

# Inductors, Commercial, Molded, Axial Leaded



## ELECTRICAL SPECIFICATIONS

**Inductance Tolerance:**  $\pm 1\%$ ,  $\pm 3\%$ ,  $\pm 5\%$ ,  $\pm 10\%$ ,  $\pm 20\%$ , other tolerances available on request

**Insulation Resistance:** 1000 M $\Omega$  minimum per MIL-STD-202, method 302, test condition B

**Dielectric Strength:** Per MIL-STD-202, method 301: 1000 V<sub>AC</sub> for IM-2, IM-4, IM-6, IM-8, IM-9 and IM-10  
200 V<sub>AC</sub> for IM-1

## TEST EQUIPMENT (1)

- H/P 4342A Q-meter
- Measurements corporation megacycle meter, model 59
- Wheatstone bridge

### Note

(1) Test procedure per MIL-PRF-15305

## MATERIAL SPECIFICATIONS

**Encapsulant:** Epoxy

**Standard Terminals:** IM-1 and IM-2: 24 AWG; IM-4, IM-6 and IM-9: 22 AWG; IM-8: 21 AWG; IM-10: 20 AWG, tinned copper

| ENVIRONMENTAL PERFORMANCE    |            |                         |
|------------------------------|------------|-------------------------|
| TEST                         | CONDITIONS | SPECIFICATIONS          |
| Barometric Pressure          | C          | MIL-STD-202, method 105 |
| Thermal Shock                | A-1        | MIL-STD-202, method 107 |
| Flammability                 | -          | MIL-STD-202, method 111 |
| Overload                     | -          | MIL-PRF-15305           |
| Low Temperature Storage      | -          | MIL-PRF-15305           |
| Resistance to Soldering Heat | A          | MIL-STD-202, method 210 |
| Resistance to Solvents       | -          | MIL-STD-202, method 215 |

## FEATURES

- Wide inductance range in small package
- Flame retardant coating
- Precision performance, excellent reliability, sturdy construction
- Epoxy molded construction provides superior moisture protection
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

## MECHANICAL SPECIFICATIONS

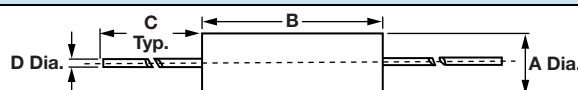
**Terminal Strength:** Per MIL-STD-202, method 211, test condition A: For IM-1, 3 lb pull; for IM-2, IM-4, IM-6, IM-8, IM-9 and IM-10, 5 lb pull and twist

**Weight:** IM-1 = 0.25 g maximum, IM-2 = 0.30 g maximum, IM-4 = 0.65 g maximum, IM-6 = 0.95 g maximum, IM-8 = 1.5 g maximum, IM-9 = 2.0 g maximum, IM-10 = 2.5 g maximum

## INDUCTANCE RANGE AND MILITARY STANDARD

| MODEL | INDUCTANCE RANGE ( $\mu$ H) |        |
|-------|-----------------------------|--------|
|       | MIN.                        | MAX.   |
| IM-1  | 0.10                        | 100    |
| IM-2  | 0.027                       | 0.082  |
|       | 0.10                        | 1      |
|       | 1.2                         | 27     |
|       | 33                          | 1000   |
| IM-4  | 0.15                        | 4.7    |
|       | 5.6                         | 33     |
|       | 36                          | 240    |
|       | 270                         | 1800   |
| IM-6  | 0.10                        | 2.7    |
|       | 3.3                         | 27     |
|       | 33                          | 220    |
|       | 270                         | 1000   |
| IM-8  | 1100                        | 3600   |
| IM-9  | 68                          | 150    |
| IM-10 | 3900                        | 10 000 |

## DIMENSIONS in inches [millimeters]



| MODEL |      | A (DIA.)     | B             | C (TYP.)     | D (DIA.)       |
|-------|------|--------------|---------------|--------------|----------------|
| IM-1  | Max. | 0.086 [2.18] | 0.210 [5.33]  | 1.62 [41.15] | 0.0215 [0.546] |
|       | Min. | 0.070 [1.78] | 0.190 [4.83]  | 1.38 [35.05] | 0.0185 [0.470] |
| IM-2  | Max. | 0.105 [2.67] | 0.260 [6.60]  | 1.63 [41.40] | 0.0215 [0.546] |
|       | Min. | 0.085 [2.16] | 0.240 [6.10]  | 1.25 [31.75] | 0.0185 [0.470] |
| IM-4  | Max. | 0.165 [4.19] | 0.385 [9.78]  | 1.63 [41.40] | 0.027 [0.686]  |
|       | Min. | 0.145 [3.68] | 0.365 [9.27]  | 1.25 [31.75] | 0.023 [0.584]  |
| IM-6  | Max. | 0.200 [5.08] | 0.450 [11.43] | 1.63 [41.40] | 0.027 [0.686]  |
|       | Min. | 0.180 [4.57] | 0.430 [10.92] | 1.25 [31.75] | 0.023 [0.584]  |
| IM-8  | Max. | 0.225 [5.72] | 0.570 [14.48] | 1.63 [41.40] | 0.030 [0.762]  |
|       | Min. | 0.205 [5.21] | 0.550 [13.97] | 1.25 [31.75] | 0.026 [0.660]  |
| IM-9  | Max. | 0.260 [6.60] | 0.570 [14.48] | 1.63 [41.40] | 0.027 [0.686]  |
|       | Min. | 0.240 [6.10] | 0.550 [13.97] | 1.25 [31.75] | 0.023 [0.584]  |
| IM-10 | Max. | 0.250 [6.35] | 0.750 [19.05] | 1.63 [41.40] | 0.034 [0.864]  |
|       | Min. | 0.230 [5.84] | 0.730 [18.54] | 1.25 [31.75] | 0.030 [0.762]  |



