Rectangular Near Field Communication (NFC) Antenna

NFC Antenna, with or without Ferrite

Rectangular NFC Antennas maximize effectiveness of quick, two-way read/write operations over a wide range of detection distances from metallic and non-metallic substrate applications.

Features and Benefits

- **Plated Pads**: Provide electrical contact to connecting spring clips or pogo pins mounted on the application PCB.
- **Selection of antenna sizes**: (15 by 25), (23 by 27), (34 by 46), and (45 by 55).
  Offer increased design flexibility to the application developer.
- **Flexi material**: Facilitates easy integration on the application substrate due to its pliability.
- **Ferrite* layer**: Eliminates interference effects from metallic or conductive surfaces when antenna is applied on these.
  Remark: Non-Ferrite version antennas are used on non-metallic or non-conductive surfaces.
- **Double-sided adhesive tape with liner**: Enables easy peel-and-stick mounting on the application substrate.

Applications

- **Automotive**
  - Infotainment systems
  - Smart car functions
- **Consumer**
  - Payment processing systems
  - Apparel tagging readers
- **Industrial**
  - Airline ticketing systems
  - Air baggage and cargo
  - Logistics, conveyors and roll cages
  - Security access control systems
  - Electronic keys

Near Field Communication (NFC) Antennas optimize detection performance for both Ferrite and non-Ferrite based applications.
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### Specifications

**REFERENCE INFORMATION**
- Reference Information
- Packaging: PE film
- Use With: RFID tags
- Designed In: Millimeters
- RoHS: Yes
- Halogen Free: Yes
- Glow Wire Compliant: No

**ELECTRICAL**
- Operating Frequency: 13.56 MHz
- RF Power: 2W
- Inductance (µH): Refer to Order Table

**MECHANICAL**
- Mode: Peel-and-stick

**PHYSICAL**
- Flexi Material: Polyimide
- Ferrite: TRF220
- Adhesive (FPC): 3M9077
- Plating Thickness:
  - Copper: 28-38µm
  - Nickel: 2-6µm
  - Gold: 0.05µm min.
- Operating Temperature: -30 to +85°C

### Ordering Information

<table>
<thead>
<tr>
<th>Series No.</th>
<th>Ferrite Option</th>
<th>Dimensions (mm)</th>
<th>Inductance (µH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>146236</td>
<td>With Ferrite</td>
<td>15 by 25 by 0.27</td>
<td>3.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23 by 27 by 0.27</td>
<td>3.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td>34 by 46 by 0.27</td>
<td>4.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45 by 55 by 0.27</td>
<td>3.92</td>
</tr>
<tr>
<td></td>
<td>Without Ferrite</td>
<td>15 by 25 by 0.17</td>
<td>2.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>23 by 27 by 0.17</td>
<td>2.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>34 by 46 by 0.17</td>
<td>2.76</td>
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<td></td>
<td></td>
<td>45 by 55 by 0.17</td>
<td>2.59</td>
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</table>

[www.molex.com/link/standard_antennas.html](http://www.molex.com/link/standard_antennas.html)

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