

# Surface Mount, Multilayer High Frequency Ceramic Inductors



## MECHANICAL SPECIFICATIONS

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

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

**Terminal Strength:** 0.6 kg (1.32 lbs) for 30 s

**Termination:** 100 % tin

**Beam Strength:** 1.0 kg (2.20 lbs)

**Flex:** 0.0788" [2.0 mm] min. mounted on 0.063" [1.6 mm] thick PC board

## FEATURES

- High reliability
- Surface mountable
- Reflow or wave solderable
- Tape and reel packaging per EIA specifications: 4000 pieces on 7" reel
- 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:** 100 cycles, - 40 °C to + 85 °C

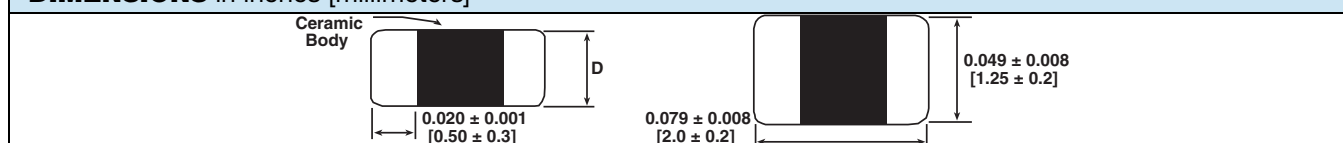
**Humidity:** + 40 °C, 85 % RH, 1000 h at full rated current

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

## STANDARD ELECTRICAL SPECIFICATIONS

| PART NUMBER   | IND. (nH) | TOL.   | THICKNESS "D" (INCHES [mm]) | TEST FREQ. (MHz) | Q MIN. | Q TYPICAL |         |          | SRF (MHz) |      | DCR MAX. (Ω) | RATED DC CURRENT MAX. (mA) |
|---------------|-----------|--------|-----------------------------|------------------|--------|-----------|---------|----------|-----------|------|--------------|----------------------------|
|               |           |        |                             |                  |        | 100 MHz   | 500 MHz | 1000 MHz | MIN.      | TYP. |              |                            |
| ILC0805ER1N5S | 1.5       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 10     | 16        | 43      | 67       | 4000      | 7000 | 0.10         | 300                        |
| ILC0805ER1N8S | 1.8       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 10     | 16        | 56      | 59       | 4000      | 7000 | 0.10         | 300                        |
| ILC0805ER2N2S | 2.2       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 10     | 16        | 40      | 58       | 4000      | 7000 | 0.10         | 300                        |
| ILC0805ER2N7S | 2.7       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 12     | 16        | 43      | 60       | 4000      | 6500 | 0.10         | 300                        |
| ILC0805ER3N3S | 3.3       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 12     | 19        | 52      | 70       | 4000      | 5500 | 0.13         | 300                        |
| ILC0805ER3N9S | 3.9       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 12     | 19        | 52      | 75       | 3000      | 4400 | 0.15         | 300                        |
| ILC0805ER4N7S | 4.7       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 12     | 19        | 53      | 70       | 3000      | 3500 | 0.20         | 300                        |
| ILC0805ER5N6S | 5.6       | 0.3 nH | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 19        | 53      | 70       | 3000      | 3500 | 0.23         | 300                        |
| ILC0805ER6N8J | 6.8       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 19        | 44      | 60       | 2500      | 3300 | 0.25         | 300                        |
| ILC0805ER8N2J | 8.2       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 19        | 45      | 60       | 2000      | 2600 | 0.28         | 300                        |
| ILC0805ER10NJ | 10        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 20        | 53      | 60       | 3000      | 2300 | 0.30         | 300                        |
| ILC0805ER12NJ | 12        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 20        | 36      | 45       | 1500      | 2000 | 0.35         | 300                        |
| ILC0805ER15NJ | 15        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 20        | 46      | 45       | 1500      | 1800 | 0.40         | 300                        |
| ILC0805ER18NJ | 18        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 15     | 20        | 52      | 45       | 1300      | 1700 | 0.45         | 300                        |
| ILC0805ER22NJ | 22        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 20        | 40      | 31       | 1200      | 1400 | 0.50         | 300                        |
| ILC0805ER27NJ | 27        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 20        | 44      | 29       | 1000      | 1300 | 0.55         | 300                        |
| ILC0805ER33NJ | 33        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 20        | 36      | 15       | 1000      | 1200 | 0.60         | 300                        |
| ILC0805ER39NJ | 39        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 20        | 36      | 12       | 800       | 1100 | 0.65         | 300                        |
| ILC0805ER47NJ | 47        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 21        | 33      | 12       | 800       | 1000 | 0.70         | 300                        |
| ILC0805ER56NJ | 56        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 21        | 31      | 9        | 700       | 900  | 0.75         | 300                        |
| ILC0805ER68NJ | 68        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 21        | 30      | -        | 600       | 800  | 0.80         | 300                        |
| ILC0805ER82NJ | 82        | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 22        | 26      | -        | 500       | 700  | 0.90         | 300                        |
| ILC0805ERR10J | 100       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 100              | 18     | 22        | 22      | -        | 500       | 700  | 0.90         | 300                        |
| ILC0805ERR12J | 120       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 13     | 22        | 17      | -        | 400       | 600  | 0.95         | 300                        |
| ILC0805ERR15J | 150       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 13     | 22        | 9       | -        | 300       | 600  | 1.00         | 300                        |
| ILC0805ERR18J | 180       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 13     | 21        | 8       | -        | 300       | 500  | 1.10         | 300                        |
| ILC0805ERR22J | 220       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 12     | 20        | 4       | -        | 300       | 500  | 1.20         | 300                        |
| ILC0805ERR27J | 270       | 5 %    | 0.035 ± 0.008 [0.90 ± 0.2]  | 50               | 12     | 24        | 17      | -        | 200       | 400  | 1.30         | 300                        |

## DIMENSIONS in inches [millimeters]



## DESCRIPTION

| ILC-0805 | 10 nH            | ± 10 %               | ER           | e3                            |
|----------|------------------|----------------------|--------------|-------------------------------|
| MODEL    | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

|                |   |   |      |   |   |              |   |                  |   |   |      |   |
|----------------|---|---|------|---|---|--------------|---|------------------|---|---|------|---|
| I              | L | C | 0    | 8 | 0 | 5            | E | R                | 1 | 0 | N    | L |
| PRODUCT FAMILY |   |   | SIZE |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | TOL. |   |



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