

## High Frequency, Surface Mount Inductor



### FEATURES

- High self-resonant frequency values
- High Q values at higher frequencies
- Wirewound construction
- Tape and reel packaging for automatic handling, 2000/reel
- Compatible with vapor phase and infrared reflow soldering


**RoHS**  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

| IND. (nH) | TOL.             | TEST FREQ. L (MHz) | Q MIN. | TEST FREQ. Q (MHz) | SELF-RESONANT FREQ. MIN. (MHz) | DCR MAX. (Ohms) | RATED DC CURRENT (mA) |
|-----------|------------------|--------------------|--------|--------------------|--------------------------------|-----------------|-----------------------|
| 2.2       | ± 0.3 nH, 0.2 nH | 250                | 50     | 1000               | 6000                           | 0.06            | 800                   |
| 2.7       | ± 0.3 nH, 0.2 nH | 250                | 35     | 1000               | 6000                           | 0.08            | 800                   |
| 3.3       | ± 0.3 nH, 0.2 nH | 250                | 60     | 1000               | 6000                           | 0.08            | 800                   |
| 3.9       | ± 0.3 nH, 0.2 nH | 250                | 60     | 1000               | 6000                           | 0.06            | 600                   |
| 4.7       | ± 0.3 nH, 0.2 nH | 250                | 60     | 1000               | 5800                           | 0.06            | 600                   |
| 5.6       | ± 5%, 2%         | 250                | 60     | 1000               | 5800                           | 0.08            | 600                   |
| 6.8       | ± 5%, 2%         | 250                | 60     | 1000               | 5500                           | 0.06            | 600                   |
| 8.2       | ± 5%, 2%         | 250                | 60     | 1000               | 5500                           | 0.06            | 600                   |
| 10        | ± 5%, 2%         | 250                | 60     | 500                | 4800                           | 0.08            | 600                   |
| 12        | ± 5%, 2%         | 250                | 60     | 500                | 4100                           | 0.08            | 600                   |
| 15        | ± 5%, 2%         | 250                | 60     | 500                | 3600                           | 0.08            | 600                   |
| 18        | ± 5%, 2%         | 250                | 60     | 500                | 3400                           | 0.08            | 600                   |
| 22        | ± 5%, 2%         | 250                | 60     | 500                | 3300                           | 0.10            | 600                   |
| 27        | ± 5%, 2%         | 250                | 60     | 500                | 2600                           | 0.12            | 600                   |
| 33        | ± 5%, 2%         | 250                | 60     | 500                | 2400                           | 0.15            | 500                   |
| 39        | ± 5%, 2%         | 250                | 60     | 500                | 2100                           | 0.18            | 500                   |
| 47        | ± 5%, 2%         | 200                | 60     | 500                | 1700                           | 0.15            | 500                   |
| 56        | ± 5%, 2%         | 200                | 60     | 500                | 1600                           | 0.25            | 500                   |
| 68        | ± 5%, 2%         | 200                | 60     | 500                | 1450                           | 0.27            | 500                   |
| 82        | ± 5%, 2%         | 150                | 60     | 500                | 1350                           | 0.32            | 500                   |
| 100       | ± 5%, 2%         | 150                | 60     | 500                | 1200                           | 0.43            | 500                   |
| 120       | ± 5%, 2%         | 150                | 50     | 250                | 1100                           | 0.48            | 500                   |
| 150       | ± 5%, 2%         | 100                | 50     | 250                | 950                            | 0.56            | 400                   |
| 180       | ± 5%, 2%         | 100                | 50     | 250                | 900                            | 0.78            | 400                   |
| 220       | ± 5%, 2%         | 100                | 50     | 250                | 860                            | 1.00            | 400                   |
| 270       | ± 5%, 2%         | 100                | 45     | 250                | 850                            | 1.46            | 350                   |
| 330       | ± 5%, 2%         | 100                | 45     | 250                | 800                            | 1.65            | 300                   |
| 390       | ± 5%, 2%         | 100                | 45     | 250                | 780                            | 2.20            | 210                   |
| 470       | ± 5%             | 25.2               | 45     | 100                | 375                            | 0.95            | 500                   |
| 560       | ± 5%             | 25.2               | 45     | 100                | 340                            | 1.10            | 450                   |
| 680       | ± 5%             | 25.2               | 35     | 100                | 188                            | 1.20            | 400                   |
| 820       | ± 5%             | 25.2               | 35     | 100                | 215                            | 1.50            | 300                   |
| 1000      | ± 5%             | 25.2               | 35     | 50                 | 200                            | 2.13            | 180                   |
| 1200      | ± 5%             | 7.96               | 15     | 7.96               | 200                            | 2.38            | 150                   |
| 1500      | ± 5%             | 7.96               | 15     | 7.96               | 200                            | 2.90            | 130                   |
| 1800      | ± 5%             | 7.96               | 15     | 7.96               | 120                            | 3.00            | 120                   |
| 2200      | ± 5%             | 7.96               | 15     | 7.96               | 110                            | 3.10            | 110                   |
| 2700      | ± 5%             | 7.96               | 15     | 7.96               | 100                            | 3.50            | 100                   |
| 3300      | ± 5%             | 7.96               | 15     | 7.96               | 70                             | 2.30            | 210                   |
| 3900      | ± 5%             | 7.96               | 15     | 7.96               | 60                             | 2.50            | 200                   |
| 4700      | ± 5%             | 7.96               | 15     | 7.96               | 50                             | 2.80            | 180                   |
| 5600      | ± 5%             | 7.96               | 15     | 7.96               | 45                             | 3.00            | 160                   |
| 6800      | ± 5%             | 7.96               | 15     | 7.96               | 45                             | 3.20            | 130                   |
| 8200      | ± 5%             | 7.96               | 15     | 7.96               | 40                             | 3.50            | 120                   |
| 10 000    | ± 5%             | 2.52               | 10     | 2.52               | 40                             | 5.00            | 80                    |

