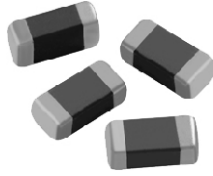




# Monolithic Chip Inductors



## FEATURES

- High reliability
- Surface mountable
- Magnetically self shielded
- Nickel barrier plating virtually eliminates silver migration
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT HALOGEN FREE

## 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:** 0.6 kg for 30 s

**Beam Strength:** 1.0 kg

## 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 |      |                             |                  |        |                |              |                       |
|------------------------------------|------|-----------------------------|------------------|--------|----------------|--------------|-----------------------|
| INDUCTANCE (µH)                    | TOL. | THICKNESS "D" (INCHES [mm]) | TEST FREQ. (MHz) | Q MIN. | SRF MIN. (MHz) | DCR MAX. (Ω) | RATED DC CURRENT (mA) |
|                                    |      |                             | L AND Q          |        |                |              |                       |
| 0.047                              | 20 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 15     | 320            | 0.20         | 300                   |
| 0.056                              | 20 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 15     | 300            | 0.20         | 300                   |
| 0.068                              | 20 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 15     | 280            | 0.20         | 300                   |
| 0.082                              | 20 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 15     | 255            | 0.20         | 300                   |
| 0.10                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 279            | 0.30         | 250                   |
| 0.12                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 253            | 0.30         | 250                   |
| 0.15                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 230            | 0.40         | 250                   |
| 0.18                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 213            | 0.40         | 250                   |
| 0.22                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 196            | 0.50         | 250                   |
| 0.27                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 173            | 0.50         | 250                   |
| 0.33                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 20     | 167            | 0.55         | 250                   |
| 0.39                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 25     | 156            | 0.65         | 200                   |
| 0.47                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 25     | 144            | 0.65         | 200                   |
| 0.56                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 25     | 133            | 0.75         | 150                   |
| 0.68                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 25     | 121            | 0.80         | 150                   |
| 0.82                               | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 25               | 25     | 115            | 1.00         | 150                   |
| 1.0                                | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 10               | 45     | 87             | 0.40         | 50                    |
| 1.2                                | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 10               | 45     | 75             | 0.50         | 50                    |
| 1.5                                | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 10               | 45     | 69             | 0.50         | 50                    |
| 1.8                                | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 10               | 45     | 64             | 0.60         | 50                    |
| 2.2                                | 10 % | 0.035 ± 0.008 [0.90 ± 0.2]  | 10               | 45     | 58             | 0.65         | 30                    |
| 2.7                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 10               | 45     | 52             | 0.75         | 30                    |
| 3.3                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 10               | 45     | 48             | 0.80         | 30                    |
| 3.9                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 10               | 45     | 44             | 0.90         | 30                    |
| 4.7                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 10               | 45     | 41             | 1.00         | 30                    |
| 5.6                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 4                | 45     | 37             | 0.90         | 15                    |
| 6.8                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 4                | 45     | 34             | 1.00         | 15                    |
| 8.2                                | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 4                | 45     | 30             | 1.10         | 15                    |
| 10                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 2                | 50     | 28             | 1.15         | 15                    |
| 12                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 2                | 50     | 26             | 1.25         | 15                    |
| 15                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 1                | 30     | 22             | 0.80         | 5                     |
| 18                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 1                | 30     | 21             | 0.90         | 5                     |
| 22                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 1                | 30     | 19             | 1.10         | 5                     |
| 27                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 1                | 30     | 17             | 1.15         | 5                     |
| 33                                 | 10 % | 0.049 ± 0.008 [1.25 ± 0.2]  | 0.4              | 30     | 13             | 1.25         | 5                     |

| DESCRIPTION |                  |                      |              |                                |
|-------------|------------------|----------------------|--------------|--------------------------------|
| ILSB-0805   | 3.3 µH           | ± 10 %               | ER           | e3                             |
| MODEL       | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

| GLOBAL PART NUMBER |   |   |   |      |   |   |   |              |   |                  |   |   |      |
|--------------------|---|---|---|------|---|---|---|--------------|---|------------------|---|---|------|
| I                  | L | S | B | 0    | 8 | 0 | 5 | E            | R | 3                | R | 3 | K    |
| PRODUCT FAMILY     |   |   |   | SIZE |   |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | TOL. |

| DIMENSIONS in inches [millimeters] |                               |                              |                         |                |                |                |                |
|------------------------------------|-------------------------------|------------------------------|-------------------------|----------------|----------------|----------------|----------------|
|                                    |                               |                              |                         |                |                |                |                |
| A                                  | B                             | C                            | D                       | E              | F              | G              | H              |
| 0.079 ± 0.008<br>[2.0 ± 0.2]       | 0.049 ± 0.008<br>[1.25 ± 0.2] | 0.020 ± 0.012<br>[0.5 ± 0.3] | see electrical<br>specs | 0.120<br>[3.0] | 0.051<br>[1.3] | 0.040<br>[1.0] | 0.040<br>[1.0] |

| TAPE AND REEL SPECIFICATIONS 0805 SIZE PER EIA-481-1 in inches [millimeters] |                             |                                     |
|--|-----------------------------|-------------------------------------|
|  | A <sub>0</sub>              | 0.059 ± 0.004 [1.50 ± 0.1]          |
|  | B <sub>0</sub>              | 0.092 ± 0.004 [2.34 ± 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 ± 0.004 [1.75 ± 0.1]          |
|  | F                           | 0.138 ± 0.002 [3.50 ± 0.05]         |
|  | K <sub>0</sub>              | 0.049 ± 0.002 [1.24 ± 0.05]         |
|  | P <sub>0</sub>              | 0.157 ± 0.004 [4.00 ± 0.1]          |
|  | P <sub>1</sub>              | 0.157 ± 0.004 [4.00 ± 0.1]          |
|  | P <sub>2</sub>              | 0.079 ± 0.002 [2.00 ± 0.05]         |
|  | W                           | 0.327 max. [8.3 max.]               |
|  | T                           | 0.008 ± 0.002 [0.2 ± 0.05]          |
|  | A                           | 7.000 ± 0.079 [178 ± 2.0]           |
|  | N                           | 2.500 [63.5]                        |
|  | C                           | 0.512 ± 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 ± 0.002 [2.00 ± 0.05] |                                     |
|  |                             |                                     |



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