

# Ceramic RF Chip Inductors

PE-0402CL Series



- ④ Monolithic inorganic material construction
- ④ Low DC resistance, high Q Values at high frequency
- ④ High Self Resonant Frequency
- ④ Industry Standard 0402 (1005) Surface Mount Land Pattern
- ④ Operational temperature -55°C to +125°C

Electrical Specifications @ 25°C - Operating Temperature -40°C to +85°C

| Part Number     | Inductance <sup>1</sup><br>(uH) | Standard<br>Tolerance | Q <sup>2</sup><br>(Min.) | Test<br>Frequency<br>(MHz) | SRF <sup>3</sup><br>(MHz MIN) | Rdc <sup>4</sup><br>(Ω MAX) | Ibc <sup>5</sup><br>(mA MAX) |
|-----------------|---------------------------------|-----------------------|--------------------------|----------------------------|-------------------------------|-----------------------------|------------------------------|
| PE-0402CL1N0STT | 1.0                             | ±0.3nH (S)            | 8                        | 100                        | 10000                         | 0.1                         | 400                          |
| PE-0402CL1N2STT | 1.2                             | ±0.3nH (S)            | 8                        | 100                        | 10000                         | 0.1                         | 400                          |
| PE-0402CL1N5STT | 1.5                             | ±0.3nH (S)            | 8                        | 100                        | 6000                          | 0.1                         | 300                          |
| PE-0402CL1N8STT | 1.8                             | ±0.3nH (S)            | 8                        | 100                        | 6000                          | 0.1                         | 300                          |
| PE-0402CL2N0STT | 2.0                             | ±0.3nH (S)            | 8                        | 100                        | 6000                          | 0.2                         | 300                          |
| PE-0402CL2N2STT | 2.2                             | ±0.3nH (S)            | 8                        | 100                        | 6000                          | 0.2                         | 300                          |
| PE-0402CL2N7STT | 2.7                             | ±0.3nH (S)            | 8                        | 100                        | 6000                          | 0.2                         | 300                          |
| PE-0402CL3N3STT | 3.3                             | ±0.3nH (S)            | 8                        | 100                        | 6000                          | 0.2                         | 300                          |
| PE-0402CL3N6STT | 3.6                             | ±0.3nH (S)            | 8                        | 100                        | 4000                          | 0.2                         | 300                          |
| PE-0402CL3N9STT | 3.9                             | ±0.3nH (S)            | 8                        | 100                        | 4000                          | 0.2                         | 300                          |
| PE-0402CL4N7STT | 4.7                             | ±0.3nH (S)            | 8                        | 100                        | 4000                          | 0.2                         | 300                          |
| PE-0402CL5N6STT | 5.6                             | ±0.3nH (S)            | 8                        | 100                        | 4000                          | 0.3                         | 300                          |
| PE-0402CL6N2STT | 6.2                             | ±0.3nH (S)            | 8                        | 100                        | 3900                          | 0.3                         | 300                          |
| PE-0402CL6N8JTT | 6.8                             | ±5% (J)               | 8                        | 100                        | 3900                          | 0.3                         | 300                          |
| PE-0402CL7N5JTT | 7.5                             | ±5% (J)               | 8                        | 100                        | 3700                          | 0.4                         | 300                          |
| PE-0402CL8N2JTT | 8.2                             | ±5% (J)               | 8                        | 100                        | 3600                          | 0.4                         | 300                          |
| PE-0402CL100JTT | 10                              | ±5% (J)               | 8                        | 100                        | 3200                          | 0.4                         | 300                          |
| PE-0402CL120JTT | 12                              | ±5% (J)               | 8                        | 100                        | 2700                          | 0.5                         | 300                          |
| PE-0402CL150JTT | 15                              | ±5% (J)               | 8                        | 100                        | 2300                          | 0.5                         | 300                          |
| PE-0402CL180JTT | 18                              | ±5% (J)               | 8                        | 100                        | 2100                          | 0.5                         | 300                          |
| PE-0402CL220JTT | 22                              | ±5% (J)               | 8                        | 100                        | 1900                          | 0.6                         | 300                          |
| PE-0402CL270JTT | 27                              | ±5% (J)               | 8                        | 100                        | 1600                          | 0.7                         | 300                          |
| PE-0402CL330JTT | 33                              | ±5% (J)               | 8                        | 100                        | 1300                          | 0.8                         | 200                          |

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| Mechanical Specification - Dimension in mm |                                 |                    |                          |                         |                               |                                     |                                          |
|--------------------------------------------|---------------------------------|--------------------|--------------------------|-------------------------|-------------------------------|-------------------------------------|------------------------------------------|
| Part Number                                | Inductance <sup>1</sup><br>(nH) | Standard Tolerance | Q <sup>2</sup><br>(Min.) | Test Frequency<br>(MHz) | SRF <sup>3</sup><br>(MHz MIN) | Rdc <sup>4</sup><br>( $\Omega$ MAX) | I <sub>dc</sub> <sup>5</sup><br>(mA MAX) |
| PE-0402CL470JTT                            | 47                              | ±5% (J)            | 8                        | 100                     | 1000                          | 1.1                                 | 200                                      |
| PE-0402CL560JTT                            | 56                              | ±5% (J)            | 8                        | 100                     | 750                           | 1.2                                 | 200                                      |
| PE-0402CL680JTT                            | 68                              | ±5% (J)            | 8                        | 100                     | 750                           | 1.4                                 | 180                                      |
| PE-0402CL820JTT                            | 82                              | ±5% (J)            | 8                        | 100                     | 750                           | 2.4                                 | 150                                      |
| PE-0402CL101JTT                            | 100                             | ±5% (J)            | 8                        | 100                     | 700                           | 2.6                                 | 150                                      |
| PE-0402CL121JTT                            | 120                             | ±5% (J)            | 8                        | 100                     | 600                           | 2.8                                 | 150                                      |

