

THIN FILM CHIP INDUCTORS

ATFC-0402

 RoHS/RoHS II Compliant



1.00 x 0.50 x 0.32mm

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-0402 |
| Operating temperature: | -45°C to +85°C |
| Storage temperature: | +25 \pm 3°C, 80% RH max |

| Part Number ATFC-0402- Inductance Code | L(nH) | Tolerance | Q, Min @ 500MHz | SRF Min (GHz) | R _{DC} Max (Ω) | I _{DC} Max (mA) |
|--|-------|-----------|-----------------|------------------|-------------------------------------|-----------------------------|
| ATFC-0402-0N2 | 0.2 | B, C, S | 13 | 14 | 0.10 | 800 |
| ATFC-0402-0N3 | 0.3 | B, C, S | 13 | 14 | 0.10 | 800 |
| ATFC-0402-0N4 | 0.4 | B, C, S | 13 | 14 | 0.10 | 800 |
| ATFC-0402-0N5 | 0.5 | B, C, S | 13 | 14 | 0.15 | 700 |
| ATFC-0402-0N6 | 0.6 | B, C, S | 13 | 14 | 0.15 | 700 |
| ATFC-0402-0N8 | 0.8 | B, C, S | 13 | 14 | 0.15 | 700 |
| ATFC-0402-0N9 | 0.9 | B, C, S | 13 | 14 | 0.15 | 700 |
| ATFC-0402-1N0 | 1.0 | B, C, S | 13 | 12 | 0.15 | 700 |
| ATFC-0402-1N1 | 1.1 | B, C, S | 13 | 12 | 0.15 | 700 |
| ATFC-0402-1N2 | 1.2 | B, C, S | 13 | 12 | 0.15 | 700 |
| ATFC-0402-1N3 | 1.3 | B, C, S | 13 | 10 | 0.25 | 700 |
| ATFC-0402-1N4 | 1.4 | B, C, S | 13 | 10 | 0.25 | 700 |
| ATFC-0402-1N5 | 1.5 | B, C, S | 13 | 10 | 0.25 | 700 |
| ATFC-0402-1N6 | 1.6 | B, C, S | 13 | 10 | 0.25 | 560 |
| ATFC-0402-1N7 | 1.7 | B, C, S | 13 | 10 | 0.25 | 560 |
| ATFC-0402-1N8 | 1.8 | B, C, S | 13 | 10 | 0.25 | 560 |
| ATFC-0402-1N9 | 1.9 | B, C, S | 13 | 8 | 0.35 | 560 |
| ATFC-0402-2N0 | 2.0 | B, C, S | 13 | 8 | 0.35 | 560 |
| ATFC-0402-2N1 | 2.1 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N2 | 2.2 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N3 | 2.3 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N4 | 2.4 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N5 | 2.5 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N6 | 2.6 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N7 | 2.7 | B, C, S | 13 | 8 | 0.35 | 440 |
| ATFC-0402-2N8 | 2.8 | B, C, S | 13 | 6 | 0.45 | 380 |
| ATFC-0402-2N9 | 2.9 | B, C, S | 13 | 6 | 0.45 | 380 |
| ATFC-0402-3N0 | 3.0 | B, C, S | 13 | 6 | 0.45 | 380 |
| ATFC-0402-3N1 | 3.1 | B, C, S | 13 | 6 | 0.45 | 380 |
| ATFC-0402-3N2 | 3.2 | B, C, S | 13 | 6 | 0.45 | 380 |
| ATFC-0402-3N3 | 3.3 | B, C, S | 13 | 6 | 0.45 | 380 |
| ATFC-0402-3N4 | 3.4 | B, C, S | 13 | 6 | 0.55 | 380 |
| ATFC-0402-3N5 | 3.5 | B, C, S | 13 | 6 | 0.55 | 380 |
| ATFC-0402-3N6 | 3.6 | B, C, S | 13 | 6 | 0.55 | 380 |
| ATFC-0402-3N7 | 3.7 | B, C, S | 13 | 6 | 0.55 | 340 |
| ATFC-0402-3N8 | 3.8 | B, C, S | 13 | 6 | 0.55 | 340 |
| ATFC-0402-3N9 | 3.9 | B, C, S | 13 | 6 | 0.55 | 340 |
| ATFC-0402-4N3 | 4.3 | B, C, S | 13 | 6 | 0.65 | 320 |
| ATFC-0402-4N7 | 4.7 | B, C, S | 13 | 6 | 0.65 | 320 |
| ATFC-0402-5N4 | 5.4 | B, C, S | 13 | 6 | 0.85 | 280 |
| ATFC-0402-5N6 | 5.6 | B, C, S | 13 | 6 | 0.85 | 280 |
| ATFC-0402-5N9 | 5.9 | B, C, S | 13 | 6 | 0.85 | 280 |
| ATFC-0402-6N5 | 6.5 | B, C, S | 13 | 6 | 1.05 | 260 |
| ATFC-0402-6N8 | 6.8 | B, C, S | 13 | 6 | 1.05 | 260 |

