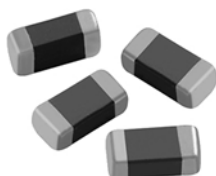


# Monolithic Chip Inductors



## MECHANICAL SPECIFICATIONS

**Solderability:** 90 % coverage after 5 s dip in 235 °C solder following 60 s preheat at 120 °C to 150 °C and type R flux dip

**Resistance to Solder Heat:** 10 s in 260 °C solder, after preheat and flux per above

**Termination:** 100 % Sn

**Terminal Strength:** 0.1 kg for 30 s

**Beam Strength:** 2.5 kg

## FEATURES

- High reliability
- Surface mountable
- Magnetically self shielded
- Nickel barrier plating virtually eliminates silver migration
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

## ENVIRONMENTAL SPECIFICATIONS

**Operating Temperature:** - 55 °C to + 125 °C

**Thermal Shock:** - 40 °C to + 85 °C

**Humidity:** 90 % RH at 40 °C, 1000 h at full rated current

**Load Life:** 85 °C for 1000 h at full rated current

## STANDARD ELECTRICAL SPECIFICATIONS

| IND.<br>AT ± 10 %<br>(μH) | TOL. | THICKNESS "D"<br>(INCHES [mm]) | TEST FREQ.<br>(MHz) | Q<br>MIN. | SRF<br>MIN.<br>(MHz) | DCR<br>MAX.<br>(Ω) | RATED<br>DC CURRENT<br>(mA) |
|---------------------------|------|--------------------------------|---------------------|-----------|----------------------|--------------------|-----------------------------|
|                           |      |                                | L & Q               |           |                      |                    |                             |
| 0.047                     | 20 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 50                  | 20        | 368                  | 0.15               | 300                         |
| 0.068                     | 20 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 50                  | 20        | 322                  | 0.25               | 300                         |
| 0.10                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 271                  | 0.25               | 250                         |
| 0.12                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 253                  | 0.30               | 250                         |
| 0.15                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 230                  | 0.30               | 250                         |
| 0.18                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 213                  | 0.40               | 250                         |
| 0.22                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 196                  | 0.40               | 250                         |
| 0.27                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 173                  | 0.50               | 250                         |
| 0.33                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 20        | 167                  | 0.60               | 250                         |
| 0.39                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 25        | 156                  | 0.50               | 200                         |
| 0.47                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 25        | 144                  | 0.60               | 200                         |
| 0.68                      | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 25                  | 25        | 121                  | 0.80               | 150                         |
| 1.0                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 87                   | 0.40               | 100                         |
| 1.2                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 75                   | 0.50               | 100                         |
| 1.5                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 69                   | 0.50               | 50                          |
| 1.8                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 64                   | 0.50               | 50                          |
| 2.2                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 58                   | 0.50               | 50                          |
| 3.3                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 48                   | 0.70               | 50                          |
| 3.9                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 44                   | 0.80               | 50                          |
| 4.7                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 10                  | 45        | 41                   | 0.90               | 50                          |
| 5.6                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 4                   | 45        | 37                   | 0.70               | 25                          |
| 6.8                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 4                   | 45        | 34                   | 0.80               | 25                          |
| 8.2                       | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 4                   | 45        | 30                   | 0.90               | 25                          |
| 10                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 2                   | 45        | 28                   | 1.00               | 25                          |
| 12                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 2                   | 45        | 26                   | 1.05               | 15                          |
| 15                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 1                   | 45        | 22                   | 0.70               | 5                           |
| 18                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 1                   | 45        | 21                   | 0.70               | 5                           |
| 22                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 1                   | 35        | 19                   | 0.90               | 5                           |
| 27                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 1                   | 35        | 17                   | 0.90               | 5                           |
| 33                        | 10 % | 0.043 ± 0.012 [1.10 ± 0.3]     | 1                   | 35        | 15                   | 1.05               | 5                           |

## DESCRIPTION

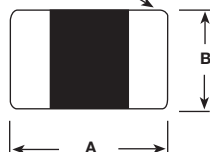
|                  |                  |                      |              |                               |
|------------------|------------------|----------------------|--------------|-------------------------------|
| <b>ILSB-1206</b> | <b>3.3 μH</b>    | <b>± 10 %</b>        | <b>ER</b>    | <b>e3</b>                     |
| MODEL            | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