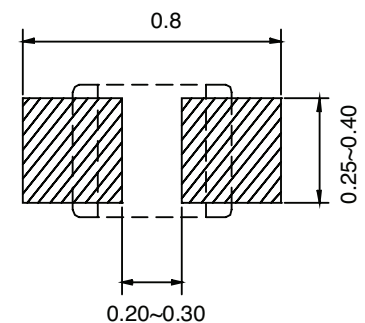
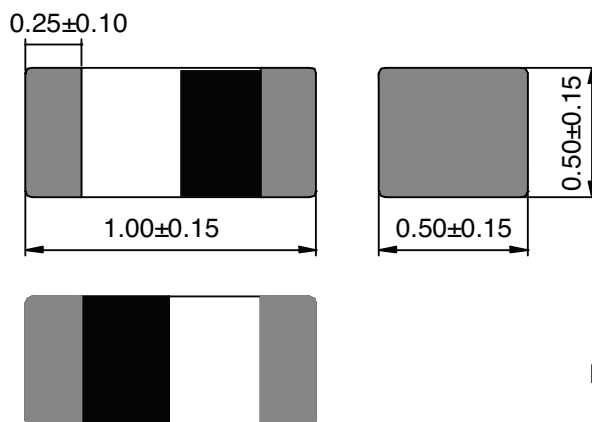
**Notes:**

- Inductance measured using a HP4286A RF Impedance Analyzer. (Please note that inductance information is not stamped on part, because of the extremely small size).
- Q measured using a HP4291A RF Impedance Analyzer with a HP16193A Test Fixture.
- SRF measured using a HP8753C Network Analyzer.
- RDC measured using a Valhalla Scientific model 4100 ATC Digital Ohm meter.
- Based on a 15°C maximum temperature rise.

## Mechanical

## Schematic

### 0402CL Series



**Dimensions:**  $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified,  
all tolerances are  $\pm \frac{0.10}{0.25}$

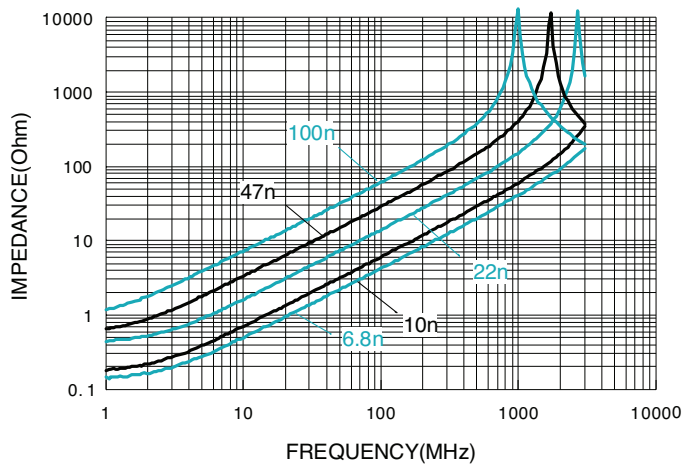
# Ceramic RF Chip Inductors

PE-0402CL Series

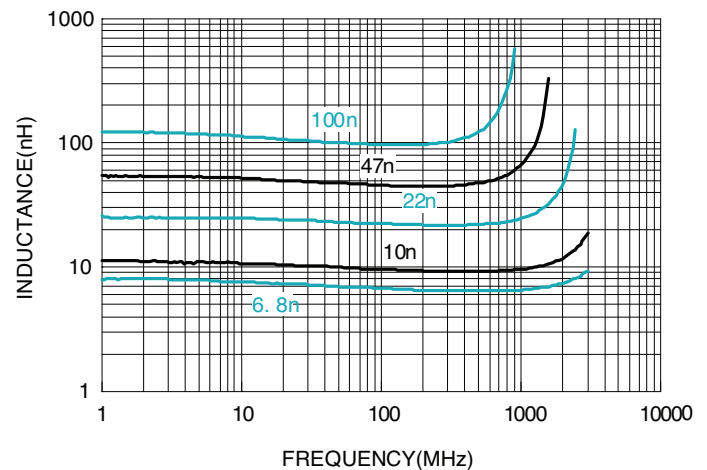
## Characteristic Graphs

### 0402CL Series

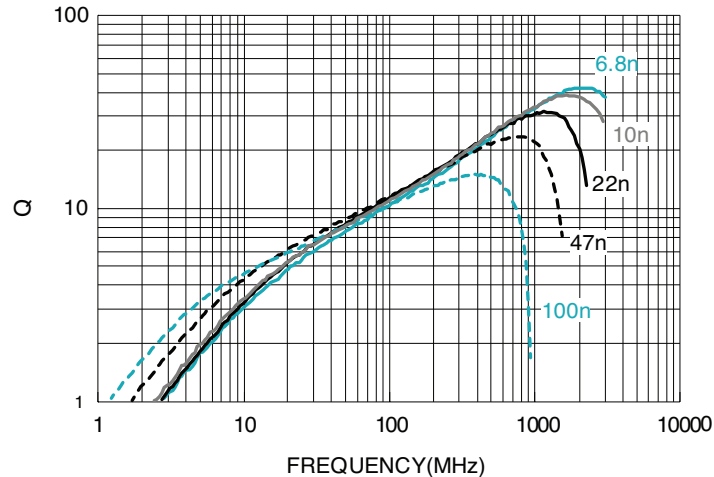
Impedance v.s. Frequency Characteristics



Inductance v.s. Frequency Characteristics



Q v.s. Frequency Characteristics



### For More Information:

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