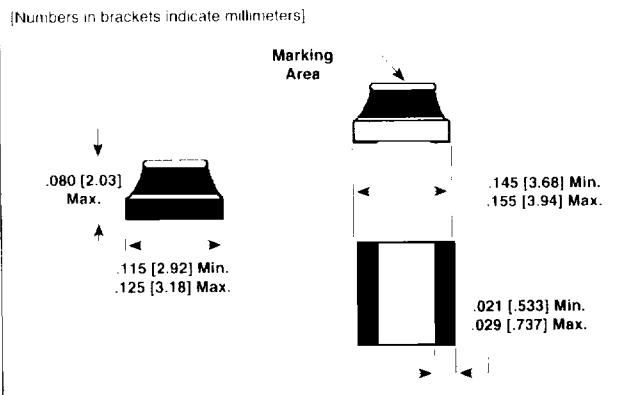
### MOUNTING

Solder reflow or conductive epoxy lay-down.

### TEST EQUIPMENT

- HP4342A Q-Meter
- McGraw-Edison Model 159 G. D. O.
- Wheatstone bridge

### DIMENSIONAL CONFIGURATIONS



### PART MARKING

Color code dots, see Product Identification and Packaging

### HOW TO ORDER

| WCS<br>MODEL                       | 3<br>TERMINATION<br>CODE | 100 $\mu$ H<br>INDUCTANCE<br>VALUE | $\pm 10\%$<br>INDUCTANCE<br>TOLERANCE  |                      |                                |                                    |
|------------------------------------|--------------------------|------------------------------------|--|----------------------|--------------------------------|------------------------------------|
|                                    |                          |                                    | <table border="1"> <tr><td>1 = Palladium silver</td></tr> <tr><td>2 = Silver/nickel barrier/gold</td></tr> <tr><td>3 = Silver/nickel barrier/tin lead</td></tr> </table> | 1 = Palladium silver | 2 = Silver/nickel barrier/gold | 3 = Silver/nickel barrier/tin lead |
| 1 = Palladium silver               |                          |                                    |  |                      |                                |                                    |
| 2 = Silver/nickel barrier/gold     |                          |                                    |  |                      |                                |                                    |
| 3 = Silver/nickel barrier/tin lead |                          |                                    |  |                      |                                |                                    |