

## Common Mode Filter Chip Inductors

FASTRON adds a Common Mode Filter in package size 1812 to its product portfolio. The 1812CMF has two parallel copper windings wound providing a symmetric coil. A ferrite plate on top of the ferrite core works as a magnetic shield and allows for pick and place assembly.

**Applications** The 1812CMF's general purpose is filtering fast signals path at high frequencies. The Common Mode Choke is designed to provide highest quality for the most stringent applications e.g. automotive, industrial and automation. The part could be used in data-line filters, Ethernet networking, CAN-Bus, USB, wideband noise suppression and EMC circuit protection for incoming radiation and outgoing noise emission.

### Technical Data

L – Value (rated inductance)	Measured with 4285A Precision LCR Meter or equivalent at frequency $f_l$
Impedance,  Z	Measured with E4991B Impedance Analyzer, 4286A RF LCR meter or equivalent at frequency $f_z$
DCR (max)	Measured at 25°C
Operating Temperature	-40°C to +150°C (Including component self-heating)
Surface Finishing	Flat top for perfect pick and place assembly
Pad Metallization	Gold flash
Wire Termination	Spot welding
Recommended soldering method	Reflow
Moisture Sensitivity Levels (MSL)	MSL Level 1, indicating unlimited floor life at $\leq 40^\circ\text{C}$ /60% relative humidity
Solderability	Using lead free solder (Sn 96.5) at $245^\circ\text{C} \pm 5^\circ\text{C}$ 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 : $-55^\circ\text{C}$ for 96 hours IEC 68-2-2 for Dry heat test : $150^\circ\text{C}$ 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 $+150^\circ\text{C}$ to $-40^\circ\text{C}$ Max/Min temperature duration : 15 minutes Temperature transition duration : 5 minutes 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 Ue <sub>3</sub>
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

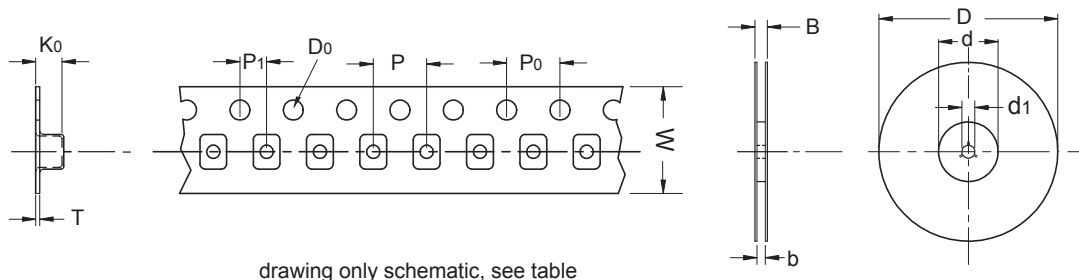
Technical Data & Packing Specification

**Ordering Code** Example: 1812CMF-101X-YY ➔ **1812CMF-101X-01**

**1812**      **CMF**      -      **101**      **X**      -      **YY**  
(Case Size) (Series name) (Inductance Value) (Tolerance) (Packing Code)

Case Sizes      - 1812  
Tolerances      - +50%/-30%  
Packing Code   - 01, 04 (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
1812	01	180	1.50	60	13	18.4	13.7	12	8	4	2	3.40	0.35
1812	04	330	1.50	100	13	18.4	12.4	12	8	4	2	3.40	0.35