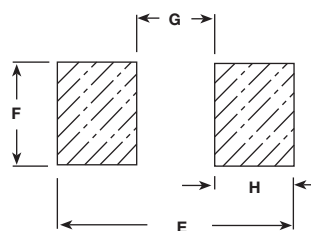
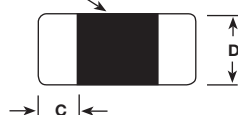
|                |          |          |          |          |          |          |          |              |          |                  |          |          |          |
|----------------|----------|----------|----------|----------|----------|----------|----------|--------------|----------|------------------|----------|----------|----------|
| <b>I</b>       | <b>L</b> | <b>S</b> | <b>B</b> | <b>1</b> | <b>2</b> | <b>0</b> | <b>6</b> | <b>E</b>     | <b>R</b> | <b>3</b>         | <b>R</b> | <b>3</b> | <b>K</b> |
| PRODUCT FAMILY |          |          |          | SIZE     |          |          |          | PACKAGE CODE |          | INDUCTANCE VALUE |          |          | TOL.     |

**DIMENSIONS** in inches [millimeters]

100 % Sn Termination



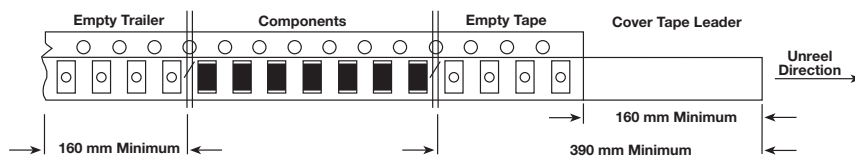
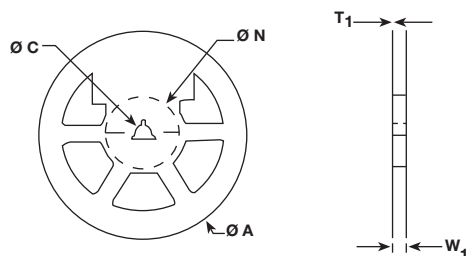
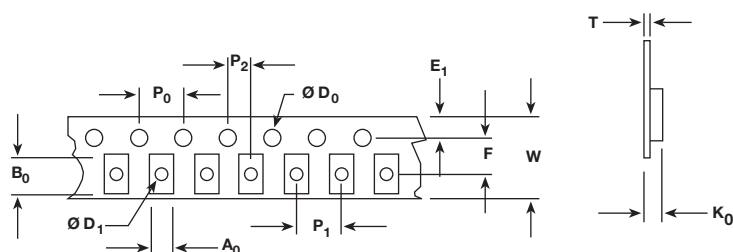
Ferrite Body



Dimensional Outline

Suggested Pad Layout

| A                                | B                                | C                                | D                                 | E              | F              | G              | H              |
|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|----------------|----------------|----------------|----------------|
| $0.126 \pm 0.008$<br>[3.2 ± 0.2] | $0.063 \pm 0.008$<br>[1.6 ± 0.2] | $0.020 \pm 0.012$<br>[0.5 ± 0.3] | $0.043 \pm 0.012$<br>[1.10 ± 0.3] | 0.185<br>[4.7] | 0.070<br>[1.8] | 0.087<br>[2.2] | 0.047<br>[1.2] |

**TAPE AND REEL SPECIFICATIONS 1206 SIE PER EIA-481-1** in inches [millimeters]

|                |                                       |
|----------------|---------------------------------------|
| A <sub>0</sub> | $0.073 \pm 0.004$ [1.85 ± 0.1]        |
| B <sub>0</sub> | $0.135 \pm 0.004$ [3.43 ± 0.1]        |
| D <sub>0</sub> | $0.059 + 0.005/- 0.000$ [1.5 + 0.127] |
| D <sub>1</sub> | 0.039 min. [1.0 min.]                 |
| E <sub>1</sub> | $0.069 \pm 0.004$ [1.75 ± 0.1]        |
| F              | $0.138 \pm 0.002$ [3.50 ± 0.05]       |
| K <sub>0</sub> | $0.048 \pm 0.002$ [1.22 ± 0.05]       |
| P <sub>0</sub> | $0.157 \pm 0.004$ [4.00 ± 0.1]        |
| P <sub>1</sub> | $0.157 \pm 0.004$ [4.00 ± 0.1]        |
| P <sub>2</sub> | $0.079 \pm 0.002$ [2.00 ± 0.05]       |
| W              | 0.327 max. [8.3 max.]                 |
| T              | $0.008 \pm 0.002$ [0.2 ± 0.05]        |
| A              | $7.000 \pm 0.079$ [178 ± 2.0]         |
| N              | 2.500 [63.5]                          |
| C              | $0.512 \pm 0.020$ [13.00 ± 0.50]      |
| W <sub>1</sub> | $0.315 + 0.059/- 0.000$ [8.00 + 1.5]  |
| T <sub>1</sub> | $0.079 \pm 0.002$ [2.00 ± 0.05]       |



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