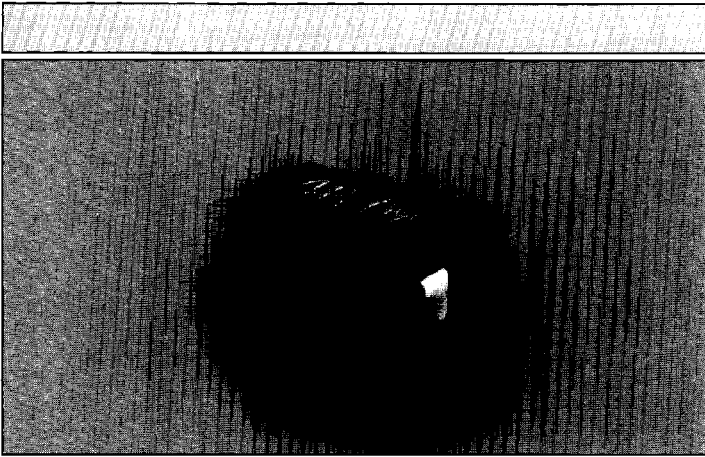


# Model BCL 453232 Surface Mount Inductor

Helimag™



## Outstanding Features

- Wound ferrite core for low DCR
- Molded construction provides superior strength and moisture resistance
- Accurate dimensions for automatic handling and machine placement
- Compatible with vapor phase and infra-red reflow soldering
- Wide inductance range in a small package

## Electrical / Environmental

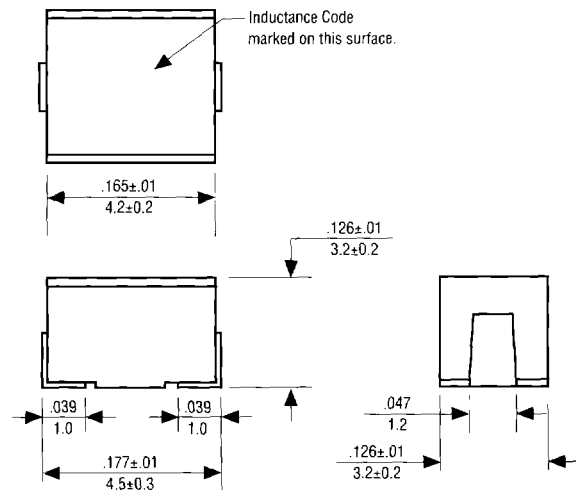
|                                 |   |
|---------------------------------|---|
| Inductance Range                | 0.1 $\mu$ H to 1,000 $\mu$ H            |
| Standard Tolerance              | $\pm 10\%$ (<1.0 $\mu$ H = $\pm 20\%$ ) |
| Storage Temperature             | -40°C to +100°C                         |
| Operating Temperature           | -20°C to +100°C                         |
| Ambient Temperature, Maximum    | 80°C                                    |
| Resistance to Solder Heat       | 260°C for 10 sec.                       |
| Terminal Pull Strength, Minimum | 1.0 KG                                  |

## Ordering Information

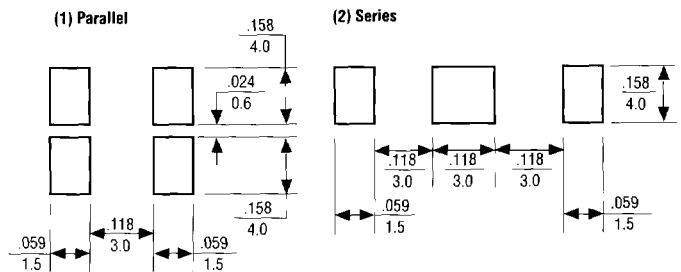
**BCL 453232 330 K**

Model Series \_\_\_\_\_ Inductance Tolerance \_\_\_\_\_  
 Inductance Code \_\_\_\_\_ J = 5%  
 First 2 digits are significant. Last digit K = 10%  
 denotes the number of trailing zeros. M = 20%  
 Values below 10 $\mu$ H, "R" denotes the decimal point.

