



# Inductors

Military, MIL-C-15305 Qualified, Type LT  
and Commercial, Molded, Shielded, Miniature



## FEATURES

- Flame retardant coating.
- Electromagnetic shield.
- Small package for a shielded inductor.
- Epoxy molded construction provides superior moisture protection.
- Precision performance, excellent reliability, sturdy construction.

| STANDARD ELECTRICAL SPECIFICATIONS |       |                   |               |             |                        |                                  |                 |                         |                        |              |
|------------------------------------|-------|-------------------|---------------|-------------|------------------------|----------------------------------|-----------------|-------------------------|------------------------|--------------|
| IND. (μH)                          | TOL.  | MILITARY STANDARD | MILITARY TYPE | Q MIN.      | TEST FREQ. L & Q (MHz) | SELF-* RESONANT FREQ. MIN. (MHz) | DCR MAX. (Ohms) | RATED** DC CURRENT (mA) | INCREMENTAL*** CURRENT |              |
| 0.10                               | ± 10% | MS21426           | LT10K         | (Not QPL'd) | 25.0                   | 490.0                            | 0.10            | 670                     | —                      | Iron Core    |
| 0.12                               | ± 10% | -1                | 518           | 54          | 25.0                   | 430.0                            | 0.11            | 635                     | —                      |              |
| 0.15                               | ± 10% | -2                | 519           | 52          | 25.0                   | 415.0                            | 0.12            | 610                     | —                      |              |
| 0.18                               | ± 10% | -3                | 520           | 50          | 25.0                   | 375.0                            | 0.13            | 585                     | —                      |              |
| 0.22                               | ± 10% | -4                | 521           | 49          | 25.0                   | 330.0                            | 0.15            | 545                     | —                      |              |
| 0.27                               | ± 10% | -5                | 522           | 47          | 25.0                   | 300.0                            | 0.16            | 530                     | —                      |              |
| 0.33                               | ± 10% | -6                | 523           | 46          | 25.0                   | 260.0                            | 0.18            | 495                     | —                      |              |
| 0.39                               | ± 10% | -7                | 524           | 44          | 25.0                   | 230.0                            | 0.19            | 485                     | —                      |              |
| 0.47                               | ± 10% | -8                | 525           | 42          | 25.0                   | 220.0                            | 0.21            | 460                     | —                      |              |
| 0.56                               | ± 10% | -9                | 526           | 41          | 25.0                   | 210.0                            | 0.23            | 440                     | —                      |              |
| 0.68                               | ± 10% | -10               | 527           | 41          | 25.0                   | 180.0                            | 0.24            | 430                     | —                      |              |
| 0.82                               | ± 10% | -11               | 528           | 39          | 25.0                   | 165.0                            | 0.27            | 405                     | —                      |              |
| 1.0                                | ± 10% | -12               | 529           | 38          | 25.0                   | 150.0                            | 0.30            | 385                     | —                      |              |
| 1.0                                | ± 10% | -13               | 530           | 37          | 25.0                   |                                  |                 |                         | —                      |              |
| 1.2                                | ± 10% | MS21426           | LT10K         |             | 7.9                    | 130.0                            | 0.73            | 247                     | —                      | Iron Core    |
| 1.5                                | ± 10% | -14               | 531           | 40          | 7.9                    | 115.0                            | 0.86            | 228                     | —                      |              |
| 1.8                                | ± 10% | -15               | 532           | 41          | 7.9                    | 105.0                            | 0.95            | 217                     | —                      |              |
| 2.2                                | ± 10% | -16               | 533           | 43          | 7.9                    | 95.0                             | 1.1             | 202                     | —                      |              |
| 2.7                                | ± 10% | -17               | 534           | 45          | 7.9                    | 90.0                             | 1.2             | 193                     | —                      |              |
| 3.3                                | ± 10% | -18               | 535           | 48          | 7.9                    | 80.0                             | 1.3             | 185                     | —                      |              |
| 3.9                                | ± 10% | -19               | 536           | 49          | 7.9                    | 75.0                             | 1.5             | 173                     | —                      |              |
| 4.7                                | ± 10% | -20               | 537           | 50          | 7.9                    | 70.0                             | 2.4             | 136                     | —                      |              |
| 5.6                                | ± 10% | -21               | 538           | 53          | 7.9                    | 60.0                             | 2.9             | 124                     | —                      |              |
