



## Inductors, Commercial, Molded, Shielded, Axial Leaded



### ELECTRICAL SPECIFICATIONS

**Inductance Tolerance:**  $\pm 10\%$  standard,  $\pm 5\%$  available

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

**Dielectric Withstanding Voltage:** 1000 V<sub>AC</sub> per MIL-STD-202, method 301 (at sea level)

**Percent Coupling:** 3% maximum per MIL-PRF-15305

**Operating Temperature:** -55 °C to +105 °C

| 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
- Electromagnetic shield-finest shield available
- 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

**Terminals:** 5 lb pull per MIL-STD-202, method 211, test condition A

**Weight:** IMS-5 = 0.85 g maximum

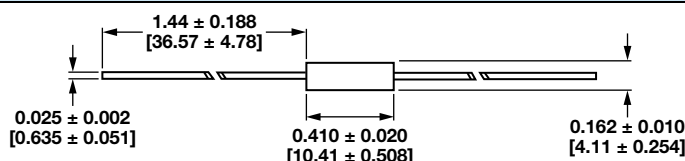
### MATERIAL SPECIFICATIONS

**Encapsulant:** Epoxy

**Standard Terminals:** #22 AWG, tinned copper

| INDUCTANCE RANGE AND MILITARY STANDARD |      |               |               |
|--|------|---------------|---------------|
| INDUCTANCE RANGE ( $\mu$ H)            |      | MATERIAL      |               |
| MIN.                                   | MAX. | CORE          | SHIELD        |
| 0.10                                   | 0.82 | Phenolic      | Powdered iron |
| 1.0                                    | 12   | Powdered iron | Powdered iron |
| 15                                     | 8200 | Ferrite       | Ferrite       |

### DIMENSIONS in inches [millimeters]



### STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | IND. ( $\mu$ H) | TOL. (%) | Q MIN. | TEST FREQUENCY L AND Q (MHz) | SRF MIN. (MHz) <sup>(1)</sup> | DCR MAX. ( $\Omega$ ) | RATED DC CURRENT (mA) <sup>(2)</sup> | INCREMENTAL CURRENT (mA) <sup>(3)</sup> |
|-------|-----------------|----------|--------|------------------------------|-------------------------------|-----------------------|--------------------------------------|---|
| IMS-5 | 0.10            | $\pm 10$ | 50     | 25.0                         | 250.0                         | 0.025                 | 1790                                 | -                                       |
| IMS-5 | 0.12            | $\pm 10$ | 51     | 25.0                         | 250.0                         | 0.034                 | 1530                                 | -                                       |
| IMS-5 | 0.15            | $\pm 10$ | 51     | 25.0                         | 250.0                         | 0.037                 | 1470                                 | -                                       |
| IMS-5 | 0.18            | $\pm 10$ | 50     | 25.0                         | 250.0                         | 0.047                 | 1300                                 | -                                       |
| IMS-5 | 0.22            | $\pm 10$ | 49     | 25.0                         | 250.0                         | 0.067                 | 1100                                 | -                                       |
| IMS-5 | 0.27            | $\pm 10$ | 47     | 25.0                         | 250.0                         | 0.11                  | 855                                  | -                                       |
| IMS-5 | 0.33            | $\pm 10$ | 46     | 25.0                         | 250.0                         | 0.13                  | 780                                  | -                                       |
| IMS-5 | 0.39            | $\pm 10$ | 44     | 25.0                         | 250.0                         | 0.18                  | 670                                  | -                                       |
| IMS-5 | 0.47            | $\pm 10$ | 44     | 25.0                         | 235.0                         | 0.25                  | 565                                  | -                                       |
| IMS-5 | 0.56            | $\pm 10$ | 43     | 25.0                         | 210.0                         | 0.33                  | 490                                  | -                                       |
| IMS-5 | 0.68            | $\pm 10$ | 42     | 25.0                         | 190.0                         | 0.45                  | 420                                  | -                                       |
| IMS-5 | 0.82            | $\pm 10$ | 40     | 25.0                         | 180.0                         | 0.59                  | 370                                  | -                                       |

#### Notes

<sup>(1)</sup> Measured with full length lead

<sup>(2)</sup> **Rated DC current:** Based on maximum temperature rise not to exceed 15 °C at +90 °C ambient

