



RFID Transponder Coils – 4308RV



Coilcraft's 4308RV antenna coils are high performance devices intended for RFID applications at 125 kHz.

These low profile parts have an extended length that allows longer read ranges. An encapsulated top ensures reliable pick and place operations. Core construction and encapsulation are rated for 125°C, which makes these transponders ideal for higher temperature applications. For harsh environments, please consider the 4312RV or 5315TC, which were developed for tire pressure monitoring systems.

The 4308RV transponders coils are available in 5% and 2% tolerances. In addition to the standard models shown, Coilcraft can design coils to operate at other frequencies.

Coilcraft **Designer's Kit C383** contains four samples of all 5% inductance tolerance parts. To order, contact Coilcraft or visit <http://order.coilcraft.com>.

Part number ¹	Inductance at 125 kHz ² (mH)	Tolerance ³	Q min ²	Read distance ⁴ (in./cm)	Sensitivity ⁵ (mV/μT)	Matching capacitor ⁶ (pF)	DCR max ⁷ (Ohms)	SRF typ ⁸ (kHz)	Color code
4308RV-374X_L_	0.37	5,2	26	22/55.9	9.82	4380	6.5	1800	Orange Violet Yellow
4308RV-404X_L_	0.40	5,2	26	23/58.4	10.38	4050	7.1	5000	Yellow Black Yellow
4308RV-704X_L_	0.70	5,2	20	25/63.5	13.96	2320	19	6600	Violet Black Yellow
4308RV-904X_L_	0.90	5,2	22	26/66.0	16.06	1800	21	4800	White Black Yellow
4308RV-115X_L_	1.08	5,2	24	30/76.2	17.78	1500	24	4300	Brown Brown Green
4308RV-205X_L_	1.97	5,2	28	34/86.4	24.90	823	31	1750	Red Black Green
4308RV-245X_L_	2.38	5,2	30	37/94.0	28.21	681	34	1700	Red Yellow Green
4308RV-295X_L_	2.89	5,2	30	37/94.0	32.12	561	42	1900	Red White Green
4308RV-335X_L_	3.30	5,2	30	38/96.5	34.96	491	48	1425	Orange Orange Green
4308RV-415X_L_	4.15	5,2	27	39/99.1	41.35	391	70	1620	Yellow Brown Green
4308RV-495X_L_	4.90	5,2	26	38/96.5	47.17	331	93	1150	Yellow White Green
4308RV-685X_L_	6.80	5,2	28	41/104.1	61.71	238	110	1080	Blue Gray Green
4308RV-715X_L_	7.10	5,2	27	42/106.7	65.60	228	114	1050	Violet Brown Green
4308RV-725X_L_	7.20	5,2	28	40/101.6	66.67	225	114	965	Violet Red Green
4308RV-815X_L_	8.10	5,2	28	42/106.7	75.08	200	125	965	Gray Brown Green
4308RV-905X_L_	9.00	5,2	30	40/101.6	84.64	180	125	725	White Black Green

1. When ordering, please specify **tolerance** and **packaging** codes:

4308RV-905XJLD

Tolerance: G = 2% J = 5% (Table shows stock tolerances in bold.)

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.

2. Inductance and Q measured using Agilent/HP 4192A impedance analyzer.

3. Tolerances in bold are stocked for immediate shipment.

4. 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.

5. Sensitivity measured in accordance with Coilcraft application note "Measuring Sensitivity of Transponder Coils."

6. Matching capacitor value required for parallel resonant circuit operating at 125 kHz.

7. DCR measured on micro-ohmmeter.

8. SRF measured using Agilent/HP 8753D network analyzer.

9. Electrical specifications at 25°C.

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



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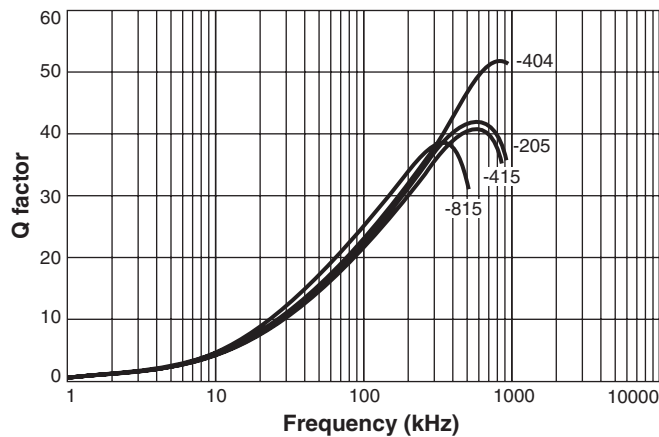
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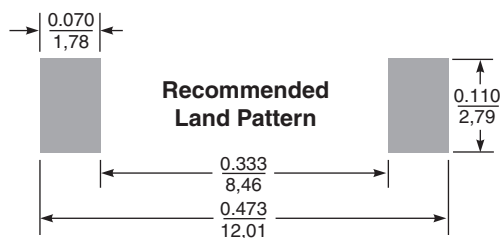
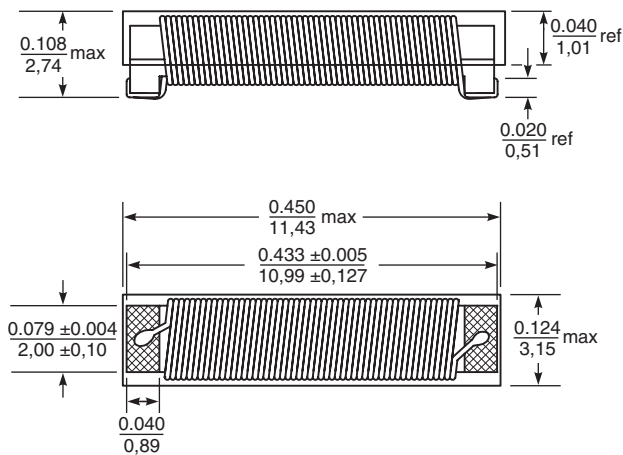
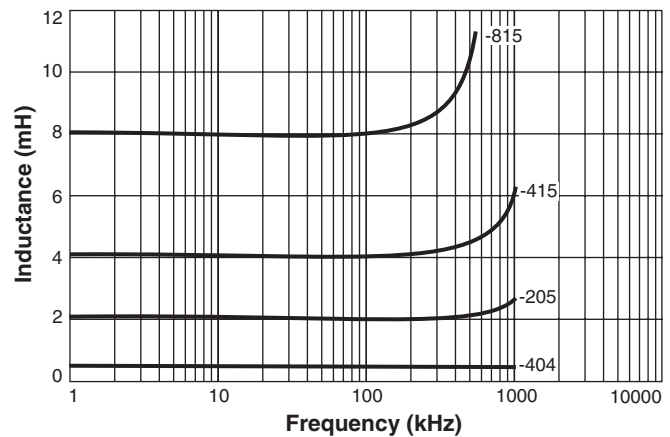


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Typical Q vs Frequency



Typical L vs Frequency



Terminations RoHS compliant silver-palladium-platinum-glass frit

Weight 230 – 250 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 +200 to +700 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, 2.7 mm pocket depth

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



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