

# HIGH Q THIN FILM CHIP INDUCTORS

ATFC-0201HQ



RoHS/RoHS II



0.60 x 0.30 x 0.23mm

## FEATURES:

- Photolithographic single layer ceramic chip
- High SRF, excellent Q, superior temperature stability
- Tight tolerance  $\pm 0.1\text{nH}$  available
- Self resonant frequency controlled within 10%
- Stable inductance in high frequency circuit
- Highly stable design for critical needs

## APPLICATIONS:

- Cell phones and GPS
- VCO, TCXO Circuit and RF Transceiver Module
- Wireless LAN, Bluetooth Module, Communication Appliances

## STANDARD SPECIFICATIONS:

### PARAMETERS

|                         |                                               |
|-------------------------|-----------------------------------------------|
| ABRACON P/N:            | ATFC-0201HQ                                   |
| Operating temperature : | -40°C to +85°C                                |
| Storage temperature:    | 25 $\pm$ 3°C; Humidity <80%RH in Tape & Reel. |

| Part Number<br>ATFC-0201HQ-<br>Inductance Code | L(nH) | Tolerance | Q, Min @ 500MHz | SRF Min<br>(GHz) | R <sub>DC</sub> Max<br>( $\Omega$ ) | I <sub>DC</sub> Max<br>(mA) |
|------------------------------------------------|-------|-----------|-----------------|------------------|-------------------------------------|-----------------------------|
| ATFC-0201HQ-0N1                                | 0.1   | B, C, S   | 14              | 6                | 0.05                                | 850                         |
| ATFC-0201HQ-0N2                                | 0.2   | B, C, S   | 14              | 6                | 0.05                                | 800                         |
| ATFC-0201HQ-0N3                                | 0.3   | B, C, S   | 14              | 6                | 0.05                                | 800                         |
| ATFC-0201HQ-0N4                                | 0.4   | B, C, S   | 14              | 6                | 0.05                                | 750                         |
| ATFC-0201HQ-0N5                                | 0.5   | B, C, S   | 14              | 6                | 0.10                                | 750                         |
| ATFC-0201HQ-0N6                                | 0.6   | B, C, S   | 14              | 6                | 0.10                                | 750                         |
| ATFC-0201HQ-0N7                                | 0.7   | B, C, S   | 14              | 6                | 0.10                                | 600                         |
| ATFC-0201HQ-0N8                                | 0.8   | B, C, S   | 14              | 6                | 0.10                                | 600                         |
| ATFC-0201HQ-0N9                                | 0.9   | B, C, S   | 14              | 6                | 0.10                                | 600                         |
| ATFC-0201HQ-1N0                                | 1.0   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N1                                | 1.1   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N2                                | 1.2   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N3                                | 1.3   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N4                                | 1.4   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N5                                | 1.5   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N6                                | 1.6   | B, C, S   | 14              | 6                | 0.15                                | 600                         |
| ATFC-0201HQ-1N7                                | 1.7   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-1N8                                | 1.8   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-1N9                                | 1.9   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-2N0                                | 2.0   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-2N1                                | 2.1   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-2N2                                | 2.2   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-2N3                                | 2.3   | B, C, S   | 14              | 6                | 0.20                                | 500                         |
| ATFC-0201HQ-2N4                                | 2.4   | B, C, S   | 14              | 6                | 0.25                                | 450                         |
| ATFC-0201HQ-2N5                                | 2.5   | B, C, S   | 14              | 6                | 0.25                                | 450                         |
| ATFC-0201HQ-2N6                                | 2.6   | B, C, S   | 14              | 6                | 0.25                                | 450                         |
| ATFC-0201HQ-2N7                                | 2.7   | B, C, S   | 14              | 6                | 0.25                                | 450                         |
| ATFC-0201HQ-2N8                                | 2.8   | B, C, S   | 14              | 6                | 0.25                                | 450                         |
| ATFC-0201HQ-2N9                                | 2.9   | B, C, S   | 14              | 6                | 0.25                                | 450                         |
| ATFC-0201HQ-3N0                                | 3.0   | B, C, S   | 14              | 6                | 0.30                                | 400                         |
| ATFC-0201HQ-3N1                                | 3.1   | B, C, S   | 14              | 6                | 0.30                                | 400                         |
| ATFC-0201HQ-3N2                                | 3.2   | B, C, S   | 14              | 6                | 0.30                                | 400                         |
| ATFC-0201HQ-3N3                                | 3.3   | B, C, S   | 14              | 6                | 0.30                                | 400                         |
| ATFC-0201HQ-3N4                                | 3.4   | B, C, S   | 14              | 6                | 0.40                                | 350                         |
| ATFC-0201HQ-3N5                                | 3.5   | B, C, S   | 14              | 6                | 0.40                                | 350                         |
| ATFC-0201HQ-3N6                                | 3.6   | B, C, S   | 14              | 6                | 0.40                                | 350                         |
| ATFC-0201HQ-3N7                                | 3.7   | B, C, S   | 14              | 6                | 0.40                                | 350                         |
| ATFC-0201HQ-3N8                                | 3.8   | B, C, S   | 14              | 6                | 0.40                                | 350                         |
| ATFC-0201HQ-3N9                                | 3.9   | B, C, S   | 14              | 6                | 0.40                                | 350                         |
| ATFC-0201HQ-4N0                                | 4.0   | B, C, S   | 14              | 6                | 0.40                                | 350                         |