| STANDARD ELECTRICAL SPECIFICATIONS |              |             |           |                                 |                                  |                 |                                         |               |
|------------------------------------|--------------|-------------|-----------|---------------------------------|----------------------------------|-----------------|-----------------------------------------|---------------|
| MODEL                              | IND.<br>(μH) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>(Ω) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |               |
| IM-1                               | 0.10         | ± 10        | 35        | 25.0                            | 680.0                            | 0.13            | 895                                     | PHENOLIC CORE |
| IM-1                               | 0.12         | ± 10        | 35        | 25.0                            | 650.0                            | 0.15            | 835                                     |               |
| IM-1                               | 0.15         | ± 10        | 35        | 25.0                            | 560.0                            | 0.18            | 760                                     |               |
| IM-1                               | 0.18         | ± 10        | 35        | 25.0                            | 540.0                            | 0.21            | 705                                     |               |
| IM-1                               | 0.22         | ± 10        | 30        | 25.0                            | 500.0                            | 0.25            | 645                                     |               |
| IM-1                               | 0.27         | ± 10        | 30        | 25.0                            | 440.0                            | 0.38            | 525                                     |               |
| IM-1                               | 0.33         | ± 10        | 25        | 25.0                            | 410.0                            | 0.49            | 460                                     |               |
| IM-1                               | 0.39         | ± 10        | 25        | 25.0                            | 380.0                            | 0.59            | 420                                     |               |
| IM-1                               | 0.47         | ± 10        | 25        | 25.0                            | 340.0                            | 0.62            | 410                                     |               |
| IM-1                               | 0.56         | ± 10        | 40        | 25.0                            | 250.0                            | 0.18            | 510                                     | IRON CORE     |
| IM-1                               | 0.68         | ± 10        | 40        | 25.0                            | 215.0                            | 0.20            | 485                                     |               |
| IM-1                               | 0.82         | ± 10        | 40        | 25.0                            | 200.0                            | 0.22            | 465                                     |               |
| IM-1                               | 1.0          | ± 10        | 40        | 25.0                            | 190.0                            | 0.25            | 435                                     |               |
| IM-1                               | 1.2          | ± 10        | 35        | 7.9                             | 170.0                            | 0.28            | 410                                     |               |
| IM-1                               | 1.5          | ± 10        | 40        | 7.9                             | 150.0                            | 0.49            | 310                                     |               |
| IM-1                               | 1.8          | ± 10        | 40        | 7.9                             | 135.0                            | 0.56            | 290                                     |               |
| IM-1                               | 2.2          | ± 10        | 45        | 7.9                             | 130.0                            | 0.72            | 257                                     |               |
| IM-1                               | 2.7          | ± 10        | 45        | 7.9                             | 110.0                            | 0.85            | 236                                     |               |
| IM-1                               | 3.3          | ± 10        | 45        | 7.9                             | 100.0                            | 1.2             | 198                                     |               |
| IM-1                               | 3.9          | ± 10        | 50        | 7.9                             | 95.0                             | 1.5             | 178                                     |               |
| IM-1                               | 4.7          | ± 10        | 55        | 7.9                             | 88.0                             | 2.1             | 150                                     |               |
| IM-1                               | 5.6          | ± 10        | 55        | 7.9                             | 78.0                             | 2.8             | 130                                     |               |
| IM-1                               | 6.8          | ± 10        | 55        | 7.9                             | 69.0                             | 3.2             | 122                                     |               |
| IM-1                               | 8.2          | ± 10        | 45        | 7.9                             | 52.0                             | 4.4             | 104                                     |               |
| IM-1                               | 10.0         | ± 10        | 45        | 7.9                             | 47.0                             | 5.2             | 95                                      |               |
| IM-1                               | 12.0         | ± 10        | 40        | 2.5                             | 31.0                             | 3.0             | 126                                     |               |
| IM-1                               | 15.0         | ± 10        | 40        | 2.5                             | 26.0                             | 3.4             | 118                                     |               |
| IM-1                               | 18.0         | ± 10        | 40        | 2.5                             | 23.0                             | 3.8             | 112                                     |               |
| IM-1                               | 22.0         | ± 10        | 45        | 2.5                             | 20.0                             | 4.3             | 105                                     |               |
| IM-1                               | 27.0         | ± 10        | 45        | 2.5                             | 17.0                             | 4.7             | 100                                     |               |
| IM-1                               | 33.0         | ± 10        | 45        | 2.5                             | 15.0                             | 5.2             | 95                                      |               |
| IM-1                               | 39.0         | ± 10        | 45        | 2.5                             | 13.5                             | 6.8             | 83.5                                    |               |
| IM-1                               | 47.0         | ± 10        | 45        | 2.5                             | 12.5                             | 8.2             | 76                                      |               |
| IM-1                               | 56.0         | ± 10        | 45        | 2.5                             | 11.5                             | 10.0            | 69                                      |               |
| IM-1                               | 68.0         | ± 10        | 45        | 2.5                             | 10.5                             | 11.5            | 64                                      |               |
| IM-1                               | 82.0         | ± 10        | 45        | 2.5                             | 10.0                             | 16.0            | 54.5                                    |               |
| IM-1                               | 100.0        | ± 10        | 45        | 2.5                             | 9.5                              | 17.5            | 52                                      |               |
| IM-2                               | 0.027        | ± 20        | 40        | 25.0                            | 875.0                            | 0.03            | 2200                                    |               |
| IM-2                               | 0.033        | ± 10        | 40        | 25.0                            | 850.0                            | 0.035           | 2000                                    |               |
| IM-2                               | 0.039        | ± 10        | 40        | 25.0                            | 825.0                            | 0.04            | 1900                                    |               |
| IM-2                               | 0.047        | ± 10        | 40        | 25.0                            | 800.0                            | 0.045           | 1800                                    |               |
| IM-2                               | 0.056        | ± 10        | 40        | 25.0                            | 775.0                            | 0.05            | 1700                                    |               |
| IM-2                               | 0.068        | ± 10        | 40        | 25.0                            | 750.0                            | 0.06            | 1500                                    |               |
| IM-2                               | 0.082        | ± 10        | 40        | 25.0                            | 725.0                            | 0.07            | 1400                                    |               |
| IM-2                               | 0.10         | ± 10        | 40        | 25.0                            | 680.0                            | 0.08            | 1350                                    |               |
| IM-2                               | 0.12         | ± 10        | 40        | 25.0                            | 640.0                            | 0.09            | 1270                                    |               |
| IM-2                               | 0.15         | ± 10        | 38        | 25.0                            | 600.0                            | 0.10            | 1200                                    |               |
| IM-2                               | 0.18         | ± 10        | 35        | 25.0                            | 550.0                            | 0.12            | 1105                                    |               |
| IM-2                               | 0.22         | ± 10        | 33        | 25.0                            | 510.0                            | 0.14            | 1025                                    |               |
| IM-2                               | 0.27         | ± 10        | 33        | 25.0                            | 430.0                            | 0.16            | 960                                     |               |
| IM-2                               | 0.33         | ± 10        | 30        | 25.0                            | 410.0                            | 0.22            | 815                                     |               |
| IM-2                               | 0.39         | ± 10        | 30        | 25.0                            | 365.0                            | 0.30            | 700                                     |               |
| IM-2                               | 0.47         | ± 10        | 30        | 25.0                            | 330.0                            | 0.35            | 650                                     |               |
| IM-2                               | 0.56         | ± 10        | 30        | 25.0                            | 300.0                            | 0.50            | 545                                     |               |
| IM-2                               | 0.68         | ± 10        | 28        | 25.0                            | 275.0                            | 0.60            | 495                                     |               |
| IM-2                               | 0.82         | ± 10        | 28        | 25.0                            | 250.0                            | 0.85            | 415                                     |               |
| IM-2                               | 1.0          | ± 10        | 25        | 25.0                            | 230.0                            | 1.0             | 385                                     |               |