| 6.8                                | ± 10% | -22               | 539           | 54          | 7.9                    | 55.0                             | 3.2             | 118                     | —                      |              |
| 8.2                                | ± 10% | -23               | 540           | 55          | 7.9                    | 53.0                             | 3.6             | 111                     | —                      |              |
| 10.0                               | ± 10% | -24               | 541           | 55          | 7.9                    | 50.0                             | 4.0             | 106                     | —                      |              |
| 12.0                               | ± 10% | -25               | 542           | 57          | 7.9                    | 35.0                             | 3.0             | 122                     | —                      |              |
| 15.0                               | ± 10% | -26               | 543           | 36          | 2.5                    | 30.0                             | 3.4             | 115                     | —                      |              |
| 18.0                               | ± 10% | -27               | 544           | 38          | 2.5                    | 26.0                             | 3.8             | 108                     | —                      |              |
| 22.0                               | ± 10% | -28               | 545           | 40          | 2.5                    | 24.0                             | 4.9             | 96                      | —                      |              |
| 27.0                               | ± 10% | -29               | 546           | 40          | 2.5                    | 21.0                             | 5.8             | 88                      | —                      |              |
| 33.0                               | ± 10% | -30               | 547           | 40          | 2.5                    | 20.0                             | 6.5             | 83                      | —                      |              |
| 39.0                               | ± 10% | -31               | 548           | 41          | 2.5                    | 19.0                             | 7.9             | 75                      | —                      |              |
| 47.0                               | ± 10% | -32               | 549           | 42          | 2.5                    | 16.0                             | 9.3             | 69                      | —                      |              |
| 56.0                               | ± 10% | -33               | 550           | 44          | 2.5                    | 15.0                             | 11.0            | 64                      | —                      |              |
| 68.0                               | ± 10% | -34               | 551           | 44          | 2.5                    | 13.0                             | 12.0            | 61                      | —                      |              |
| 82.0                               | ± 10% | -35               | 552           | 45          | 2.5                    | 11.0                             | 13.0            | 59                      | —                      |              |
| 100.0                              | ± 10% | -36               | 553           | 45          | 2.5                    | 10.5                             | 16.8            | 51                      | —                      |              |
| 100.0                              | ± 10% | -37               | 554           | 40          | 2.5                    |                                  |                 |                         | —                      |              |
| 120.0                              | ± 10% | MS21427           | LT10K         | (Not QPL'd) | 0.79                   | 13.0                             | 5.8             | 88                      | 27                     | Ferrite Core |
| 150.0                              | ± 10% | -1                | 555           | 31          | 0.79                   | 12.0                             | 7.9             | 75                      | 24                     |              |
| 180.0                              | ± 10% | -2                | 556           | 33          | 0.79                   | 11.0                             | 9.4             | 69                      | 22                     |              |
| 220.0                              | ± 10% | -3                | 557           | 33          | 0.79                   | 10.0                             | 11.0            | 64                      | 20                     |              |
| 270.0                              | ± 10% | -4                | 558           | 35          | 0.79                   | 9.0                              | 12.0            | 61                      | 18                     |              |
| 330.0                              | ± 10% | -5                | 559           | 37          | 0.79                   | 8.0                              | 16.0            | 53                      | 16                     |              |
| 390.0                              | ± 10% | -6                | 560           | 40          | 0.79                   | 7.8                              | 21.0            | 46                      | 14                     |              |
| 470.0                              | ± 10% | -7                | 561           | 38          | 0.79                   | 7.5                              | 24.0            | 43                      | 13                     |              |
| 560.0                              | ± 10% | -8                | 562           | 36          | 0.79                   | 7.0                              | 28.0            | 40                      | 12                     |              |
| 560.0                              | ± 10% | -9                | 563           | 36          | 0.79                   |                                  |                 |                         |                        |              |

\*Measured with full length lead. \*\*Rated DC Current: Based on the maximum temperature rise not to exceed 15°C at + 90°C ambient.