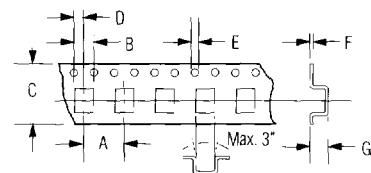
## Outline Dimensions



## Recommended PC Board Layout

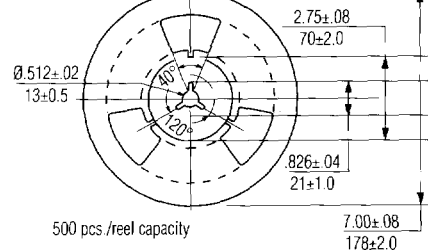


## Packaging



|      | A    | B    | C    | D    | E    | F    | G    |
|------|------|------|------|------|------|------|------|
| Inch | .315 | .158 | .472 | .079 | .059 | .012 | .138 |
| mm   | 8.0  | 4.0  | 12.0 | 2.0  | 1.5  | 0.3  | 3.5  |

Reel Diameter - 7"



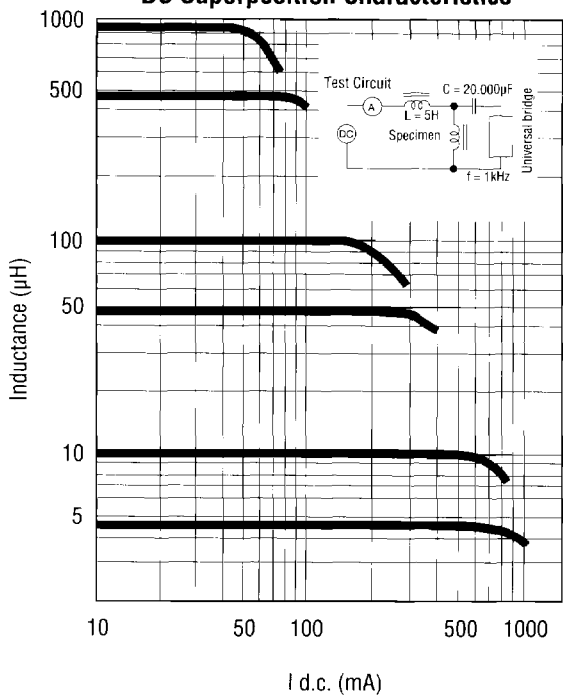
Specifications subject to change without notice.

**Beckman Industrial™**  
 Affiliate of Emerson Electric Co.

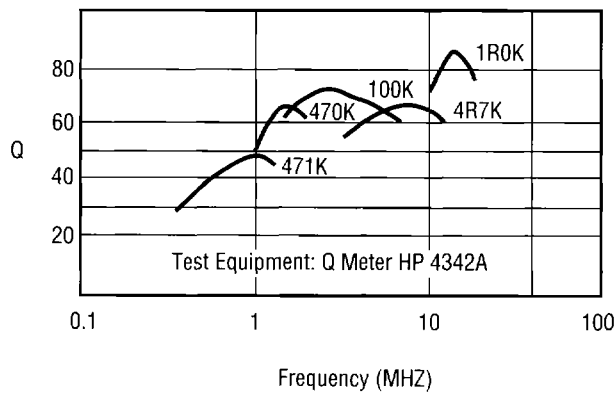
**Magnetic  
 Components**

**Performance**

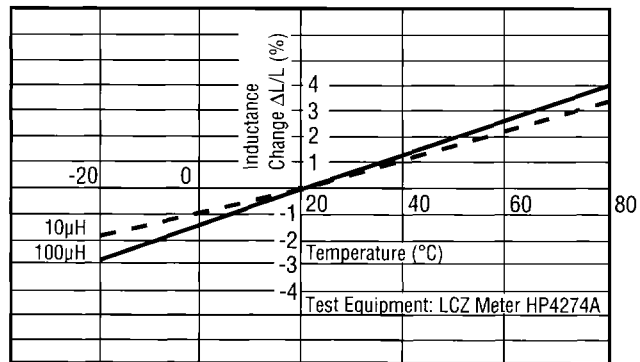
**Inductance Change vs. DC Superposition Characteristics**