**Notes**<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise as shown in table



| STANDARD ELECTRICAL SPECIFICATIONS |              |             |           |                                 |                                  |                 |                                         |               |
|------------------------------------|--------------|-------------|-----------|---------------------------------|----------------------------------|-----------------|-----------------------------------------|---------------|
| MODEL                              | IND.<br>(μH) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>(Ω) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |               |
| IM-2                               | 1.2          | ± 10        | 25        | 7.9                             | 150.0                            | 0.18            | 590                                     | IRON CORE     |
| IM-2                               | 1.5          | ± 10        | 28        | 7.9                             | 140.0                            | 0.22            | 535                                     |               |
| IM-2                               | 1.8          | ± 10        | 30        | 7.9                             | 125.0                            | 0.30            | 455                                     |               |
| IM-2                               | 2.2          | ± 10        | 30        | 7.9                             | 115.0                            | 0.40            | 395                                     |               |
| IM-2                               | 2.7          | ± 10        | 37        | 7.9                             | 100.0                            | 0.55            | 355                                     |               |
| IM-2                               | 3.3          | ± 10        | 45        | 7.9                             | 90.0                             | 0.85            | 270                                     |               |
| IM-2                               | 3.9          | ± 10        | 45        | 7.9                             | 80.0                             | 1.0             | 250                                     |               |
| IM-2                               | 4.7          | ± 10        | 45        | 7.9                             | 75.0                             | 1.2             | 230                                     |               |
| IM-2                               | 5.6          | ± 10        | 50        | 7.9                             | 65.0                             | 1.8             | 185                                     |               |
| IM-2                               | 6.8          | ± 10        | 50        | 7.9                             | 60.0                             | 2.0             | 175                                     |               |
| IM-2                               | 8.2          | ± 10        | 55        | 7.9                             | 55.0                             | 2.7             | 155                                     |               |
| IM-2                               | 10.0         | ± 10        | 55        | 7.9                             | 50.0                             | 3.7             | 130                                     |               |
| IM-2                               | 12.0         | ± 10        | 45        | 2.5                             | 40.0                             | 2.7             | 155                                     |               |
| IM-2                               | 15.0         | ± 10        | 40        | 2.5                             | 35.0                             | 2.8             | 150                                     |               |
| IM-2                               | 18.0         | ± 10        | 50        | 2.5                             | 30.0                             | 3.1             | 145                                     |               |
| IM-2                               | 22.0         | ± 10        | 50        | 2.5                             | 25.0                             | 3.3             | 140                                     |               |
| IM-2                               | 27.0         | ± 10        | 50        | 2.5                             | 20.0                             | 3.5             | 135                                     |               |
| IM-2                               | 33.0         | ± 10        | 45        | 2.5                             | 24.0                             | 3.4             | 130                                     | FERRITE CORE  |
| IM-2                               | 39.0         | ± 10        | 45        | 2.5                             | 22.0                             | 3.6             | 125                                     |               |
| IM-2                               | 47.0         | ± 10        | 45        | 2.5                             | 20.0                             | 4.5             | 110                                     |               |
| IM-2                               | 56.0         | ± 10        | 45        | 2.5                             | 18.0                             | 5.7             | 100                                     |               |
| IM-2                               | 68.0         | ± 10        | 50        | 2.5                             | 15.0                             | 6.7             | 92                                      |               |
| IM-2                               | 82.0         | ± 10        | 50        | 2.5                             | 14.0                             | 7.3             | 88                                      |               |
| IM-2                               | 100.0        | ± 10        | 50        | 2.5                             | 13.0                             | 8               | 84                                      |               |
| IM-2                               | 120.0        | ± 10        | 30        | 0.79                            | 12.0                             | 13              | 66                                      |               |
| IM-2                               | 150.0        | ± 10        | 30        | 0.79                            | 11.0                             | 15              | 61                                      |               |
| IM-2                               | 180.0        | ± 10        | 30        | 0.79                            | 10.0                             | 17              | 57                                      |               |
