

## 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) |
|-----------|--------|--------------------|--------|--------------------|--------------------------------|-----------------|-----------------------|
| 3.3       | 0.3 nH | 100                | 50     | 1000               | 6000                           | 0.06            | 1000                  |
| 6.8       | ±5%    | 100                | 50     | 1000               | 5500                           | 0.06            | 1000                  |
| 8.2       | ±5%    | 100                | 50     | 1000               | 5500                           | 0.06            | 1000                  |
| 10        | ±5%    | 100                | 50     | 1000               | 4300                           | 0.08            | 1000                  |
| 12        | ±5%    | 100                | 60     | 500                | 3600                           | 0.08            | 1000                  |
| 15        | ±5%    | 100                | 60     | 500                | 2700                           | 0.08            | 1000                  |
| 18        | ±5%    | 100                | 60     | 350                | 2700                           | 0.10            | 1000                  |
| 22        | ±5%    | 100                | 60     | 350                | 2500                           | 0.10            | 1000                  |
| 27        | ±5%    | 100                | 60     | 350                | 1800                           | 0.10            | 1000                  |
| 33        | ±5%    | 100                | 60     | 350                | 1700                           | 0.10            | 1000                  |
| 39        | ±5%    | 100                | 60     | 350                | 1500                           | 0.10            | 1000                  |
| 47        | ±5%    | 100                | 60     | 350                | 1500                           | 0.10            | 1000                  |
| 56        | ±5%    | 100                | 60     | 350                | 1350                           | 0.12            | 1000                  |
| 68        | ±5%    | 100                | 60     | 350                | 1300                           | 0.15            | 1000                  |
| 82        | ±5%    | 100                | 60     | 350                | 1100                           | 0.18            | 1000                  |
| 100       | ±5%    | 100                | 60     | 350                | 1100                           | 0.18            | 1000                  |
| 120       | ±5%    | 25                 | 45     | 100                | 950                            | 0.20            | 800                   |
| 150       | ±5%    | 25                 | 45     | 100                | 880                            | 0.22            | 800                   |
| 180       | ±5%    | 25                 | 45     | 100                | 800                            | 0.33            | 800                   |
| 220       | ±5%    | 25                 | 45     | 100                | 730                            | 0.45            | 800                   |
| 270       | ±5%    | 25                 | 45     | 100                | 650                            | 0.75            | 600                   |
| 330       | ±5%    | 25                 | 45     | 100                | 570                            | 0.90            | 500                   |
| 390       | ±5%    | 25                 | 45     | 100                | 530                            | 1.06            | 470                   |
| 470       | ±5%    | 25                 | 45     | 100                | 480                            | 1.17            | 420                   |
| 560       | ±5%    | 25                 | 45     | 100                | 430                            | 1.50            | 310                   |
| 680       | ±5%    | 25                 | 45     | 100                | 380                            | 2.06            | 230                   |
| 750       | ±5%    | 25                 | 45     | 100                | 360                            | 2.20            | 200                   |
| 820       | ±5%    | 25                 | 45     | 100                | 350                            | 2.30            | 180                   |
| 910       | ±5%    | 25                 | 45     | 100                | 330                            | 3.18            | 150                   |
| 1000      | ±5%    | 25                 | 35     | 50                 | 310                            | 3.30            | 120                   |
| 1200      | ±5%    | 7.96               | 20     | 7.96               | 280                            | 1.30            | 230                   |
| 1500      | ±5%    | 7.96               | 20     | 7.96               | 250                            | 1.65            | 220                   |
| 1800      | ±5%    | 7.96               | 20     | 7.96               | 200                            | 2.20            | 210                   |
| 2200      | ±5%    | 7.96               | 20     | 7.96               | 160                            | 2.35            | 200                   |
| 2700      | ±5%    | 7.96               | 20     | 7.96               | 130                            | 2.60            | 195                   |
| 3300      | ±5%    | 7.96               | 20     | 7.96               | 80                             | 2.85            | 185                   |
| 3900      | ±5%    | 7.96               | 20     | 7.96               | 50                             | 4.00            | 180                   |
| 4700      | ±5%    | 7.96               | 20     | 7.96               | 45                             | 4.30            | 175                   |
| 5600      | ±5%    | 7.96               | 20     | 7.96               | 42                             | 2.60            | 170                   |
| 6800      | ±5%    | 7.96               | 20     | 7.96               | 39                             | 2.80            | 165                   |
| 8200      | ±5%    | 7.96               | 20     | 7.96               | 36                             | 3.05            | 160                   |
| 10 000    | ±5%    | 2.52               | 15     | 2.52               | 33                             | 3.50            | 150                   |
| 12 000    | ±5%    | 2.52               | 15     | 2.52               | 30                             | 3.60            | 140                   |
| 15 000    | ±5%    | 2.52               | 15     | 2.52               | 26                             | 4.00            | 130                   |
| 18 000    | ±5%    | 2.52               | 15     | 2.52               | 24                             | 4.50            | 120                   |
| 22 000    | ±5%    | 2.52               | 15     | 2.52               | 22                             | 4.80            | 110                   |
| 27 000    | ±5%    | 2.52               | 15     | 2.52               | 21                             | 5.30            | 95                    |
| 33 000    | ±5%    | 2.52               | 15     | 2.52               | 20                             | 6.10            | 85                    |
| 39 000    | ±5%    | 2.52               | 15     | 2.52               | 18                             | 8.30            | 60                    |
| 47 000    | ±5%    | 2.52               | 15     | 2.52               | 17                             | 12.00           | 45                    |