### ELECTRICAL SPECIFICATIONS

**Inductance Range:** 2.2 nH to 10 000 nH  
**Inductance Tolerance:** 0.3 nH for 2.2 - 4.7 nH  
 ± 5% for 5.6 nH to 10 000 nH  
**Temperature Range:** - 40 °C to 125 °C  
**Core Material:** Ceramic for 2.2 nH to 390 nH  
 Ferrite for 470 nH to 10 000 nH

### TEST EQUIPMENT

- Inductance and Q measured on HP4286A (2.2 nH - 390 nH) and HP4285A (470 nH - 10 000 nH)
- SRF measured on HP8753E
- DCR measured on HP4338B

### DIMENSIONS in inches [millimeters]

|                               |                               |                               |
|-------------------------------|-------------------------------|-------------------------------|
|                               |                               |                               |
| <b>L</b>                      | <b>W</b>                      | <b>S</b>                      |
| 0.079 ± 0.008<br>[2.00 ± 0.2] | 0.050 ± 0.008<br>[1.25 ± 0.2] | 0.016 ± 0.008<br>[0.40 ± 0.2] |
|                               |                               |                               |
| <b>U</b>                      |                               | <b>T</b>                      |
| 0.02<br>[0.5]                 |                               | 0.048 ± 0.008<br>[1.20 ± 0.2] |

### DESCRIPTION

**IMC-0805-01**      **10 nH**      **± 5%**      **ER**      **e4\***  
 MODEL      INDUCTANCE VALUE      INDUCTANCE TOLERANCE      PACKAGE CODE      JEDEC LEAD (Pb)-FREE STANDARD

\*NOTE: For parts within 2.2 nH to 390 nH please use e4 for JEDEC lead (Pb)-free standard. For parts within 470 nH to 10 000 nH please use e3 for JEDEC lead (Pb)-free standard.