| IM-2                               | 220.0        | ± 10        | 30        | 0.79                            | 9.0                              | 21              | 52                                      |               |
| IM-2                               | 270.0        | ± 10        | 30        | 0.79                            | 8.0                              | 25              | 47                                      |               |
| IM-2                               | 330.0        | ± 10        | 30        | 0.79                            | 7.0                              | 28              | 45                                      |               |
| IM-2                               | 390.0        | ± 10        | 30        | 0.79                            | 6.5                              | 35              | 40                                      |               |
| IM-2                               | 470.0        | ± 10        | 30        | 0.79                            | 6.0                              | 42              | 36                                      |               |
| IM-2                               | 560.0        | ± 10        | 30        | 0.79                            | 5.0                              | 46              | 35                                      |               |
| IM-2                               | 680.0        | ± 10        | 30        | 0.79                            | 4.0                              | 60              | 30                                      |               |
| IM-2                               | 820.0        | ± 10        | 30        | 0.79                            | 3.8                              | 65              | 29                                      |               |
| IM-2                               | 1000.0       | ± 10        | 30        | 0.79                            | 3.4                              | 72              | 28                                      |               |
| IM-4                               | 0.15         | ± 20        | 50        | 25                              | 525.0                            | 0.03            | 2450                                    | PHENOLIC CORE |
| IM-4                               | 0.22         | ± 20        | 50        | 25                              | 450.0                            | 0.055           | 1810                                    |               |
| IM-4                               | 0.33         | ± 20        | 45        | 25                              | 360.0                            | 0.09            | 1400                                    |               |
| IM-4                               | 0.47         | ± 20        | 45        | 25                              | 310.0                            | 0.12            | 1225                                    |               |
| IM-4                               | 0.56         | ± 10        | 50        | 25                              | 280.0                            | 0.135           | 1150                                    |               |
| IM-4                               | 0.68         | ± 10        | 50        | 25                              | 250.0                            | 0.15            | 1100                                    |               |
| IM-4                               | 0.82         | ± 10        | 50        | 25                              | 220.0                            | 0.22            | 900                                     |               |
| IM-4                               | 1.0          | ± 10        | 50        | 25                              | 200.0                            | 0.29            | 785                                     |               |
| IM-4                               | 1.2          | ± 10        | 33        | 7.9                             | 180.0                            | 0.42            | 650                                     |               |
| IM-4                               | 1.5          | ± 10        | 33        | 7.9                             | 160.0                            | 0.50            | 600                                     |               |
| IM-4                               | 1.8          | ± 10        | 33        | 7.9                             | 150.0                            | 0.65            | 525                                     |               |
| IM-4                               | 2.2          | ± 10        | 33        | 7.9                             | 135.0                            | 0.95            | 435                                     |               |
| IM-4                               | 2.7          | ± 10        | 33        | 7.9                             | 120.0                            | 1.20            | 385                                     |               |
| IM-4                               | 3.3          | ± 10        | 33        | 7.9                             | 110.0                            | 2.0             | 300                                     |               |
| IM-4                               | 3.9          | ± 10        | 33        | 7.9                             | 100.0                            | 2.30            | 280                                     |               |
| IM-4                               | 4.7          | ± 10        | 33        | 7.9                             | 90.0                             | 2.60            | 260                                     |               |
| IM-4                               | 5.6          | ± 10        | 45        | 7.9                             | 60.0                             | 0.32            | 495                                     | IRON CORE     |
| IM-4                               | 6.8          | ± 10        | 50        | 7.9                             | 55.0                             | 0.50            | 395                                     |               |
| IM-4                               | 8.2          | ± 10        | 50        | 7.9                             | 50.0                             | 0.60            | 360                                     |               |
| IM-4                               | 10.0         | ± 10        | 55        | 7.9                             | 45.0                             | 0.90            | 290                                     |               |
| IM-4                               | 12.0         | ± 10        | 65        | 2.5                             | 42.0                             | 1.10            | 265                                     |               |
| IM-4                               | 15.0         | ± 10        | 65        | 2.5                             | 40.0                             | 1.40            | 240                                     |               |

