

# THIN FILM CHIP INDUCTOR

ATFC-0603



RoHS  
Compliant



1.6 x 0.8 x 0.45mm

## FEATURES:

- A photo-lithographic single layer ceramic chip
- High SRF; Excellent Q
- Superior Temperature Stability
- Tight Tolerance of  $\pm 1\%$  or  $\pm 0.1\text{nH}$
- Self Resonant Frequency Controlled within 10%
- Stable Inductance in High Frequency Circuit
- Highly Stable Design for Critical Needs

## APPLICATIONS:

- Cellular Telephones
- Pagers and GPS Products
- Wireless LAN
- Communication Appliances
- Bluetooth Module
- VCO, TCXO Circuit and RF Transceiver Modules

## STANDARD SPECIFICATIONS:

| PARAMETERS             |                             |
|------------------------|-----------------------------|
| ABRACON P/N:           | ATFC-0603-xxx Series        |
| Operating temperature: | -25°C to + 85°C             |
| Storage temperature:   | 25 $\pm$ 3; Humidity <80%RH |

| ABRACON<br>p/n | Inductance<br>(nH) | Standard Tolerance<br>(% or nH) | Quality Factor (Q)<br>min | Resistance<br>DC/Max (Ohm) | Current<br>DC/Max (mA) | Self Resonant<br>Frequency /min (GHz) |
|----------------|--------------------|---------------------------------|---------------------------|----------------------------|------------------------|---------------------------------------|
| ATFC-0603-1N0  | 1.0                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.35                       | 800                    | 13                                    |
| ATFC-0603-1N2  | 1.2                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.35                       | 800                    | 13                                    |
| ATFC-0603-1N5  | 1.5                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.35                       | 800                    | 10                                    |
| ATFC-0603-1N8  | 1.8                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.35                       | 300                    | 10                                    |
| ATFC-0603-2N2  | 2.2                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.35                       | 300                    | 8                                     |
| ATFC-0603-2N7  | 2.7                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.45                       | 300                    | 6                                     |
| ATFC-0603-3N3  | 3.3                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.45                       | 300                    | 6                                     |
| ATFC-0603-3N9  | 3.9                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.45                       | 300                    | 6                                     |
| ATFC-0603-4N7  | 4.7                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.55                       | 300                    | 5                                     |
| ATFC-0603-5N6  | 5.6                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.65                       | 300                    | 5                                     |
| ATFC-0603-6N8  | 6.8                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.75                       | 300                    | 5                                     |
| ATFC-0603-8N2  | 8.2                | $\pm 0.1\text{nH}$              | 15 / 300MHz               | 0.95                       | 300                    | 4                                     |
| ATFC-0603-10N  | 10                 | 1%                              | 15 / 300MHz               | 0.95                       | 300                    | 4                                     |
| ATFC-0603-12N  | 12                 | 1%                              | 15 / 300MHz               | 1.05                       | 300                    | 3                                     |
| ATFC-0603-15N  | 15                 | 1%                              | 15 / 300MHz               | 1.35                       | 300                    | 3                                     |
| ATFC-0603-18N  | 18                 | 1%                              | 15 / 300MHz               | 1.65                       | 300                    | 2                                     |
| ATFC-0603-22N  | 22                 | 1%                              | 15 / 300MHz               | 1.95                       | 250                    | 2                                     |
| ATFC-0603-27N  | 27                 | 1%                              | 15 / 300MHz               | 2.35                       | 250                    | 2                                     |
| ATFC-0603-33N  | 33                 | 1%                              | 15 / 300MHz               | 2.75                       | 250                    | 1.5                                   |
| ATFC-0603-39N  | 39                 | 1%                              | 15 / 300MHz               | 3.00                       | 200                    | 1.5                                   |
| ATFC-0603-47N  | 47                 | 1%                              | 15 / 300MHz               | 3.00                       | 200                    | 1.5                                   |
| ATFC-0603-56N  | 56                 | 1%                              | 15 / 300MHz               | 5.00                       | 150                    | 1                                     |
| ATFC-0603-68N  | 68                 | 1%                              | 15 / 300MHz               | 5.00                       | 150                    | 1                                     |
| ATFC-0603-R10  | 100                | 2%                              | 15 / 300MHz               | 7.50                       | 100                    | 1                                     |

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## OPTIONS AND PART IDENTIFICATION:

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ATFC - 0603 -  -  -

### Inductance Code

Please refer to the Table above.

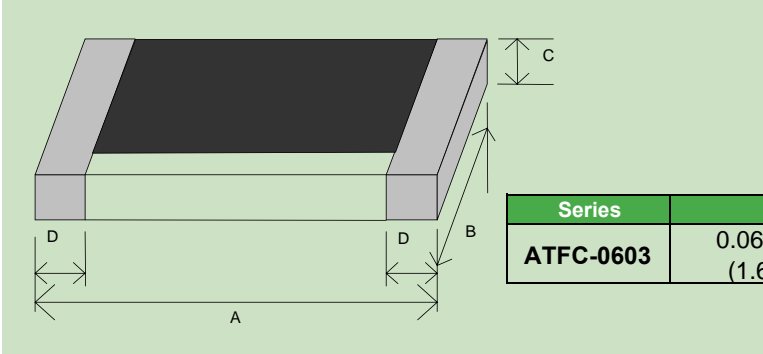
### Packaging

|   |             |
|---|-------------|
| T | Tape & Reel |
|---|-------------|

### Inductance Tolerance

|   |         |
|---|---------|
| J | ±5%     |
| H | ±3%     |
| G | ±2%     |
| F | ±1%     |
| S | ±0.3 nH |
| C | ±0.2 nH |
| B | ±0.1 nH |