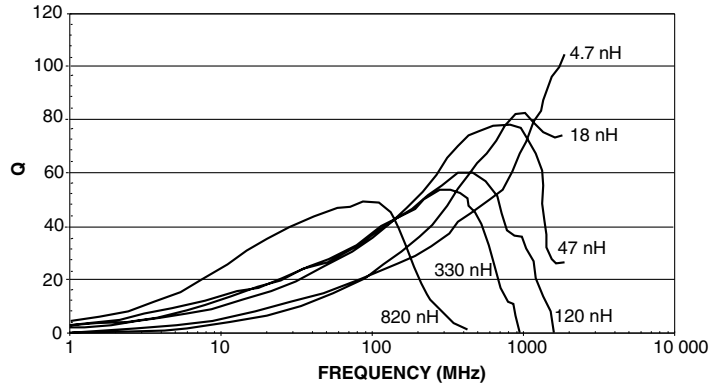
### GLOBAL PART NUMBER

|       |   |   |      |   |   |              |                  |   |   |      |        |   |   |   |
|-------|---|---|------|---|---|--------------|------------------|---|---|------|--------|---|---|---|
| I     | M | C | 0    | 8 | 0 | 5            | E                | R | 1 | 0    | N      | J | 0 | 1 |
| MODEL |   |   | SIZE |   |   | PACKAGE CODE | INDUCTANCE VALUE |   |   | TOL. | SERIES |   |   |   |

**PERFORMANCE GRAPHS**

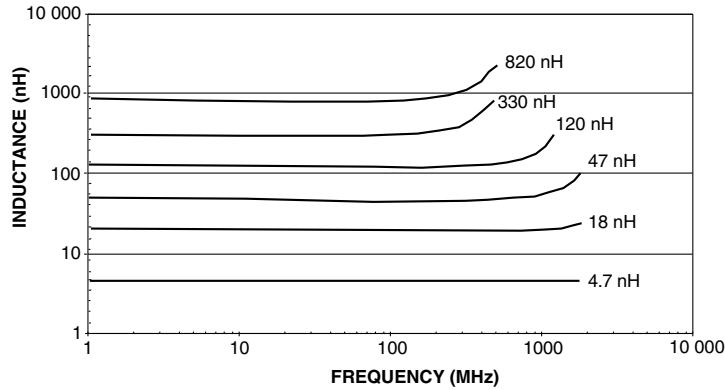
IMC-0805-01

Q VS FREQUENCY



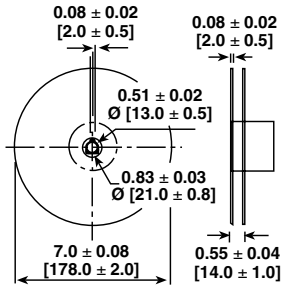
IMC-0805-01

INDUCTANCE VS FREQUENCY

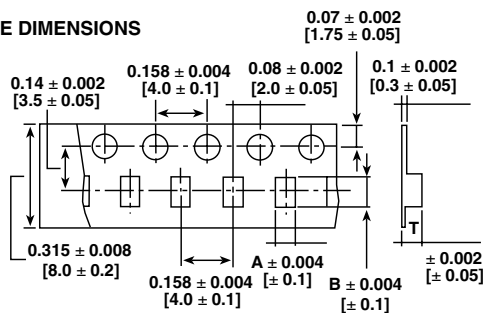


**TAPE AND REEL SPECIFICATIONS** in inches [millimeters]

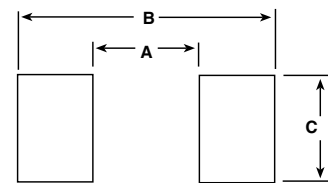
REEL DIMENSIONS



TAPE DIMENSIONS



RECOMMENDED PATTERN



| MODEL       | UNITS PER REEL | MODEL       | A              | B              | T              | MODEL       | A               | B              | C               |
|-------------|----------------|-------------|----------------|----------------|----------------|-------------|-----------------|----------------|-----------------|
| IMC-0805-01 | 2000           | IMC-0805-01 | 0.055<br>[1.4] | 0.091<br>[2.3] | 0.055<br>[1.4] | IMC-0805-01 | 0.047<br>[1.20] | 0.102<br>[2.6] | 0.047<br>[1.20] |



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