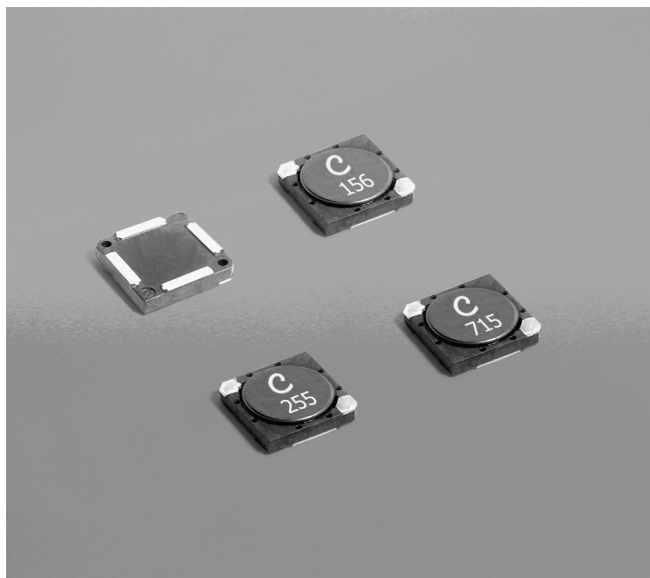




# Z-Axis RFID Transponder Coils – ZXC



- 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.

Part number <sup>1</sup>	Inductance <sup>2</sup> at 125 kHz ±5% (mH)	Q min <sup>2</sup>	Read distance <sup>3</sup> (inches/cm)	Sensitivity <sup>4</sup> (mV/μT)	Matching capacitor <sup>5</sup> (pF)	DCR max <sup>6</sup> (Ohms)	SRF typ <sup>7</sup> (kHz)
ZXC-255XJL_	2.48	57	33/83.8	9.75	654	37	1975
ZXC-495XJL_	4.90	64	33/83.8	18.0	331	43	1370
ZXC-715XJL_	7.10	65	31/78.7	25.0	228	62	1220
ZXC-116XJL_	11.4	60	31/78.7	50.0	142	110	990
ZXC-156XJL_	14.8	55	31/78.7	77.0	110	160	815

1. When ordering, please specify **packaging** code:

ZXC-725XJLC

**Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (500 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (2000 parts per full reel).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

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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Document 597-1 Revised 03/24/10

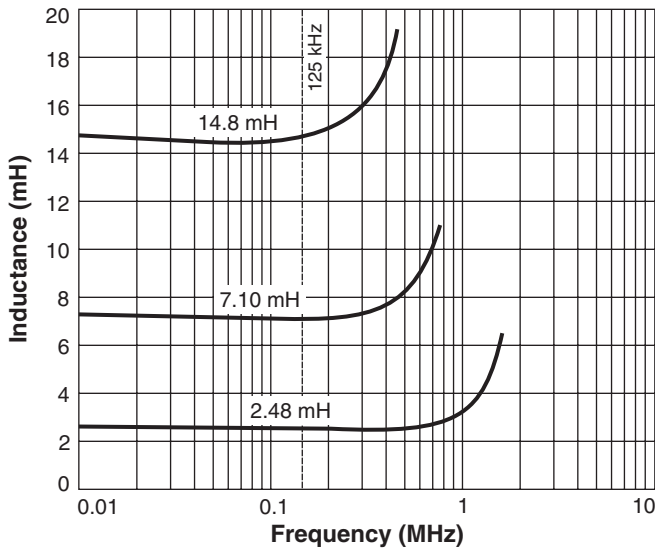
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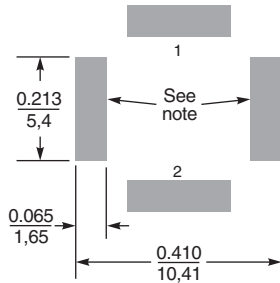
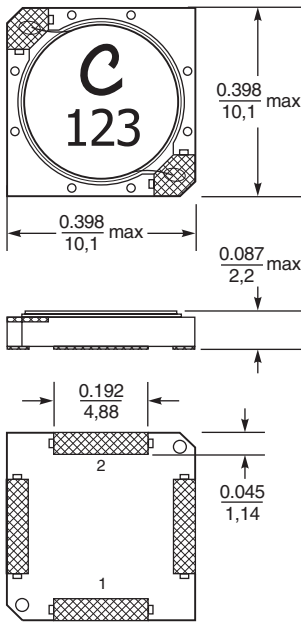
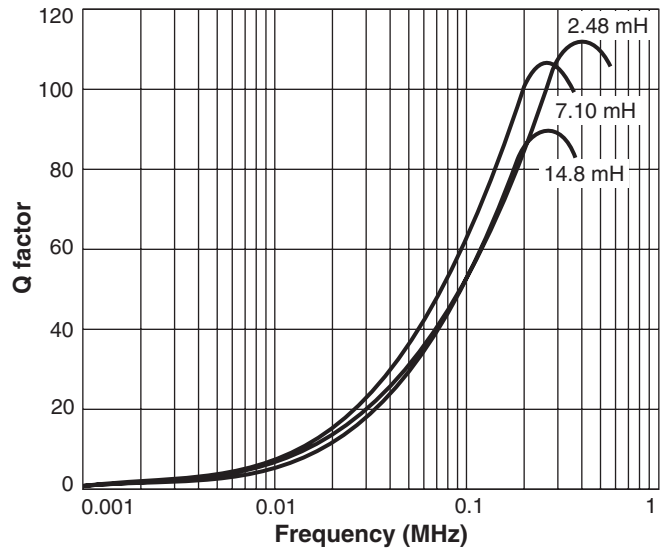


# RFID Transponder Coils – ZXC

## 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  $\frac{\text{inches}}{\text{mm}}$



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Document 597-2 Revised 03/24/10

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