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0.60 x 0.30 x 0.23mm

## Test Conditions and Equipments

Inductance (L)

- Test equipment: Agilent4287A+Agilent16196C
- Test frequency: 500MHz

## PART IDENTIFICATION:

ATFC- 0201HQ-     -  

### Inductance Code

Please refer to the table above

### Inductance Tolerance

B:  $\pm 0.1\text{nH}$

C:  $\pm 0.2\text{nH}$

S:  $\pm 0.3\text{nH}$

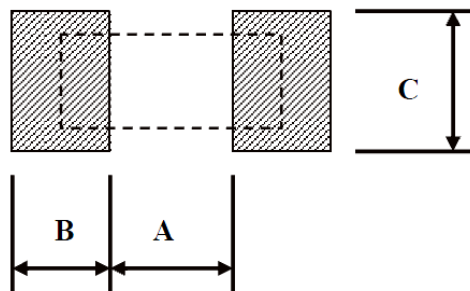
### Packaging

T: Tape and Reel  
(10kpcs reel)

## OUTLINE DIMENSIONS:



### Recommended Land Pattern

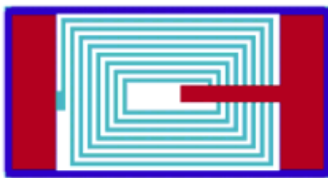
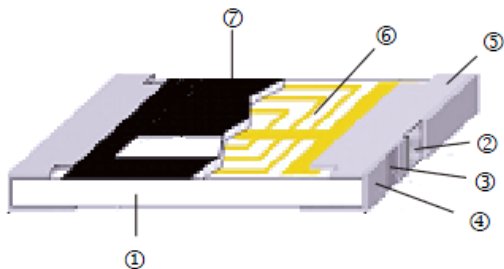


| A               | B               | C               | D               |
|-----------------|-----------------|-----------------|-----------------|
| 0.60 $\pm$ 0.05 | 0.30 $\pm$ 0.05 | 0.23 $\pm$ 0.05 | 0.15 $\pm$ 0.05 |

| A    | B    | C              |
|------|------|----------------|
| 0.30 | 0.25 | 0.30 $\pm$ 0.2 |

Dimension: mm

## Materials



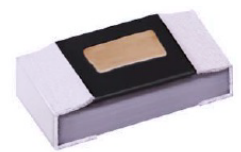
| No. | Material                |
|-----|-------------------------|
| 1   | Alumina Substrate       |
| 2   | Inner Electrode (Ni-Cr) |
| 3   | Barrier Layer (Ni)      |
| 4   | External Electrode (Sn) |
| 5   | Edge Electrode          |
| 6   | Cu Circuits             |
| 7   | Overcoat                |