<sup>(3)</sup> **Incremental current:** The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value



| STANDARD ELECTRICAL SPECIFICATIONS |           |          |        |                              |                               |              |                                      |   |
|------------------------------------|-----------|----------|--------|------------------------------|-------------------------------|--------------|--------------------------------------|---|
| MODEL                              | IND. (μH) | TOL. (%) | Q MIN. | TEST FREQUENCY L AND Q (MHz) | SRF MIN. (MHz) <sup>(1)</sup> | DCR MAX. (Ω) | RATED DC CURRENT (mA) <sup>(2)</sup> | INCREMENTAL CURRENT (mA) <sup>(3)</sup> |
| IMS-5                              | 1.0       | ± 10     | 44     | 25.0                         | 140.0                         | 0.07         | 1070                                 | -                                       |
| IMS-5                              | 1.2       | ± 10     | 44     | 7.9                          | 130.0                         | 0.10         | 895                                  | -                                       |
| IMS-5                              | 1.5       | ± 10     | 44     | 7.9                          | 115.0                         | 0.12         | 815                                  | -                                       |
| IMS-5                              | 1.8       | ± 10     | 44     | 7.9                          | 105.0                         | 0.14         | 775                                  | -                                       |
| IMS-5                              | 2.2       | ± 10     | 44     | 7.9                          | 100.0                         | 0.19         | 650                                  | -                                       |
| IMS-5                              | 2.7       | ± 10     | 44     | 7.9                          | 92.0                          | 0.28         | 535                                  | -                                       |
| IMS-5                              | 3.3       | ± 10     | 44     | 7.9                          | 85.0                          | 0.35         | 480                                  | -                                       |
| IMS-5                              | 3.9       | ± 10     | 44     | 7.9                          | 75.0                          | 0.40         | 450                                  | -                                       |
| IMS-5                              | 4.7       | ± 10     | 44     | 7.9                          | 70.0                          | 0.55         | 380                                  | -                                       |
| IMS-5                              | 5.6       | ± 10     | 44     | 7.9                          | 65.0                          | 0.72         | 335                                  | -                                       |
| IMS-5                              | 6.8       | ± 10     | 50     | 7.9                          | 55.0                          | 1.02         | 280                                  | -                                       |
| IMS-5                              | 8.2       | ± 10     | 50     | 7.9                          | 50.0                          | 1.32         | 250                                  | -                                       |
| IMS-5                              | 10        | ± 10     | 50     | 7.9                          | 46.0                          | 1.62         | 220                                  | -                                       |
| IMS-5                              | 12        | ± 10     | 55     | 2.5                          | 44.0                          | 2.00         | 200                                  | -                                       |
| IMS-5                              | 15        | ± 10     | 45     | 2.5                          | 49.0                          | 0.80         | 315                                  | 250.0                                   |
| IMS-5                              | 18        | ± 10     | 45     | 2.5                          | 45.0                          | 0.89         | 300                                  | 235.0                                   |
| IMS-5                              | 22        | ± 10     | 45     | 2.5                          | 41.0                          | 0.96         | 290                                  | 220.0                                   |
| IMS-5                              | 27        | ± 10     | 45     | 2.5                          | 38.0                          | 1.19         | 260                                  | 200.0                                   |
| IMS-5                              | 33        | ± 10     | 45     | 2.5                          | 34.0                          | 1.37         | 240                                  | 190.0                                   |
| IMS-5                              | 39        | ± 10     | 50     | 2.5                          | 29.0                          | 1.93         | 205                                  | 180.0                                   |
| IMS-5                              | 47        | ± 10     | 50     | 2.5                          | 27.0                          | 2.11         | 195                                  | 175.0                                   |
| IMS-5                              | 56        | ± 10     | 50     | 2.5                          | 25.0                          | 2.23         | 190                                  | 160.0                                   |
| IMS-5                              | 68        | ± 10     | 50     | 2.5                          | 21.0                          | 2.70         | 170                                  | 150.0                                   |
| IMS-5                              | 82        | ± 10     | 50     | 2.5                          | 10.5                          | 2.44         | 180                                  | 140.0                                   |
| IMS-5                              | 100       | ± 10     | 50     | 2.5                          | 10.0                          | 3.12         | 160                                  | 120.0                                   |
| IMS-5                              | 120       | ± 10     | 55     | 0.79                         | 9.7                           | 3.6          | 150                                  | 95.0                                    |
| IMS-5                              | 150       | ± 10     | 55     | 0.79                         | 8.5                           | 4.1          | 140                                  | 90.0                                    |
| IMS-5                              | 180       | ± 10     | 55     | 0.79                         | 8.0                           | 4.4          | 135                                  | 85.0                                    |
| IMS-5                              | 220       | ± 10     | 55     | 0.79                         | 7.5                           | 5.0          | 125                                  | 80.0                                    |
| IMS-5                              | 270       | ± 10     | 55     | 0.79                         | 7.0                           | 5.8          | 115                                  | 70.0                                    |
| IMS-5                              | 330       | ± 10     | 55     | 0.79                         | 6.5                           | 6.4          | 110                                  | 65.0                                    |
| IMS-5                              | 390       | ± 10     | 60     | 0.79                         | 6.2                           | 7.4          | 105                                  | 60.0                                    |
| IMS-5                              | 470       | ± 10     | 60     | 0.79                         | 5.7                           | 9.5          | 92                                   | 58.0                                    |
| IMS-5                              | 560       | ± 10     | 60     | 0.79                         | 4.7                           | 10.5         | 90                                   | 55.0                                    |
| IMS-5                              | 680       | ± 10     | 60     | 0.79                         | 4.5                           | 11.8         | 80                                   | 50.0                                    |
| IMS-5                              | 820       | ± 10     | 60     | 0.79                         | 4.2                           | 13.0         | 80                                   | 45.0                                    |
| IMS-5                              | 1000      | ± 10     | 60     | 0.79                         | 3.8                           | 17.5         | 70                                   | 40.0                                    |
| IMS-5                              | 1200      | ± 10     | 45     | 0.25                         | 1.5                           | 22.1         | 60                                   | 35.0                                    |
| IMS-5                              | 1500      | ± 10     | 45     | 0.25                         | 1.2                           | 26.5         | 55                                   | 33.0                                    |
| IMS-5                              | 1800      | ± 10     | 45     | 0.25                         | 1.0                           | 29.9         | 50                                   | 30.0                                    |
| IMS-5                              | 2200      | ± 10     | 45     | 0.25                         | 0.97                          | 33.8         | 50                                   | 27.0                                    |
| IMS-5                              | 2700      | ± 10     | 45     | 0.25                         | 0.92                          | 47.3         | 40                                   | 25.0                                    |
| IMS-5                              | 3300      | ± 10     | 45     | 0.25                         | 0.84                          | 53.0         | 40                                   | 22.0                                    |
| IMS-5                              | 3900      | ± 10     | 45     | 0.25                         | 0.80                          | 73.8         | 35                                   | 20.0                                    |
| IMS-5                              | 4700      | ± 10     | 45     | 0.25                         | 0.74                          | 81.6         | 31                                   | 19.0                                    |
| IMS-5                              | 5600      | ± 10     | 44     | 0.25                         | 0.73                          | 98.9         | 28                                   | 17.0                                    |
| IMS-5                              | 6800      | ± 10     | 40     | 0.25                         | 0.66                          | 111.0        | 27                                   | 16.0                                    |
| IMS-5                              | 8200      | ± 10     | 40     | 0.25                         | 0.54                          | 119.0        | 26                                   | 15.0                                    |

