

NFC Ferrite Antenna (13.56MHz)

ANFCA-5040-A02



RoHS/RoHS II compliant



50 x 40mm

Moisture Sensitivity Level (MSL) – MSL 1

FEATURES:

- Ultra thin flexible antenna structure (140 - 240 μ m)
- Peel and Stick antenna designs
- Ferrite sheet backing optimizes magnetic fields
- Wide operating temperature range -40°C to +85°C
- Matched to leading NFC controller IC's
- Customized solutions available

APPLICATIONS:

- Mobiles
- NFC Payment readers
- Electronic wallets
- Health care ID scanners
- NFC data loggers transport
- Ticketing systems
- Museum information systems
- Electronic Parking Payments
- Industrial data collection.

STANDARD SPECIFICATIONS:

Maximum Ratings

| Item | Value |
|-----------------------------|-----------------|
| Operating Temperature Range | -40°C to + 85°C |
| Storage Temperature Range | -40°C to + 85°C |

Electrical Characteristics

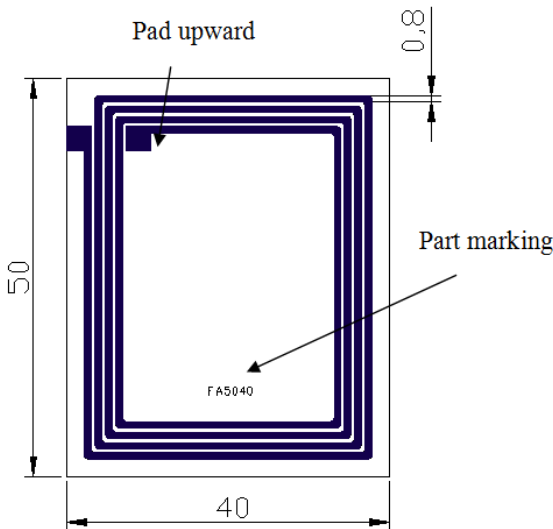
| Item | Spec |
|---------------------------------|---------------|
| Operating Frequency (MHz) | 13.56 |
| Inductance (μ H) | 1.8 \pm 10% |
| Q-Factor min. | 40 |
| DC Resistance max. (Ω) | 1.0 |

Test equipment: Agilent E4991A / 5071C

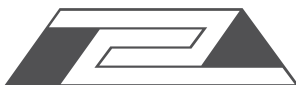
Product Customization

Products can be customized according to customer requirements. Features such as the dimensions or shape of the coil or its inductance can be customized. Please contact ABRACON or authorized distributor / agent for further details.

OUTLINE DIMENSIONS AND PCB LAND DRAWING



Dimensions in mm



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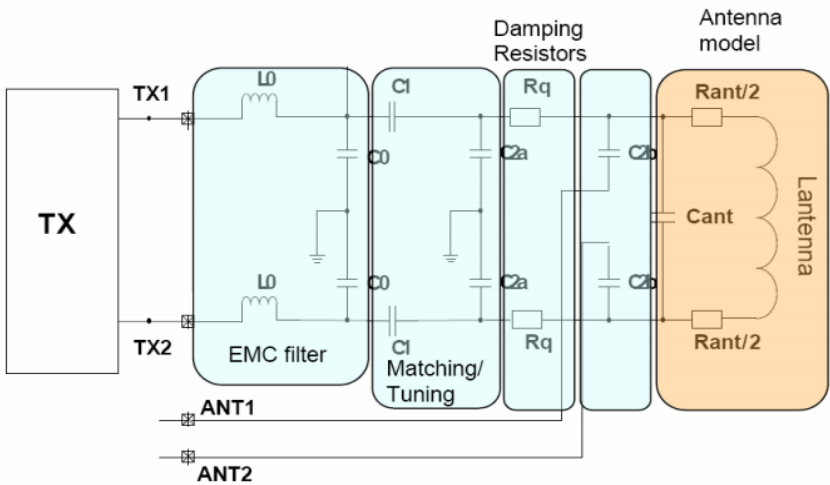
50 x 40mm

MATCHING CIRCUIT AND REFERENCE VALUES

| Component | Value for reference only ⁽¹⁾ | Notes |
|----------------------------------|---|--|
| L0 | 560 / 330nH (NXP / Broadcom) | EMC filter resonance at 15.4MHz (NXP) and 20.6MHz (Broadcom). |
| C0 | 180pF | EMC filter resonance at 15.4MHz (NXP) and 20.6MHz (Broadcom). |
| C1 | 33pF | Antenna matching component, to achieve series resonance at 13.56MHz. (Note: Antenna matching component value may need optimization depending upon antenna environment) |
| C2 (Includes C2a and C2b values) | 68pF | Antenna matching component, to achieve parallel resonance at 15MHz. (Note: Antenna matching component value may need optimization depending upon antenna environment). |
| Rq | 0 Ohm | Damping resistor, the Rq resistor used to lower Q-value if above 35 Ohm, if needed. |

Note (1) Values can change depending upon drive circuits, design of the antenna and environment.

Figure (2) – Matching Circuit



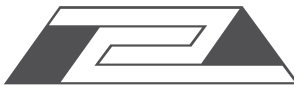
Reflow Profile: Not recommended for reflow soldering

Manual Soldering: Recommended Soldering iron temperature setting: 330°C, 3 seconds max, 3 times max.

Packaging: 100pcs per polyphene bag / box

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