

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 | Reflow |
| 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 ± 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 ± 1 seconds Standard: IEC 68-2-20 (Tb) |
| Resistance to Solvent | Resistant to Isopropyl alcohol for 5 ± 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°C for 96 hours IEC 68-2-2 for Dry heat test: 125°C for 96 hours IEC 60068-2-78 for Humidity test: 40°C at RH 95% for 4 days |
| Thermal Shock Test | Temperature cycle: -40°C to $+125^\circ\text{C}$ to -40°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 ± 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 **AF** - **371** **X** - **YY**
(Case Size) (Core Type) (Inductance Value) (Tolerance) (Packing Code) ➔ **4408AF-371K-04**

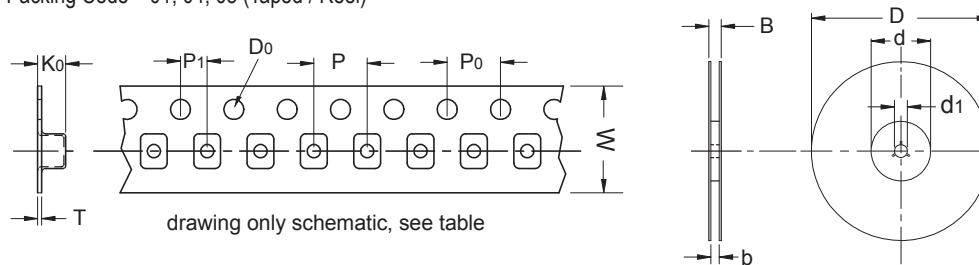
Case Size - 1210, 1812, 4408, ZASL

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 ₀ | d | d ₁ | B | b | W | P | P ₀ | P ₁ | K ₀ | 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



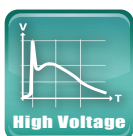
Designed for High Q-values



Exceptionally High Q-values



Optimized for High Currents



Optimized for High Voltages