Z-Axis RFID Transponder Coils – ZXC

- Z-axis RFID coil can be used with any of our other RFID coils for a complete three-dimensional solution.
- Only 10 mm square and 2.2 mm tall
- Four mounting pads for exceptional board adhesion

Core material: Ferrite
Terminations: RoHS matte tin over nickel over phos bronze. Other terminations available at additional cost.
Weight: 0.53 – 0.56 g
Ambient temperature: -40°C to +125°C
Storage temperature: Component: -40°C to +125°C.
Tape and reel packaging: -40°C to +80°C
Resistance to soldering heat: Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles
Temperature Coefficient of Inductance (TCL): +25 to +200 ppm/°C
Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)
Mean Time Between Failures (MTBF): 26,315,789 hours
Packaging: 500/7” reel; 2000/13” reel
Plastic tape: 24 mm wide, 0.3 mm thick, 12 mm pocket spacing, 2.24 mm pocket depth
PCB washing: Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance at 125 kHz ±5% (mH)</th>
<th>Q min</th>
<th>Read distance (inches/cm)</th>
<th>Sensitivity (mV/µT)</th>
<th>Matching capacitor (pF)</th>
<th>DCR max (Ohms)</th>
<th>SRF typ (kHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZXC-255XJL_</td>
<td>2.48</td>
<td>57</td>
<td>33/83.8</td>
<td>9.75</td>
<td>654</td>
<td>37</td>
<td>1975</td>
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<tr>
<td>ZXC-495XJL_</td>
<td>4.90</td>
<td>64</td>
<td>33/83.8</td>
<td>18.0</td>
<td>331</td>
<td>43</td>
<td>1370</td>
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<tr>
<td>ZXC-715XJL_</td>
<td>7.10</td>
<td>65</td>
<td>31/78.7</td>
<td>25.0</td>
<td>228</td>
<td>62</td>
<td>1220</td>
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<tr>
<td>ZXC-116XJL_</td>
<td>11.4</td>
<td>60</td>
<td>31/78.7</td>
<td>50.0</td>
<td>142</td>
<td>110</td>
<td>990</td>
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<tr>
<td>ZXC-156XJL_</td>
<td>14.8</td>
<td>55</td>
<td>31/78.7</td>
<td>77.0</td>
<td>110</td>
<td>160</td>
<td>815</td>
</tr>
</tbody>
</table>

1. When ordering, please specify packaging code:

Packaging:
- **C** = 7” machine-ready reel. EIA-481 embossed plastic tape (500 parts per full reel).
- **B** = Less than full reel. In tape, but not machine ready.
- **D** = 13” machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2000 parts per full reel).

2. Inductance and Q measured using Agilent/HP 4192A impedance analyzer at 125 kHz. For recommended test procedures, contact Coilcraft.
3. Read distance measured using the KEELOQ® Transponder Evaluation Kit part number DM303005 from Microchip. Distance was recorded as the voltage across the resonant circuit dropped below 10 mV.
4. Sensitivity measured in accordance with Coilcraft application note “Measuring Sensitivity of Transponder Coils.”
5. Matching capacitor value required for parallel resonant circuit operating at 125 kHz.
6. DCR measured on micro-ohmmeter.
7. SRF measured using Agilent/HP 8753D network analyzer.
8. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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This product may not be used in medical or high risk applications without prior Coilcraft approval.
Specification subject to change without notice.
Please check web site for latest information.
RFID Transponder Coils – ZXC

Typical L vs Frequency

Typical Q vs Frequency

Recommended Land Pattern

Note: These pads are only for board adhesion. Do not connect these pads to circuit or ground.

Dimensions are in inches mm

RoHS Compliant