**Notes**<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise as shown in table



| STANDARD ELECTRICAL SPECIFICATIONS |                    |             |           |                                 |                                  |                          |                                         |
|------------------------------------|--------------------|-------------|-----------|---------------------------------|----------------------------------|--------------------------|-----------------------------------------|
| MODEL                              | IND.<br>( $\mu$ H) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>( $\Omega$ ) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |
| IM-4                               | 18.0               | $\pm 10$    | 75        | 2.5                             | 34.0                             | 2.25                     | 185                                     |
| IM-4                               | 22.0               | $\pm 10$    | 75        | 2.5                             | 30.0                             | 2.50                     | 175                                     |
| IM-4                               | 27.0               | $\pm 10$    | 60        | 2.5                             | 25.0                             | 2.60                     | 170                                     |
| IM-4                               | 33.0               | $\pm 10$    | 65        | 2.5                             | 19.0                             | 3.0                      | 165                                     |
| IM-4                               | 36.0               | $\pm 5$     | 60        | 2.5                             | 15.5                             | 2.50                     | 180                                     |
| IM-4                               | 39.0               | $\pm 5$     | 60        | 2.5                             | 14.5                             | 2.60                     | 176                                     |
| IM-4                               | 43.0               | $\pm 5$     | 60        | 2.5                             | 13.7                             | 2.70                     | 172                                     |
| IM-4                               | 47.0               | $\pm 5$     | 55        | 2.5                             | 13.0                             | 2.75                     | 170                                     |
| IM-4                               | 51.0               | $\pm 5$     | 55        | 2.5                             | 12.7                             | 2.85                     | 167                                     |
| IM-4                               | 56.0               | $\pm 5$     | 55        | 2.5                             | 12.0                             | 3.00                     | 164                                     |
| IM-4                               | 62.0               | $\pm 5$     | 55        | 2.5                             | 11.5                             | 3.15                     | 160                                     |
| IM-4                               | 68.0               | $\pm 5$     | 55        | 2.5                             | 11.0                             | 3.30                     | 156                                     |
| IM-4                               | 75.0               | $\pm 5$     | 55        | 2.5                             | 10.5                             | 3.70                     | 147                                     |
| IM-4                               | 82.0               | $\pm 5$     | 50        | 2.5                             | 10.3                             | 3.90                     | 143                                     |
| IM-4                               | 91.0               | $\pm 5$     | 50        | 2.5                             | 10.0                             | 4.30                     | 136                                     |
| IM-4                               | 100.0              | $\pm 5$     | 50        | 2.5                             | 9.5                              | 4.50                     | 133                                     |
| IM-4                               | 110.0              | $\pm 5$     | 60        | 0.79                            | 8.9                              | 4.90                     | 128                                     |
| IM-4                               | 120.0              | $\pm 5$     | 65        | 0.79                            | 8.7                              | 5.20                     | 124                                     |
| IM-4                               | 130.0              | $\pm 5$     | 65        | 0.79                            | 8.5                              | 5.45                     | 121                                     |
| IM-4                               | 150.0              | $\pm 5$     | 65        | 0.79                            | 8.0                              | 6.05                     | 114                                     |
| IM-4                               | 160.0              | $\pm 5$     | 65        | 0.79                            | 7.5                              | 6.40                     | 111                                     |
| IM-4                               | 180.0              | $\pm 5$     | 65        | 0.79                            | 7.0                              | 6.75                     | 108                                     |
| IM-4                               | 200.0              | $\pm 5$     | 65        | 0.79                            | 6.5                              | 7.10                     | 106                                     |
| IM-4                               | 220.0              | $\pm 5$     | 65        | 0.79                            | 6.2                              | 7.45                     | 103                                     |
| IM-4                               | 240.0              | $\pm 5$     | 65        | 0.79                            | 5.9                              | 7.80                     | 101                                     |
| IM-4                               | 270.0              | $\pm 5$     | 65        | 0.79                            | 5.7                              | 11.0                     | 129                                     |
