

# 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

## 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
- Compliant to RoHS directive 2002/95/EC



**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

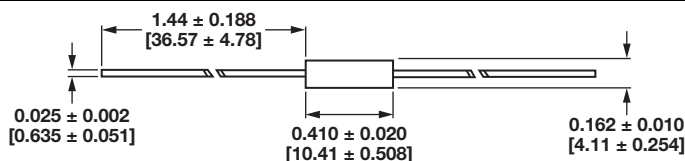
**Encapsulant:** Epoxy

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

| 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 |

| 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.<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<br>CURRENT<br>(mA) <sup>(2)</sup> | INCREMENTAL<br>CURRENT<br>(mA) <sup>(3)</sup> |
|-------|--------------------|-------------|-----------|---------------------------------|----------------------------------|--------------------------|--------------------------------------------|-----------------------------------------------|
| IMS-5 | 1.0                | $\pm 10$    | 44        | 25.0                            | 140.0                            | 0.07                     | 1070                                       | -                                             |
| IMS-5 | 1.2                | $\pm 10$    | 44        | 7.9                             | 130.0                            | 0.10                     | 895                                        | -                                             |
| IMS-5 | 1.5                | $\pm 10$    | 44        | 7.9                             | 115.0                            | 0.12                     | 815                                        | -                                             |
| IMS-5 | 1.8                | $\pm 10$    | 44        | 7.9                             | 105.0                            | 0.14                     | 775                                        | -                                             |
| IMS-5 | 2.2                | $\pm 10$    | 44        | 7.9                             | 100.0                            | 0.19                     | 650                                        | -                                             |
| IMS-5 | 2.7                | $\pm 10$    | 44        | 7.9                             | 92.0                             | 0.28                     | 535                                        | -                                             |
| IMS-5 | 3.3                | $\pm 10$    | 44        | 7.9                             | 85.0                             | 0.35                     | 480                                        | -                                             |
| IMS-5 | 3.9                | $\pm 10$    | 44        | 7.9                             | 75.0                             | 0.40                     | 450                                        | -                                             |
| IMS-5 | 4.7                | $\pm 10$    | 44        | 7.9                             | 70.0                             | 0.55                     | 380                                        | -                                             |
| IMS-5 | 5.6                | $\pm 10$    | 44        | 7.9                             | 65.0                             | 0.72                     | 335                                        | -                                             |
| IMS-5 | 6.8                | $\pm 10$    | 50        | 7.9                             | 55.0                             | 1.02                     | 280                                        | -                                             |
| IMS-5 | 8.2                | $\pm 10$    | 50        | 7.9                             | 50.0                             | 1.32                     | 250                                        | -                                             |
| IMS-5 | 10                 | $\pm 10$    | 50        | 7.9                             | 46.0                             | 1.62                     | 220                                        | -                                             |
| IMS-5 | 12                 | $\pm 10$    | 55        | 2.5                             | 44.0                             | 2.00                     | 200                                        | -                                             |
| IMS-5 | 15                 | $\pm 10$    | 45        | 2.5                             | 49.0                             | 0.80                     | 315                                        | 250.0                                         |
| IMS-5 | 18                 | $\pm 10$    | 45        | 2.5                             | 45.0                             | 0.89                     | 300                                        | 235.0                                         |
| IMS-5 | 22                 | $\pm 10$    | 45        | 2.5                             | 41.0                             | 0.96                     | 290                                        | 220.0                                         |
| IMS-5 | 27                 | $\pm 10$    | 45        | 2.5                             | 38.0                             | 1.19                     | 260                                        | 200.0                                         |
| IMS-5 | 33                 | $\pm 10$    | 45        | 2.5                             | 34.0                             | 1.37                     | 240                                        | 190.0                                         |
| IMS-5 | 39                 | $\pm 10$    | 50        | 2.5                             | 29.0                             | 1.93                     | 205                                        | 180.0                                         |
| IMS-5 | 47                 | $\pm 10$    | 50        | 2.5                             | 27.0                             | 2.11                     | 195                                        | 175.0                                         |
| IMS-5 | 56                 | $\pm 10$    | 50        | 2.5                             | 25.0                             | 2.23                     | 190                                        | 160.0                                         |
| IMS-5 | 68                 | $\pm 10$    | 50        | 2.5                             | 21.0                             | 2.70                     | 170                                        | 150.0                                         |
