# Inductors, Commercial, Molded, Shielded, Axial Leaded

## ELECTRICAL SPECIFICATIONS

**Inductance Tolerance:** ± 10 % standard, ± 5 % available

**Insulation Resistance:** 1000 MΩ minimum per MIL-STD-202, method 302, test condition B

**Dielectric Withstanding Voltage:** 1000 $V_{AC}$ 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
- Compliant to RoHS directive 2002/95/EC

Pb-free
RoHS COMPLIANT

## MECHANICAL SPECIFICATIONS

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

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

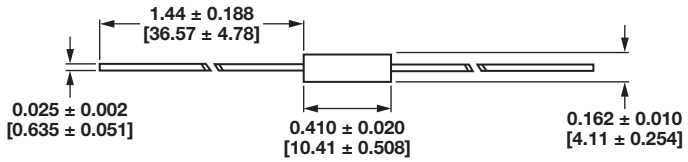
## MATERIAL SPECIFICATIONS

**Encapsulant:** Epoxy

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

| INDUCTANCE RANGE AND MILITARY STANDARD | | | |
|---|---|---|---|
| **INDUCTANCE RANGE (µH)** | | **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. (µH) | TOL. (%) | Q MIN. | TEST FREQUENCY L AND Q (MHz) | SRF MIN. (MHz) (1) | DCR MAX. (Ω) | RATED DC CURRENT (mA) (2) | INCREMENTAL CURRENT (mA) (3) |
|---|---|---|---|---|---|---|---|---|
| IMS-5 | 0.10 | ± 10 | 50 | 25.0 | 250.0 | 0.025 | 1790 | - |
| IMS-5 | 0.12 | ± 10 | 51 | 25.0 | 250.0 | 0.034 | 1530 | - |
| IMS-5 | 0.15 | ± 10 | 51 | 25.0 | 250.0 | 0.037 | 1470 | - |
| IMS-5 | 0.18 | ± 10 | 50 | 25.0 | 250.0 | 0.047 | 1300 | - |
| IMS-5 | 0.22 | ± 10 | 49 | 25.0 | 250.0 | 0.067 | 1100 | - |
| IMS-5 | 0.27 | ± 10 | 47 | 25.0 | 250.0 | 0.11 | 855 | - |
| IMS-5 | 0.33 | ± 10 | 46 | 25.0 | 250.0 | 0.13 | 780 | - |
| IMS-5 | 0.39 | ± 10 | 44 | 25.0 | 250.0 | 0.18 | 670 | - |
| IMS-5 | 0.47 | ± 10 | 44 | 25.0 | 235.0 | 0.25 | 565 | - |
| IMS-5 | 0.56 | ± 10 | 43 | 25.0 | 210.0 | 0.33 | 490 | - |
| IMS-5 | 0.68 | ± 10 | 42 | 25.0 | 190.0 | 0.45 | 420 | - |
| IMS-5 | 0.82 | ± 10 | 40 | 25.0 | 180.0 | 0.59 | 370 | - |

**Notes**
(1) Measured with full length lead
(2) **Rated DC current:** Based on maximum temperature rise not to exceed 15 °C at + 90 °C ambient
(3) **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) (1) | DCR MAX. (Ω) | RATED DC CURRENT (mA) (2) | INCREMENTAL CURRENT (mA) (3) |
|---|---|---|---|---|---|---|---|---|
| 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**

(1) Measured with full length lead

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

(3) **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

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

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