| IM-4                               | 300.0              | $\pm 5$     | 65        | 0.79                            | 5.4                              | 11.5                     | 125                                     |
| IM-4                               | 330.0              | $\pm 5$     | 65        | 0.79                            | 5.1                              | 12.0                     | 123                                     |
| IM-4                               | 360.0              | $\pm 5$     | 65        | 0.79                            | 4.8                              | 15.5                     | 108                                     |
| IM-4                               | 390.0              | $\pm 5$     | 65        | 0.79                            | 4.5                              | 16.3                     | 105                                     |
| IM-4                               | 430.0              | $\pm 5$     | 65        | 0.79                            | 4.2                              | 17.1                     | 102                                     |
| IM-4                               | 470.0              | $\pm 5$     | 65        | 0.79                            | 3.9                              | 17.9                     | 100                                     |
| IM-4                               | 510.0              | $\pm 5$     | 65        | 0.79                            | 3.7                              | 18.8                     | 98                                      |
| IM-4                               | 560.0              | $\pm 5$     | 65        | 0.79                            | 3.5                              | 24.7                     | 85                                      |
| IM-4                               | 620.0              | $\pm 5$     | 65        | 0.79                            | 3.3                              | 25.9                     | 83                                      |
| IM-4                               | 680.0              | $\pm 5$     | 55        | 0.79                            | 3.1                              | 27.2                     | 81                                      |
| IM-4                               | 750.0              | $\pm 5$     | 55        | 0.79                            | 2.9                              | 28.6                     | 79                                      |
| IM-4                               | 820.0              | $\pm 5$     | 55        | 0.79                            | 2.7                              | 30.0                     | 77                                      |
| IM-4                               | 910.0              | $\pm 5$     | 55        | 0.79                            | 2.5                              | 31.5                     | 76                                      |
| IM-4                               | 1000.0             | $\pm 5$     | 55        | 0.79                            | 2.3                              | 33.1                     | 74                                      |
| IM-4                               | 1100.0             | $\pm 5$     | 30        | 0.25                            | 2.1                              | 43.5                     | 64                                      |
| IM-4                               | 1200.0             | $\pm 5$     | 30        | 0.25                            | 2.0                              | 45.7                     | 63                                      |
| IM-4                               | 1300.0             | $\pm 5$     | 30        | 0.25                            | 1.9                              | 49.0                     | 61                                      |
| IM-4                               | 1500.0             | $\pm 5$     | 30        | 0.25                            | 1.8                              | 52.5                     | 59                                      |
| IM-4                               | 1600.0             | $\pm 5$     | 30        | 0.25                            | 1.7                              | 54.0                     | 58                                      |
| IM-4                               | 1800.0             | $\pm 5$     | 30        | 0.25                            | 1.6                              | 56.7                     | 56                                      |
| IM-6                               | 0.10               | $\pm 20$    | 55        | 25.0                            | 510.0                            | 0.020                    | 3600                                    |
| IM-6                               | 0.12               | $\pm 20$    | 55        | 25.0                            | 510.0                            | 0.025                    | 3300                                    |
| IM-6                               | 0.15               | $\pm 20$    | 55        | 25.0                            | 510.0                            | 0.030                    | 3000                                    |
| IM-6                               | 0.18               | $\pm 20$    | 55        | 25.0                            | 450.0                            | 0.030                    | 2900                                    |
| IM-6                               | 0.22               | $\pm 20$    | 50        | 25.0                            | 415.0                            | 0.035                    | 2800                                    |
| IM-6                               | 0.27               | $\pm 20$    | 50        | 25.0                            | 380.0                            | 0.050                    | 2400                                    |
| IM-6                               | 0.33               | $\pm 20$    | 50        | 25.0                            | 350.0                            | 0.065                    | 2000                                    |
| IM-6                               | 0.39               | $\pm 20$    | 50        | 25.0                            | 320.0                            | 0.080                    | 1800                                    |
| IM-6                               | 0.47               | $\pm 20$    | 50        | 25.0                            | 300.0                            | 0.085                    | 1700                                    |
| IM-6                               | 0.56               | $\pm 10$    | 50        | 25.0                            | 270.0                            | 0.125                    | 1450                                    |

