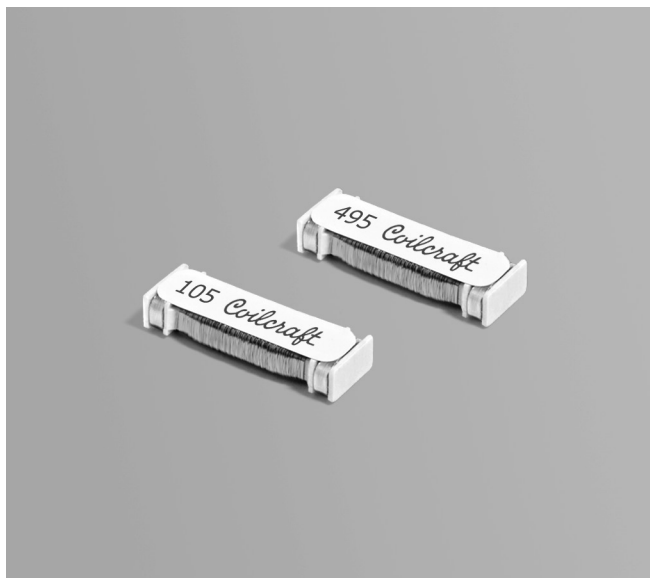


RFID Transponder Coils – 4312RV



The 4312RV series of transponder coils is designed for RFID applications at 125 kHz. It is Coilcraft's smallest transponder coil developed specifically for the harshest mechanical environments.

The coil is wound on a plastic base, providing great durability and allowing this part to withstand physical shock. With operating temperature range to 125°C, these parts pass AEC-200 Grade 1 (-40°C to +125°C) qualification and are ideal for use in a wide range of automotive applications. The uniquely shaped termination provides excellent board adhesion.

In addition to our standard models, Coilcraft can also design transponder coils to operate at other frequencies.

To request free evaluation samples, contact Coilcraft or visit www.coilcraft.com.

Part number ¹	Inductance ² at 125 kHz ±2% (mH)	Q min ²	Read distance ³ (inches/cm)	Sensitivity ⁴ (mV/μT)	Matching capacitor ⁵ (pF)	DCR max ⁶ (Ohms)	SRF typ ⁷ (kHz)
4312RV-404XGL_	0.40	21	19.65/49,91	9.14	4050	11.5	6340
4312RV-105XGL_	1.00	21	24.25/61,60	15.26	1621	29	4150
4312RV-245XGL_	2.38	26	28.35/72,01	24.72	681	55	2470
4312RV-495XGL_	4.90	24	32.85/83,44	42.45	331	103	1270
4312RV-725XGL_	7.20	30	35.05/89,03	60.02	225	128	1465
4312RV-905XGL_	9.00	32	35.80/91,00	78.10	180	150	1200

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

4312RV-725XGLD

Packaging: D = 13" machine-ready reel. EIA-481 embossed plastic tape (3000 parts per full reel).

B = Less than full reel. In tape, but not machine ready.
To have a leader and trailer added (\$25 charge), use code letter D instead.

- Inductance and Q measured using Agilent/HP 4192A impedance analyzer at 125 kHz. For recommended test procedures, contact Coilcraft.
- 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.
- Sensitivity measured in accordance with Coilcraft application note "Measuring Sensitivity of Transponder Coils."
- Matching capacitor value required for parallel resonant circuit operating at 125 kHz.
- DCR measured on micro-ohmmeter.
- SRF measured using Agilent/HP 8753D network analyzer.
- Electrical specifications at 25°C

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Terminations RoHS compliant gold over nickel over phos bronze.

Weight 210 – 240 mg

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

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Temperature coefficient of inductance +300 to +1100 ppm/°C

Failures in Time (FIT) / Mean Time Between Failures (MTBF)
One per billion hours / one billion hours, calculated per Telcordia SR-332

Packaging 3000 per 13" reel Plastic tape: 24 mm wide, 0.3 mm thick, 8 mm pocket spacing, 2.49 mm pocket depth

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf.



www.coilcraft.com

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Document 461-1 Revised 10/30/08

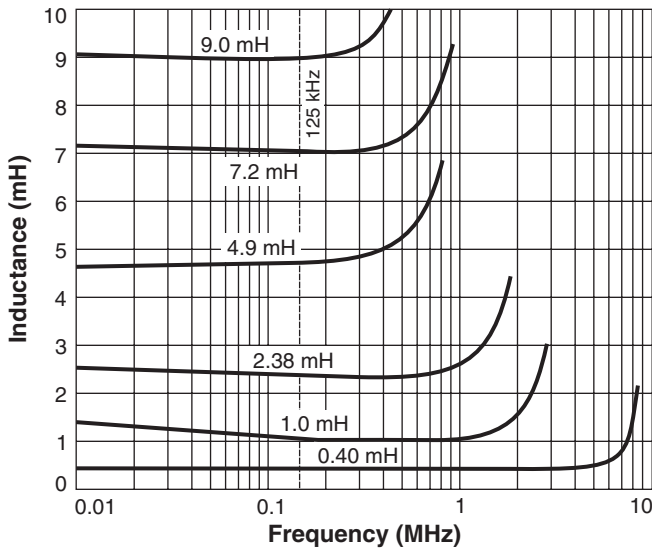
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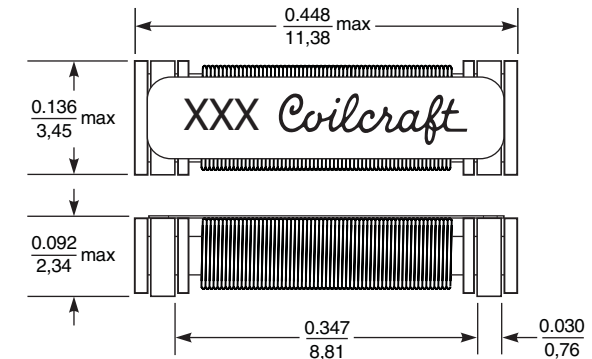


RFID Transponder Coils – 4312RV

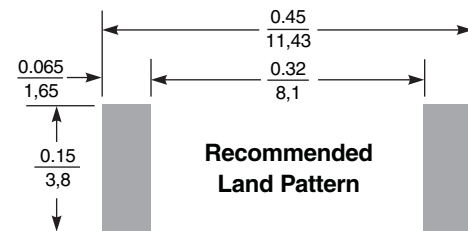
Typical L vs Frequency



Dimensions



Note: Unless otherwise indicated, all part dimensions $\pm 0.002/0,05$



Dimensions are in $\frac{\text{inches}}{\text{mm}}$



www.coilcraft.com

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Mouser Electronics

Authorized Distributor

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Coilcraft:

<u>4312RV-905XGLB</u>	<u>4312RV-105XGLB</u>	<u>4513TC-404XGLB</u>	<u>4312RV-725XGLB</u>	<u>4312RV-495XGLB</u>	<u>4513TC-404XGLD</u>
<u>4312RV-245XGLD</u>	<u>4312RV-404XGLD</u>	<u>4312RV-105XGLD</u>	<u>4312RV-725XGLD</u>	<u>4513TC-245XGLD</u>	<u>4312RV-245XGLB</u>
<u>4312RV-404XGLB</u>	<u>4312RV-495XGLD</u>	<u>4513TC-105XGLD</u>	<u>4312RV-905XGLD</u>	<u>4513TC-105XGLB</u>	<u>4513TC-495XGLD</u>
<u>4513TC-725XGLD</u>					