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THIN FILM CHIP INDUCTORS



0.60 x 0.30 x 0.23mm

ATFC-0402

RoHS/RoHS II Compliant

Key Electrical Specifications (Con'd)

| Part Number ATFC-0402- Inductance Code | L(nH) | Tolerance | Q, Min @ 500MHz | SRF Min (GHz) | RDC Max (Ω) | IDC Max (mA) |
|--|-------|------------|-----------------|------------------|-------------------------|-----------------|
| ATFC-0402-7N2 | 7.2 | B, C, S | 13 | 6 | 1.05 | 260 |
| ATFC-0402-8N0 | 8.0 | B, C, S | 13 | 5.5 | 1.25 | 220 |
| ATFC-0402-8N1 | 8.1 | B, C, S | 13 | 5.5 | 1.25 | 220 |
| ATFC-0402-8N2 | 8.2 | B, C, S | 13 | 5.5 | 1.25 | 220 |
| ATFC-0402-9N1 | 9.1 | B, C, S | 13 | 5.5 | 1.25 | 220 |
| ATFC-0402-10N | 10.0 | F, G, H, J | 13 | 4.5 | 1.35 | 200 |
| ATFC-0402-10N8 | 10.8 | F, G, H, J | 13 | 4.5 | 1.35 | 200 |
| ATFC-0402-12N | 12.0 | F, G, H, J | 13 | 3.7 | 1.55 | 180 |
| ATFC-0402-13N8 | 13.8 | F, G, H, J | 13 | 3.7 | 1.75 | 180 |
| ATFC-0402-15N | 15.0 | F, G, H, J | 13 | 3.3 | 1.75 | 130 |
| ATFC-0402-17N | 17.0 | F, G, H, J | 13 | 3.1 | 1.95 | 100 |
| ATFC-0402-18N | 18.0 | F, G, H, J | 13 | 3.1 | 2.15 | 100 |
| ATFC-0402-20N8 | 20.8 | F, G, H, J | 13 | 2.8 | 2.55 | 90 |
| ATFC-0402-22N | 22.0 | F, G, H, J | 13 | 2.8 | 2.65 | 90 |
| ATFC-0402-27N | 27.0 | F, G, H, J | 13 | 2.5 | 3.25 | 75 |
| ATFC-0402-33N | 33.0 | J | 13 | 2.5 | 4.50 | 75 |

Test Conditions and Equipments

Inductance (L)

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

PART IDENTIFICATION:

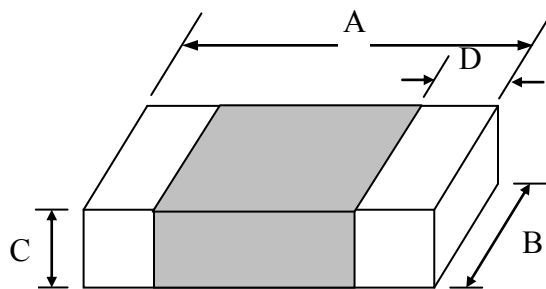
ATFC- 0402- -

Inductance Code
Please refer to the table above

| Inductance Tolerance |
|-----------------------|
| B: $\pm 0.1\text{nH}$ |
| C: $\pm 0.2\text{nH}$ |
| S: $\pm 0.3\text{nH}$ |
| F: $\pm 1\%$ |
| G: $\pm 2\%$ |
| H: $\pm 3\%$ |
| J: $\pm 5\%$ |

Packaging
T: Tape and Reel
(10kpcs reel)

OUTLINE DIMENSIONS:



| A | B | C | D |
|----------------|----------------|-----------------|-----------------|
| 1.0 \pm 0.05 | 0.5 \pm 0.05 | 0.32 \pm 0.05 | 0.20 \pm 0.10 |

Recommended Land Pattern



| A | B | C |
|------|------|----------------|
| 0.50 | 0.45 | 0.60 \pm 0.2 |

Dimension: mm

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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 |

REFLOW PROFILE:



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TAPE & REEL:

T= tape and reel (10,000pcsreel)



| A | B | W | E | F | P0 | P1 | P2 | ΦD0 | T |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.70±0.05 | 1.16±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±0.05 | 0.40±0.03 |



| ΦA | ΦB | ΦC | W | T |
|-----------|----------|----------|---------|----------|
| 178.0±1.0 | 60.0±1.0 | 13.5±0.7 | 9.5±1.0 | 11.5±1.0 |

Dimension: mm

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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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