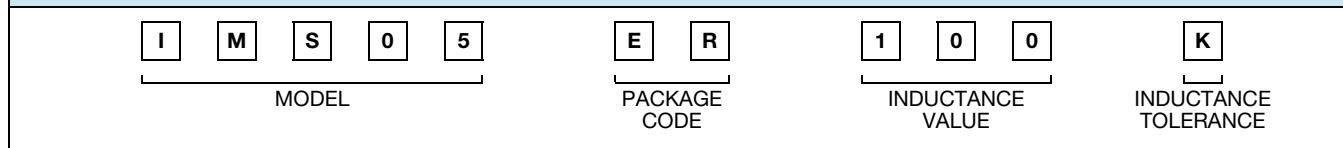
Notes

- <sup>(1)</sup> Measured with full length lead
- <sup>(2)</sup> **Rated DC current:** Based on maximum temperature rise not to exceed 15 °C at +90 °C ambient
- <sup>(3)</sup> **Incremental current:** The minimum typical current at which the inductance will be decreased by 5 % from its initial zero DC value

**ORDERING INFORMATION**

|       |                  |                      |              |                                |
|-------|------------------|----------------------|--------------|--------------------------------|
| IMS-5 | 10 μH            | ± 10 %               | ER           | e2                             |
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

**GLOBAL PART NUMBER**





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