IRON CORE

PHENOLIC CORE

**Notes**<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise as shown in table



| STANDARD ELECTRICAL SPECIFICATIONS |              |             |           |                                 |                                  |                 |                                         |               |
|------------------------------------|--------------|-------------|-----------|---------------------------------|----------------------------------|-----------------|-----------------------------------------|---------------|
| MODEL                              | IND.<br>(μH) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>(Ω) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |               |
| IM-6                               | 0.68         | ± 10        | 45        | 25.0                            | 250.0                            | 0.150           | 1300                                    | PHENOLIC CORE |
| IM-6                               | 0.82         | ± 10        | 40        | 25.0                            | 210.0                            | 0.205           | 1100                                    |               |
| IM-6                               | 1.0          | ± 10        | 40        | 25.0                            | 200.0                            | 0.290           | 930                                     |               |
| IM-6                               | 1.2          | ± 10        | 30        | 7.9                             | 180.0                            | 0.400           | 785                                     |               |
| IM-6                               | 1.5          | ± 10        | 30        | 7.9                             | 170.0                            | 0.485           | 700                                     |               |
| IM-6                               | 1.8          | ± 10        | 30        | 7.9                             | 150.0                            | 0.740           | 580                                     |               |
| IM-6                               | 2.2          | ± 10        | 30        | 7.9                             | 140.0                            | 0.970           | 505                                     |               |
| IM-6                               | 2.7          | ± 10        | 30        | 7.9                             | 120.0                            | 1.20            | 460                                     |               |
| IM-6                               | 3.3          | ± 10        | 30        | 7.9                             | 70.0                             | 0.140           | 990                                     | IRON CORE     |
| IM-6                               | 3.9          | ± 10        | 30        | 7.9                             | 65.0                             | 0.155           | 870                                     |               |
| IM-6                               | 4.7          | ± 10        | 30        | 7.9                             | 60.0                             | 0.210           | 745                                     |               |
| IM-6                               | 5.6          | ± 10        | 30        | 7.9                             | 50.0                             | 0.280           | 645                                     |               |
| IM-6                               | 6.8          | ± 10        | 30        | 7.9                             | 50.0                             | 0.375           | 560                                     |               |
| IM-6                               | 8.2          | ± 10        | 30        | 7.9                             | 48.0                             | 0.440           | 540                                     |               |
| IM-6                               | 10.0         | ± 10        | 30        | 7.9                             | 42.0                             | 0.605           | 440                                     |               |
| IM-6                               | 12.0         | ± 10        | 50        | 2.5                             | 36.0                             | 1.05            | 370                                     |               |
| IM-6                               | 15.0         | ± 10        | 55        | 2.5                             | 30.0                             | 1.20            | 310                                     |               |
| IM-6                               | 18.0         | ± 10        | 60        | 2.5                             | 30.0                             | 1.95            | 255                                     |               |
| IM-6                               | 22.0         | ± 10        | 60        | 2.5                             | 24.0                             | 2.20            | 240                                     |               |
| IM-6                               | 27.0         | ± 10        | 65        | 2.5                             | 22.0                             | 2.75            | 205                                     |               |
| IM-6                               | 33.0         | ± 10        | 75        | 2.5                             | 20.0                             | 3.5             | 185                                     |               |
| IM-6                               | 39.0         | ± 10        | 75        | 2.5                             | 18.0                             | 3.8             | 176                                     |               |
| IM-6                               | 47.0         | ± 10        | 75        | 2.5                             | 16.0                             | 4.0             | 170                                     |               |
| IM-6                               | 56.0         | ± 10        | 75        | 2.5                             | 15.0                             | 4.4             | 164                                     |               |
| IM-6                               | 68.0         | ± 10        | 75        | 2.5                             | 12.0                             | 4.7             | 156                                     |               |
| IM-6                               | 82.0         | ± 10        | 75        | 2.5                             | 10.0                             | 5.3             | 143                                     |               |
| IM-6                               | 100.0        | ± 10        | 65        | 2.5                             | 8.0                              | 6.0             | 133                                     |               |
| IM-6                               | 120.0        | ± 10        | 65        | 0.79                            | 6.0                              | 5.0             | 124                                     |               |
| IM-6                               | 150.0        | ± 10        | 65        | 0.79                            | 5.4                              | 5.8             | 118                                     |               |
| IM-6                               | 180.0        | ± 10        | 65        | 0.79                            | 5.0                              | 6.6             | 114                                     |               |
| IM-6                               | 220.0        | ± 10        | 65        | 0.79                            | 4.7                              | 7.4             | 112                                     |               |
| IM-6                               | 270.0        | ± 5         | 65        | 0.79                            | 5.6                              | 8.2             | 110                                     |               |
| IM-6                               | 300.0        | ± 5         | 65        | 0.79                            | 5.3                              | 8.7             | 107                                     |               |
| IM-6                               | 330.0        | ± 5         | 65        | 0.79                            | 5.0                              | 9.1             | 105                                     |               |
| IM-6                               | 360.0        | ± 5         | 65        | 0.79                            | 4.7                              | 9.6             | 102                                     |               |
| IM-6                               | 390.0        | ± 5         | 65        | 0.79                            | 4.5                              | 10.0            | 100                                     |               |
| IM-6                               | 430.0        | ± 5         | 65        | 0.79                            | 4.3                              | 10.6            | 97                                      |               |
| IM-6                               | 470.0        | ± 5         | 65        | 0.79                            | 4.0                              | 11.1            | 95                                      |               |
| IM-6                               | 510.0        | ± 5         | 65        | 0.79                            | 3.8                              | 11.6            | 93                                      |               |
| IM-6                               | 560.0        | ± 5         | 65        | 0.79                            | 3.6                              | 12.3            | 91                                      |               |
| IM-6                               | 620.0        | ± 5         | 60        | 0.79                            | 3.5                              | 13.0            | 88                                      |               |
| IM-6                               | 680.0        | ± 5         | 60        | 0.79                            | 3.4                              | 13.7            | 85                                      |               |
| IM-6                               | 750.0        | ± 5         | 60        | 0.79                            | 3.3                              | 14.4            | 83                                      |               |
| IM-6                               | 820.0        | ± 5         | 60        | 0.79                            | 3.1                              | 15.1            | 81                                      |               |
| IM-6                               | 910.0        | ± 5         | 60        | 0.79                            | 2.9                              | 15.8            | 79                                      |               |
| IM-6                               | 1000.0       | ± 5         | 60        | 0.79                            | 2.8                              | 16.5            | 78                                      |               |
| IM-8                               | 1100.0       | ± 5         | 60        | 0.25                            | 2.8                              | 21              | 78                                      | IRON CORE     |
| IM-8                               | 1200.0       | ± 5         | 60        | 0.25                            | 2.7                              | 22              | 76                                      |               |
| IM-8                               | 1300.0       | ± 5         | 60        | 0.25                            | 2.6                              | 23              | 75                                      |               |
| IM-8                               | 1500.0       | ± 5         | 65        | 0.25                            | 2.4                              | 25              | 72                                      |               |
| IM-8                               | 1600.0       | ± 5         | 65        | 0.25                            | 2.3                              | 26              | 70                                      |               |
| IM-8                               | 1800.0       | ± 5         | 65        | 0.25                            | 2.2                              | 28              | 68                                      |               |
| IM-8                               | 2000.0       | ± 5         | 65        | 0.25                            | 2.1                              | 29              | 67                                      |               |

