

## Transponder Coils (for RFID)

Our surface mount transponder coils (wire wound) series cover a wide range of electrical performances. Its length and cross section area are optimized for best sensitivity in the coil axis. Customized inductance values are available upon request.

**Applications** Used for wireless data transmission in low frequency RFID products, such as immobilizers, TPMS and keyless entry. Other industrial applications include access control and tracking devices.

### Technical Data

L – Value (rated inductance)	Measured with Bode 100 Vector Network Analyzer or equivalent at frequency $f_L$
Q – Factor (min)	Measured with Bode 100 Vector Network Analyzer or equivalent at frequency $f_Q$
SRF (min)	Measured with HP 8753ES Network Analyzer or equivalent
DCR (max)	Measured at 25°C
Operating Temperature	-40°C to +150°C (Including component self-heating) For FTC from -40°C to +125°C
Pad Metallization	Gold flash as top layer, except ZASL with tin plating
Wire termination	Spot welding, except ZASL
Recommended soldering method	<a href="#">Reflow</a>
Moisture Sensitivity Levels (MSL)	MSL Level 1, indicating unlimited floor life at $\leq 30^\circ\text{C}$ / 85% relative humidity
Solderability	Using lead free solder (Sn 99.9) at $260^\circ\text{C} \pm 5^\circ\text{C}$ for $5 \pm 0.5$ seconds, min 90% solder coverage of metallization Standard: IEC 68-2-20 (Ta)
Resistance to Soldering Heat	Resistant to $260^\circ\text{C} \pm 5^\circ\text{C}$ for $10 \pm 1$ seconds Standard: IEC 68-2-20 (Tb)
Resistance to Solvent	Resistant to Isopropyl alcohol for $5 \pm 0.5$ minutes at $23^\circ\text{C} \pm 5^\circ\text{C}$ Standard: IEC 68-2-45
Climatic Test	Defined by the following standards IEC 68-2-1 for Cold test: $-40^\circ\text{C}$ for 96 hours IEC 68-2-2 for Dry heat test: $125^\circ\text{C}$ for 96 hours IEC 60068-2-78 for Humidity test: $40^\circ\text{C}$ at RH 95% for 4 days
Thermal Shock Test	Temperature cycle: $-40^\circ\text{C}$ to $+125^\circ\text{C}$ to $-40^\circ\text{C}$ Max/Min temperature duration: 15 min Temperature transition duration: 5 min Cycles: 25 Standard: MIL-STD-202G
Adhesion of Soldered Component (Shear Test)	Components withstand a pushing force of 10N for $10 \pm 1$ seconds Standard: IEC 60068-2-21, method Ue3
Mechanical Shock	Mil-Std 202 Method 213 Condition C 3 axis, 6 times, total 18 shocks 100 G, 6 ms, half-sine
Vibration	Mil-Std 202 Method 204 20 mins at 5G 10 Hz to 2000 Hz 12 cycles each of 3 orientations

Technical Data & Packing Specification

**Ordering Code** Example: 4408AF-371X-YY

**4408** (Case Size) **AF** (Core Type) **- 371** (Inductance Value) **X** (Tolerance) **- YY** (Packing Code) ➔ **4408AF-371K-04**

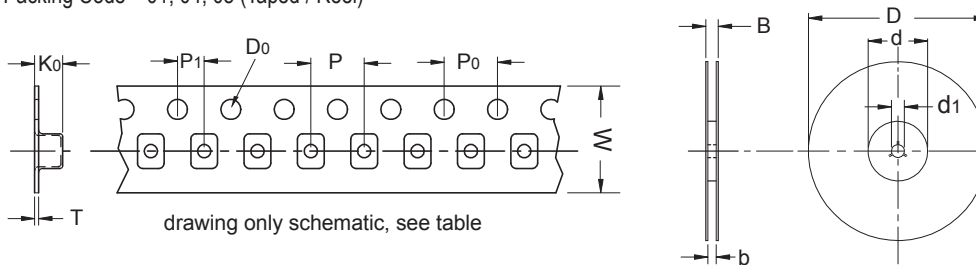
Case Size - 1210, 1812, 4408, ZASL

Core Type - FTC (Ferrite), AFTC (Ceramic & Ferrite), AF/AQ (Ceramic & Ferrite), ZASL (Ferrite)

Tolerances - J (5%), K (10%)

Packing Code - 01, 04, 08 (Taped / Reel)

### Packing Specification



Type	Packing Code	D	D <sub>0</sub>	d	d <sub>1</sub>	B	b	W	P	P <sub>0</sub>	P <sub>1</sub>	K <sub>0</sub>	T
1210 FTC	01	180	1.55	60	13	18.4	13.7	12	8	4	2	2.55	0.30
1210 FTC	04	330	1.55	100	13	18.4	12.4	12	8	4	2	2.55	0.30
1812 AFTC	01	180	1.50	60	13	18.4	15.4	12	8	4	2	4.0	0.28
1812 AFTC	04	330	1.50	100	13	18.4	12.4	12	8	4	2	3.7	0.35
4408 AF/AQ	04/08	330	1.55	100	13	30.4	24.5	24	8	4	2	2.7	0.30
ZASL	04	330	1.50	100	13	30.4	24.4	24	12	4	2	3.6	0.30

## FASTRON's Component Key Characteristics



Approved according to AEC-Q200



Approved according to AEC-Q200 with High Temperature



Suitable for High Temperature



Part is RoHS conform and Halogen free



Mechanical Shock and Vibration Proof



Designed for High Q-values



Exceptionally High Q-values



Optimized for High Currents



Optimized for High Voltages