### ELECTRICAL SPECIFICATIONS

**Inductance Range:** 3.3 nH to 47 000 nH **Inductance**
**Tolerance:** 0.3 nH for 3.3 nH

± 5 % for 6.8 nH to 47 000 nH

**Operating Temperature:** - 40 °C to 125 °C

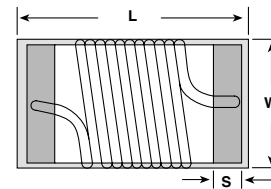
**Core Material:** Ceramic from 3.3 nH to 1000 nH

Ferrite from 1200 nH to 47 000 nH

### TEST EQUIPMENT

- Inductance and Q measured on HP4286A
- SRF measured on HP8753D

### DIMENSIONS in inches [millimeters]



| L                             | W                             | S                            |
|-------------------------------|-------------------------------|------------------------------|
| 0.098 ± 0.012<br>[2.50 ± 0.3] | 0.079 ± 0.012<br>[2.00 ± 0.3] | 0.020 ± 0.008<br>[0.5 ± 0.2] |

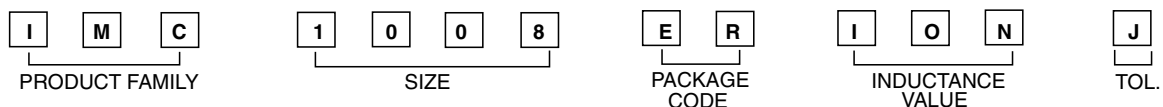
| U             | T                             |
|---------------|-------------------------------|
| 0.02<br>[0.5] | 0.063 ± 0.012<br>[1.60 ± 0.3] |

### DESCRIPTION

|                 |                  |                      |              |                               |
|-----------------|------------------|----------------------|--------------|-------------------------------|
| <b>IMC-1008</b> | <b>10 nH</b>     | <b>± 5 %</b>         | <b>ER</b>    | <b>e4*</b>                    |
| MODEL           | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