**Notes**<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise as shown in table



## STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | IND.<br>( $\mu$ H) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>( $\Omega$ ) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |           |
|-------|--------------------|-------------|-----------|---------------------------------|----------------------------------|--------------------------|-----------------------------------------|-----------|
| IM-8  | 2200.0             | $\pm 5$     | 70        | 0.25                            | 2.0                              | 30                       | 66                                      | IRON CORE |
| IM-8  | 2400.0             | $\pm 5$     | 70        | 0.25                            | 1.9                              | 31                       | 64                                      |           |
| IM-8  | 2700.0             | $\pm 5$     | 70        | 0.25                            | 1.8                              | 33                       | 62                                      |           |
| IM-8  | 3000.0             | $\pm 5$     | 70        | 0.25                            | 1.7                              | 35                       | 61                                      |           |
| IM-8  | 3300.0             | $\pm 5$     | 70        | 0.25                            | 1.6                              | 38                       | 58                                      |           |
| IM-8  | 3600.0             | $\pm 5$     | 70        | 0.25                            | 1.5                              | 40                       | 57                                      |           |
| IM-9  | 68.0               | $\pm 10$    | 70        | 2.5                             | 13.0                             | 3.3                      | 168                                     | IRON CORE |
| IM-9  | 82.0               | $\pm 10$    | 65        | 2.5                             | 11.7                             | 3.5                      | 162                                     |           |
| IM-9  | 100.0              | $\pm 10$    | 65        | 2.5                             | 10.7                             | 3.8                      | 155                                     |           |
| IM-9  | 120.0              | $\pm 10$    | 75        | 0.79                            | 9.3                              | 4.7                      | 142                                     |           |
| IM-9  | 150.0              | $\pm 10$    | 75        | 0.79                            | 8.3                              | 5.3                      | 132                                     |           |
| IM-10 | 3900.0             | $\pm 5$     | 80        | 0.25                            | 1.45                             | 44                       | 61                                      | IRON CORE |
| IM-10 | 4300.0             | $\pm 5$     | 80        | 0.25                            | 1.40                             | 46                       | 59                                      |           |
| IM-10 | 4700.0             | $\pm 5$     | 80        | 0.25                            | 1.35                             | 48                       | 58                                      |           |
| IM-10 | 5000.0             | $\pm 5$     | 80        | 0.25                            | 1.30                             | 50                       | 57                                      |           |
| IM-10 | 5600.0             | $\pm 5$     | 80        | 0.25                            | 1.25                             | 53                       | 56                                      |           |
| IM-10 | 6200.0             | $\pm 5$     | 80        | 0.25                            | 1.20                             | 56                       | 54                                      |           |
| IM-10 | 6800.0             | $\pm 5$     | 80        | 0.25                            | 1.15                             | 59                       | 52                                      |           |
| IM-10 | 7500.0             | $\pm 5$     | 80        | 0.25                            | 1.10                             | 62                       | 51                                      |           |
| IM-10 | 8200.0             | $\pm 5$     | 80        | 0.25                            | 1.05                             | 65                       | 50                                      |           |
| IM-10 | 9100.0             | $\pm 5$     | 80        | 0.25                            | 1.00                             | 68                       | 49                                      |           |
| IM-10 | 10 000.0           | $\pm 5$     | 80        | 0.25                            | 0.95                             | 72                       | 47                                      |           |

## Notes

<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise as shown in table

## MAXIMUM TEMPERATURE RISE

|                   |                                                        | OPERATING TEMPERATURE RANGE |
|-------------------|--------------------------------------------------------|-----------------------------|
| IM-1              | 0.10 $\mu$ H to .47 $\mu$ H = 35 °C at +90 °C ambient  | -55 °C to +125 °C           |
|                   | 0.56 $\mu$ H to 1000 $\mu$ H = 15 °C at +90 °C ambient | -55 °C to +105 °C           |
| IM-2              | 0.027 $\mu$ H to 1.0 $\mu$ H = 35 °C at +90 °C ambient | -55 °C to +125 °C           |
|                   | 1.2 $\mu$ H to 27 $\mu$ H = 15 °C at +90 °C ambient    | -55 °C to +105 °C           |
|                   | 33 $\mu$ H to 1000 $\mu$ H = 15 °C at +90 °C ambient   | -55 °C to +105 °C           |
| IM-4              | 0.15 $\mu$ H to 4.7 $\mu$ H = 35 °C at +90 °C ambient  | -55 °C to +125 °C           |
|                   | 5.6 $\mu$ H to 33 $\mu$ H = 15 °C at +90 °C ambient    | -55 °C to +105 °C           |
|                   | 36 $\mu$ H to 240 $\mu$ H = 15 °C at +90 °C ambient    | -55 °C to +105 °C           |
|                   | 270 $\mu$ H to 1800 $\mu$ H = 35 °C at +90 °C ambient  | -55 °C to +125 °C           |
| IM-6              | 0.1 $\mu$ H to 2.7 $\mu$ H = 35 °C at +90 °C ambient   | -55 °C to +125 °C           |
|                   | 3.3 $\mu$ H to 1000 $\mu$ H = 15 °C at +90 °C ambient  | -55 °C to +105 °C           |
| IM-8, IM-9, IM-10 | = 15 °C at +90 °C ambient                              | -55 °C to +105 °C           |

## ORDERING INFORMATION

| IM-2<br>MODEL | 10 $\mu$ H<br>INDUCTANCE<br>VALUE | $\pm 10$ %<br>INDUCTANCE<br>TOLERANCE | ER<br>PACKAGE<br>CODE | e2<br>JEDEC® LEAD (Pb)-FREE<br>STANDARD |
|---------------|-----------------------------------|---------------------------------------|-----------------------|-----------------------------------------|
|---------------|-----------------------------------|---------------------------------------|-----------------------|-----------------------------------------|

## GLOBAL PART NUMBER

|       |   |   |   |                 |   |                     |   |   |                         |
|-------|---|---|---|-----------------|---|---------------------|---|---|-------------------------|
| I     | M | 0 | 2 | E               | R | 1                   | 0 | 0 | K                       |
| MODEL |   |   |   | PACKAGE<br>CODE |   | INDUCTANCE<br>VALUE |   |   | INDUCTANCE<br>TOLERANCE |



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