| IMS-5 | 82                 | $\pm 10$    | 50        | 2.5                             | 10.5                             | 2.44                     | 180                                        | 140.0                                         |
| IMS-5 | 100                | $\pm 10$    | 50        | 2.5                             | 10.0                             | 3.12                     | 160                                        | 120.0                                         |
| IMS-5 | 120                | $\pm 10$    | 55        | 0.79                            | 9.7                              | 3.6                      | 150                                        | 95.0                                          |
| IMS-5 | 150                | $\pm 10$    | 55        | 0.79                            | 8.5                              | 4.1                      | 140                                        | 90.0                                          |
| IMS-5 | 180                | $\pm 10$    | 55        | 0.79                            | 8.0                              | 4.4                      | 135                                        | 85.0                                          |
| IMS-5 | 220                | $\pm 10$    | 55        | 0.79                            | 7.5                              | 5.0                      | 125                                        | 80.0                                          |
| IMS-5 | 270                | $\pm 10$    | 55        | 0.79                            | 7.0                              | 5.8                      | 115                                        | 70.0                                          |
| IMS-5 | 330                | $\pm 10$    | 55        | 0.79                            | 6.5                              | 6.4                      | 110                                        | 65.0                                          |
| IMS-5 | 390                | $\pm 10$    | 60        | 0.79                            | 6.2                              | 7.4                      | 105                                        | 60.0                                          |
| IMS-5 | 470                | $\pm 10$    | 60        | 0.79                            | 5.7                              | 9.5                      | 92                                         | 58.0                                          |
| IMS-5 | 560                | $\pm 10$    | 60        | 0.79                            | 4.7                              | 10.5                     | 90                                         | 55.0                                          |
| IMS-5 | 680                | $\pm 10$    | 60        | 0.79                            | 4.5                              | 11.8                     | 80                                         | 50.0                                          |
| IMS-5 | 820                | $\pm 10$    | 60        | 0.79                            | 4.2                              | 13.0                     | 80                                         | 45.0                                          |
| IMS-5 | 1000               | $\pm 10$    | 60        | 0.79                            | 3.8                              | 17.5                     | 70                                         | 40.0                                          |
| IMS-5 | 1200               | $\pm 10$    | 45        | 0.25                            | 1.5                              | 22.1                     | 60                                         | 35.0                                          |
| IMS-5 | 1500               | $\pm 10$    | 45        | 0.25                            | 1.2                              | 26.5                     | 55                                         | 33.0                                          |
| IMS-5 | 1800               | $\pm 10$    | 45        | 0.25                            | 1.0                              | 29.9                     | 50                                         | 30.0                                          |
| IMS-5 | 2200               | $\pm 10$    | 45        | 0.25                            | 0.97                             | 33.8                     | 50                                         | 27.0                                          |
| IMS-5 | 2700               | $\pm 10$    | 45        | 0.25                            | 0.92                             | 47.3                     | 40                                         | 25.0                                          |
| IMS-5 | 3300               | $\pm 10$    | 45        | 0.25                            | 0.84                             | 53.0                     | 40                                         | 22.0                                          |
| IMS-5 | 3900               | $\pm 10$    | 45        | 0.25                            | 0.80                             | 73.8                     | 35                                         | 20.0                                          |
| IMS-5 | 4700               | $\pm 10$    | 45        | 0.25                            | 0.74                             | 81.6                     | 31                                         | 19.0                                          |
| IMS-5 | 5600               | $\pm 10$    | 44        | 0.25                            | 0.73                             | 98.9                     | 28                                         | 17.0                                          |
| IMS-5 | 6800               | $\pm 10$    | 40        | 0.25                            | 0.66                             | 111.0                    | 27                                         | 16.0                                          |
| IMS-5 | 8200               | $\pm 10$    | 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 $\mu$ H       | $\pm 10 \%$          | ER           | e2                            |
|-------|------------------|----------------------|--------------|-------------------------------|
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

**GLOBAL PART NUMBER**

|       |   |   |   |   |              |   |                  |   |   |                      |
|-------|---|---|---|---|--------------|---|------------------|---|---|----------------------|
| I     | M | S | 0 | 5 | E            | R | 1                | 0 | 0 | K                    |
| MODEL |   |   |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | INDUCTANCE TOLERANCE |



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