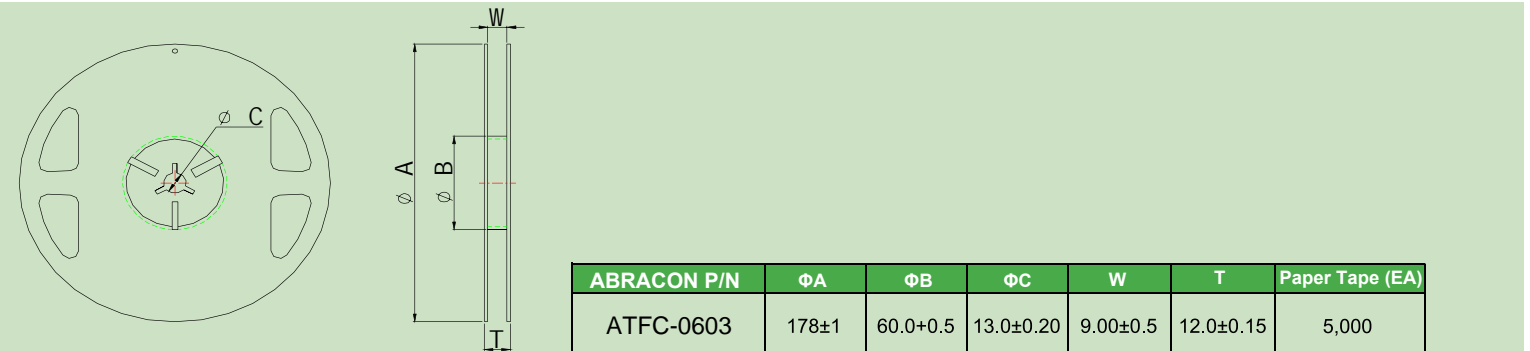
## OUTLINE DRAWING:



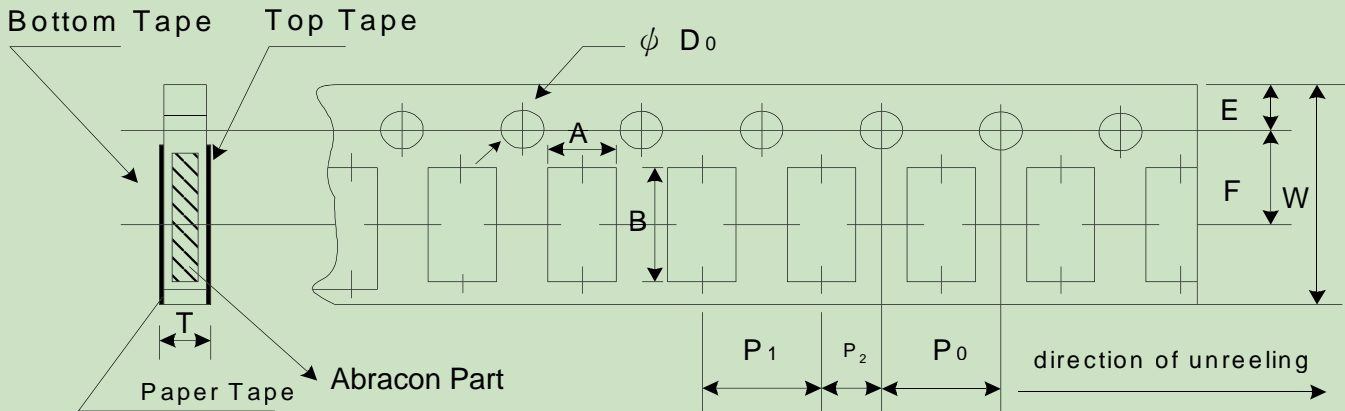
| Series    | A                         | B                         | C                          | D                         |
|-----------|---------------------------|---------------------------|----------------------------|---------------------------|
| ATFC-0603 | 0.063±0.004<br>(1.6±0.10) | 0.031±0.004<br>(0.8±0.10) | 0.018±0.004<br>(0.45±0.10) | 0.012±0.008<br>(0.3±0.20) |

Dimensions: Inches  
(mm)

## TAPE & REEL:



| ABRACON P/N | ΦA    | ΦB       | ΦC        | W        | T         | Paper Tape (EA) |
|-------------|-------|----------|-----------|----------|-----------|-----------------|
| ATFC-0603   | 178±1 | 60.0±0.5 | 13.0±0.20 | 9.00±0.5 | 12.0±0.15 | 5,000           |



| Codes     | A         | B         | W         | E         | F        |
|-----------|-----------|-----------|-----------|-----------|----------|
| ATFC-0603 | 1.10±0.05 | 1.90±0.05 | 8.00±0.10 | 1.75±0.05 | 3.5±0.05 |

| Codes     | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> | ΦD <sub>0</sub> | T         |
|-----------|----------------|----------------|----------------|-----------------|-----------|
| ATFC-0603 | 4.00±0.10      | 4.00±0.10      | 2.00±0.05      | 1.55±0.05       | 0.60±0.03 |

Dimensions: mm

ABRACON IS  
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