\*\*\*Incremental Current: The minimum typical current at which the inductance will be decreased by 5% from its initial zero DC value.

## ELECTRICAL SPECIFICATIONS

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

**Insulation Resistance:** 1000 Megohm minimum per MIL-STD-202, Method 302, Test Condition B.

**Dielectric Withstanding Voltage:** 200 VAC per MIL-STD-202, Method 301 (sea level).

**Percent Coupling:** 3% maximum per MIL-C-15305.

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



**MECHANICAL SPECIFICATIONS**

**Terminal Strength:** 3 pounds pull per MIL-STD-202, Method 211, Test Condition A except 180° rotation for a total of 540°C.

**Weight:** IMS-2 = 0.30 grams maximum.

**MATERIAL SPECIFICATIONS**

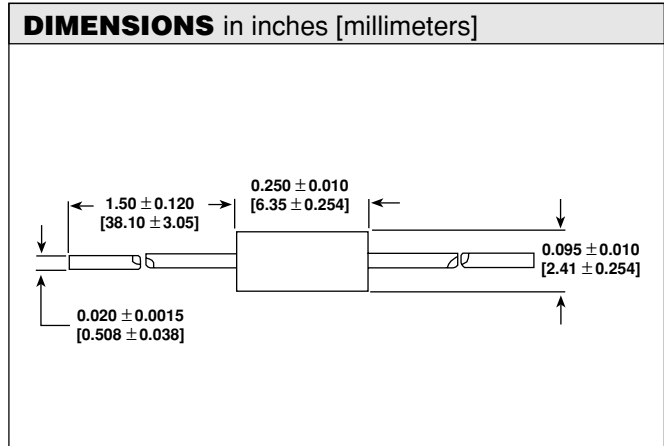
**Encapsulant:** Epoxy.

**Standard Terminal:** #24 AWG tinned copper.

**TEST EQUIPMENT\***

- H/P 4342A Q-Meter.
- Measurements Corporation Megacycle Meter, Model 59.
- Wheatstone Bridge.

\*Test procedures per MIL-C-15305.



| INDUCTANCE RANGE AND MILITARY STANDARD |       |                |       |               |               |                   |
|--|-------|----------------|-------|---------------|---------------|-------------------|
| INDUCTANCE RANGE                       |       | CLASSIFICATION |       | MATERIAL      |               | MILITARY STANDARD |
| FROM                                   | TO    | GRADE          | CLASS | CORE          | SHIELD        |                   |
| 0.10µH                                 | 100µH | 1              | A     | Powdered Iron | Powdered Iron | MS21426           |
| 120µH                                  | 560µH | 1              | A     | Ferrite       | Ferrite       | MS21427           |

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

| ORDERING INFORMATION |                          |                               |
|----------------------|--------------------------|-------------------------------|
| IMS-2<br>MODEL       | 10µH<br>INDUCTANCE VALUE | ± 10%<br>INDUCTANCE TOLERANCE |

| ORDERING INFORMATION - MILITARY PART NUMBER |                          |    |            |                       |             |                  |
|---|--------------------------|----|------------|-----------------------|-------------|------------------|
| MS21426<br>MILITARY STANDARD                | - 14<br>INDUCTANCE VALUE | OR | LT<br>TYPE | 10<br>GRADE AND CLASS | K<br>FAMILY | 531<br>ID NUMBER |

**NOTE:** Listing of military standard does not imply qualification. Contact factory for latest government QPL information.