**Q vs. Frequency Response**



**Inductance Change vs. Temperature Response**



**Specifications**

| Model          | Inductance (µH) | Q Min. | SRF Min. (MHZ) | RDC Max (OHM) | Rated Current IDC (mA)* |
|----------------|-----------------|--------|----------------|---------------|-------------------------|
| BCL453232-R10M | 0.10            | 35     | 300            | 0.18          | 800                     |
| BCL453232-R12M | 0.12            | 35     | 280            | 0.20          | 770                     |
| BCL453232-R15M | 0.15            | 35     | 250            | 0.22          | 730                     |
| BCL453232-R18M | 0.18            | 35     | 220            | 0.24          | 700                     |
| BCL453232-R22M | 0.22            | 40     | 200            | 0.25          | 665                     |
| BCL453232-R27M | 0.27            | 40     | 180            | 0.26          | 635                     |
| BCL453232-R33M | 0.33            | 40     | 165            | 0.28          | 605                     |
| BCL453232-R39M | 0.39            | 40     | 150            | 0.30          | 575                     |
| BCL453232-R47M | 0.47            | 40     | 145            | 0.32          | 545                     |
| BCL453232-R56M | 0.56            | 40     | 140            | 0.36          | 520                     |
| BCL453232-R68M | 0.68            | 40     | 135            | 0.40          | 500                     |
| BCL453232-R82M | 0.82            | 40     | 130            | 0.45          | 475                     |
| BCL453232-1R0K | 1.0             | 50     | 100            | 0.50          | 450                     |
| BCL453232-1R2K | 1.2             | 50     | 80             | 0.55          | 430                     |
| BCL453232-1R5K | 1.5             | 50     | 70             | 0.60          | 410                     |
| BCL453232-1R8K | 1.8             | 50     | 60             | 0.65          | 390                     |
| BCL453232-2R2K | 2.2             | 50     | 55             | 0.70          | 380                     |
| BCL453232-2R7K | 2.7             | 50     | 50             | 0.75          | 370                     |
| BCL453232-3R3K | 3.3             | 50     | 45             | 0.80          | 355                     |
| BCL453232-3R9K | 3.9             | 50     | 40             | 0.90          | 330                     |
| BCL453232-4R7K | 4.7             | 50     | 35             | 1.00          | 315                     |
| BCL453232-5R6K | 5.6             | 50     | 33             | 1.10          | 300                     |
| BCL453232-6R8K | 6.8             | 50     | 27             | 1.20          | 285                     |
| BCL453232-8R2K | 8.2             | 50     | 25             | 1.40          | 270                     |
| BCL453232-100K | 10.0            | 50     | 20             | 1.60          | 250                     |
| BCL453232-120K | 12.0            | 50     | 18             | 2.00          | 225                     |
| BCL453232-150K | 15.0            | 50     | 17             | 2.50          | 200                     |
| BCL453232-180K | 18.0            | 50     | 15             | 2.80          | 190                     |
| BCL453232-220K | 22.0            | 50     | 13             | 3.20          | 180                     |
| BCL453232-270K | 27.0            | 50     | 12             | 3.60          | 170                     |
| BCL453232-330K | 33.0            | 50     | 11             | 4.00          | 160                     |
| BCL453232-390K | 39.0            | 50     | 10             | 4.50          | 150                     |
| BCL453232-470K | 47.0            | 50     | 10             | 5.00          | 140                     |
| BCL453232-560K | 56.0            | 50     | 9.0            | 5.50          | 135                     |
| BCL453232-680K | 68.0            | 50     | 9.0            | 6.00          | 130                     |
| BCL453232-820K | 82.0            | 50     | 8.0            | 7.00          | 120                     |
| BCL453232-101K | 100             | 40     | 8.0            | 8.00          | 110                     |
| BCL453232-121K | 120             | 40     | 6.0            | 8.00          | 110                     |
| BCL453232-151K | 150             | 40     | 5.0            | 9.00          | 105                     |
| BCL453232-181K | 180             | 40     | 5.0            | 9.50          | 102                     |
| BCL453232-221K | 220             | 40     | 4.0            | 10.0          | 100                     |
| BCL453232-271K | 270             | 40     | 4.0            | 12.0          | 92                      |
| BCL453232-331K | 330             | 40     | 3.5            | 14.0          | 85                      |
| BCL453232-391K | 390             | 40     | 3.0            | 16.0          | 80                      |
| BCL453232-471K | 470             | 40     | 3.0            | 26.0          | 62                      |
| BCL453232-561K | 560             | 30     | 3.0            | 30.0          | 50                      |
| BCL453232-681K | 680             | 30     | 3.0            | 30.0          | 50                      |
| BCL453232-821K | 820             | 30     | 2.5            | 35.0          | 30                      |
| BCL453232-102K | 1,000           | 30     | 2.5            | 40.0          | 30                      |

\* Current Rating: The current at which the inductance will be decreased by 10% or the temperature has risen to 20°C. Refer to specification table.