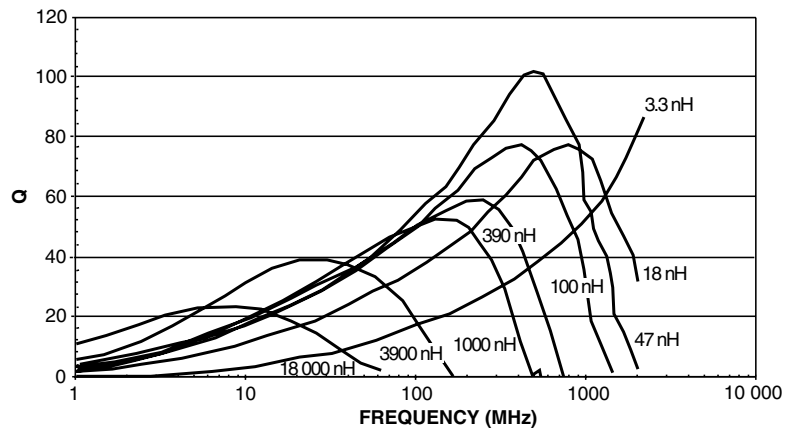
\*NOTE: For parts within 3.3 nH to 910 nH please use e4 for JEDEC lead free standard. For parts within 1 μH to 47 μH please use e3 for JEDEC lead free standard.

### GLOBAL PART NUMBER

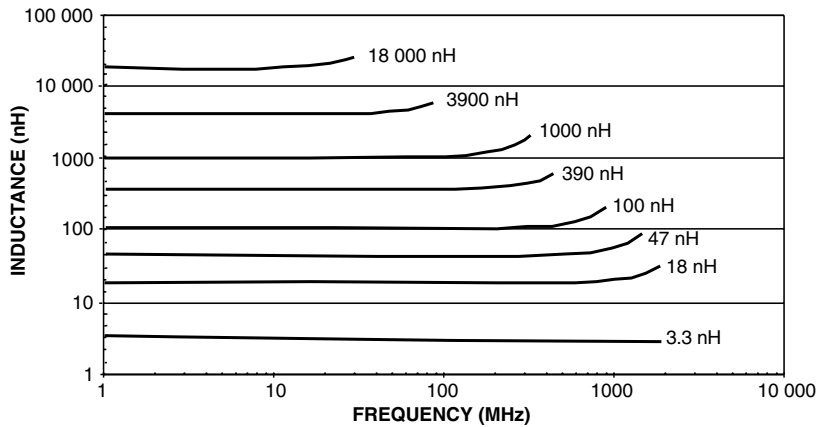


**PERFORMANCE GRAPHS**

IMC-1008

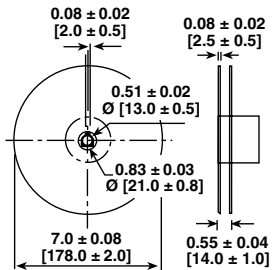


IMC-1008

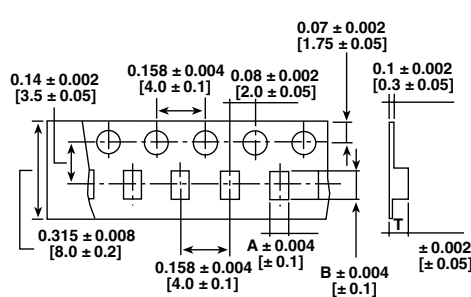


**TAPE AND REEL SPECIFICATIONS** in inches [millimeters]

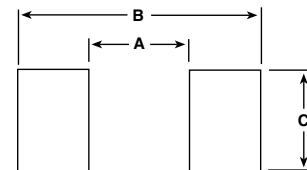
**REEL DIMENSIONS**



**TAPE DIMENSIONS**



**RECOMMENDED PATTERN**



| MODEL    | UNITS PER REEL | MODEL    | A              | B               | T              | MODEL    | A               | B              | C               |
|----------|----------------|----------|----------------|-----------------|----------------|----------|-----------------|----------------|-----------------|
| IMC-1008 | 2000           | IMC-1008 | 0.087<br>[2.2] | 0.110<br>[2.80] | 0.071<br>[1.8] | IMC-1008 | 0.047<br>[1.20] | 0.150<br>[3.8] | 0.100<br>[2.54] |



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