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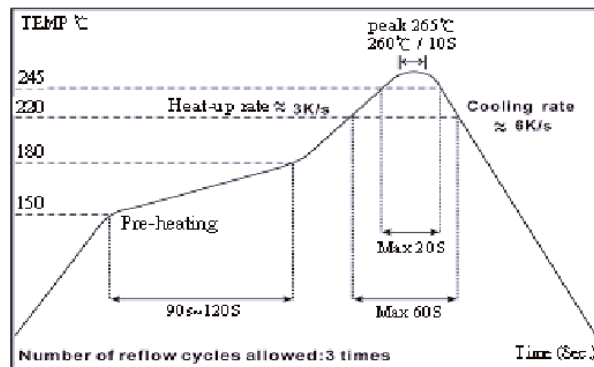


RoHS/RoHS II



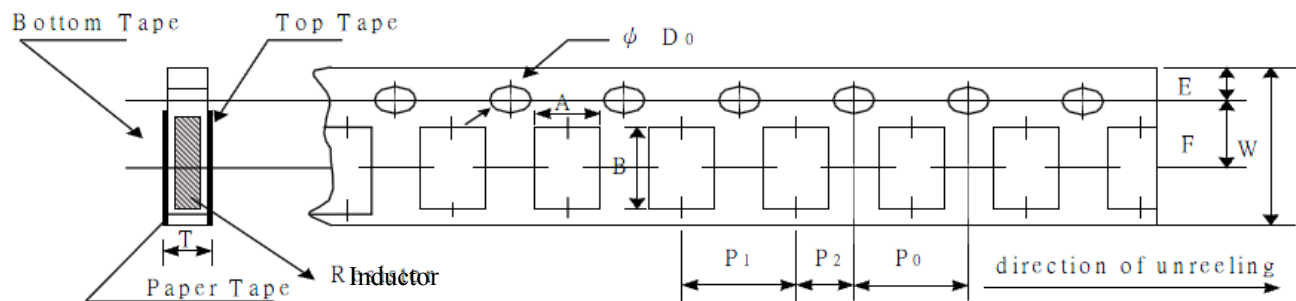
0.60 x 0.30 x 0.23mm

## REFLOW PROFILE:

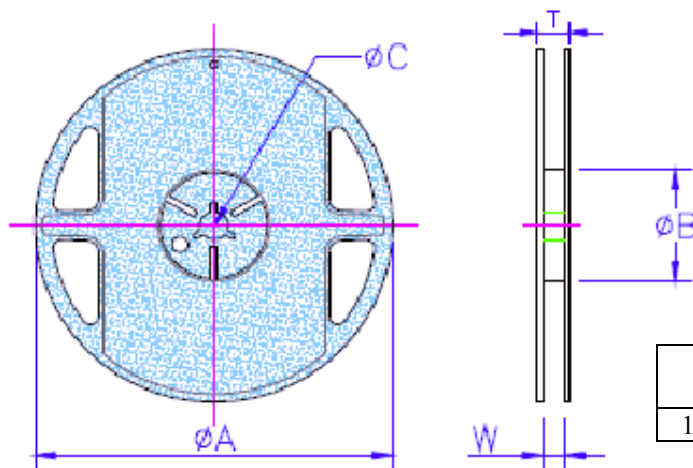


## TAPE & REEL:

T= tape and reel (10,000pc/reel)



| A         | B         | W         | E         | F         | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> | ΦD <sub>0</sub> | T         |
|-----------|-----------|-----------|-----------|-----------|----------------|----------------|----------------|-----------------|-----------|
| 0.40±0.05 | 0.70±0.05 | 8.00±0.10 | 1.75±0.05 | 3.50±0.05 | 4.00±0.10      | 2.00±0.05      | 2.00±0.05      | 1.55±0.03       | 0.42±0.02 |



| ΦA      | ΦB       | ΦC        | W       | T        |
|---------|----------|-----------|---------|----------|
| 178±1.0 | 60.0±1.0 | 13.5±0.70 | 9.5±1.0 | 11.5±1.0 |

Dimension: mm

**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

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