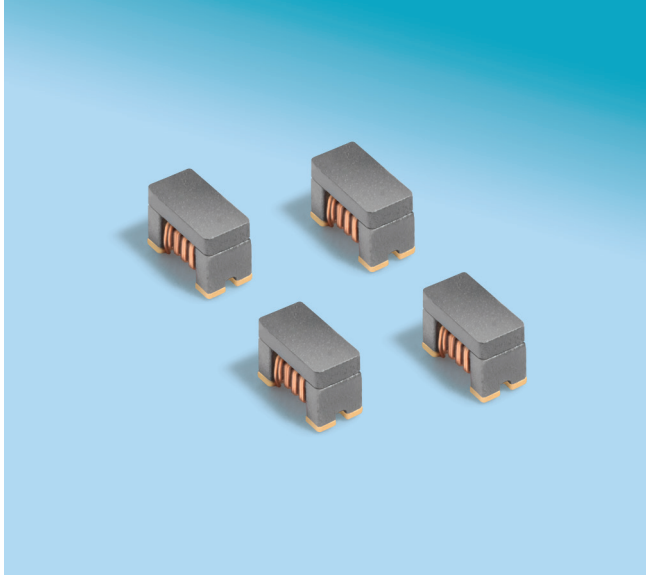


NEW!

Outgassing Compliant USB Chokes AR312FRA



- Designed for high-speed USB 3.0, HDMI, SATA, IEEE1394 and LVDS applications.
- Supports data rates up to 4.8 Gbit/s.
- Miniature EIA 0603 footprint; only 1.07 mm tall
- Most values provide >15 dB common mode attenuation and >100 ohms impedance.
- Passes NASA low outgassing specifications

Core material Ferrite

Terminations Tin-lead (63/37) over tin over nickel over silver-palladium-glass frit. Other terminations available at additional cost.

Weight 4.5 – 6.4 mg

Ambient temperature –40°C to +105°C with Irms current

Maximum part temperature +125°C (ambient + temp rise).

Storage temperature Component: –55°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)

Packaging 2000/7" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.14 mm pocket depth

Part number ¹	Common mode peak impedance (kOhms)	Cutoff frequency ² (GHz)	Common mode attenuation typ (dB)			Inductance ³ min (nH)	DCR max ⁴ (Ohms)	Isolation ⁵ (Vrms)	Imax (mA)
			100 MHz	500 MHz	1 GHz				
AR312FRA251MPZ	>0.10 @ >3.0 GHz	3.8	3.27	5.13	7.07	18	0.077	250	500
AR312FRA601MPZ	>0.18 @ >3.0 GHz	3.4	5.76	9.46	12.6	37	0.109	250	500
AR312FRA951MPZ	0.30 @ 2.6 GHz	2.8	8.89	12.64	16.6	63	0.142	250	500
AR312FRA142MPZ	0.42 @ 1.9 GHz	1.9	10.88	15.89	19.3	98	0.174	250	500
AR312FRA222MPZ	0.66 @ 1.8 GHz	0.96	12.45	19.85	23.4	150	0.209	250	500

1. When ordering, please specify **termination** and **screening** codes:

AR312FRA222MPZ

Termination: P = Tin-lead (63/37) over tin over nickel over silver-palladium-glass frit.

C = Tin-lead (63/37) over gold over nickel over silver-palladium-glass frit

A = Gold over nickel over silver-palladium-glass frit

R = Tin over nickel over silver-palladium-glass frit.
Not suitable for applications or screening with pure tin restrictions.

Screening: Z = Unscreened

H = Coilcraft CP-SA-10001 Group A

G = Coilcraft CP-SA-10001 Group A (SLDC Option A)

D = Coilcraft CP-SA-10001 Group A (SLDC Option B)

F = ESCC3201 (F4 operational life performed at 90°C)

1 = EEE-INST-002 (Family 1) Level 1

2 = EEE-INST-002 (Family 1) Level 2

3 = EEE-INST-002 (Family 1) Level 3

4 = MIL-STD-981 (Family 11) Class B

5 = MIL-STD-981 (Family 11) Class S

• Screening performed to the document's latest revision.

• Lot qualification (Group B) available.

2. Frequency at which the differential mode attenuation equals –3 dB

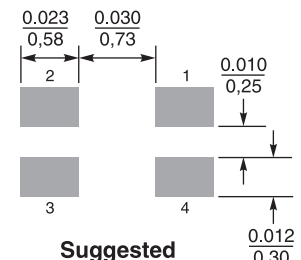
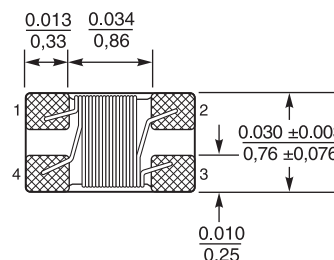
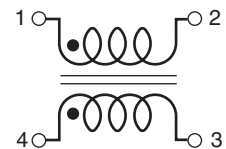
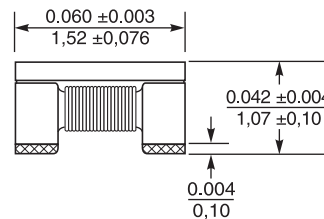
3. Inductance measured at 100 MHz using an Agilent/HP 4286A impedance analyzer and a Coilcraft SMD-A fixture.

4. DCR is specified per winding.

5. Winding to winding isolation (hipot) tested for one minute.

6. Electrical specifications at 25°C.

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



Suggested Land Pattern

Note: Dimensions are before solder application. For maximum overall dimensions including solder, add 0.003 in / 0.076 mm to the maximum length, width and height.

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

Coilcraft CPS
CRITICAL PRODUCTS & SERVICES

1102 Silver Lake Road
Cary, IL 60013
Phone 800-981-0363

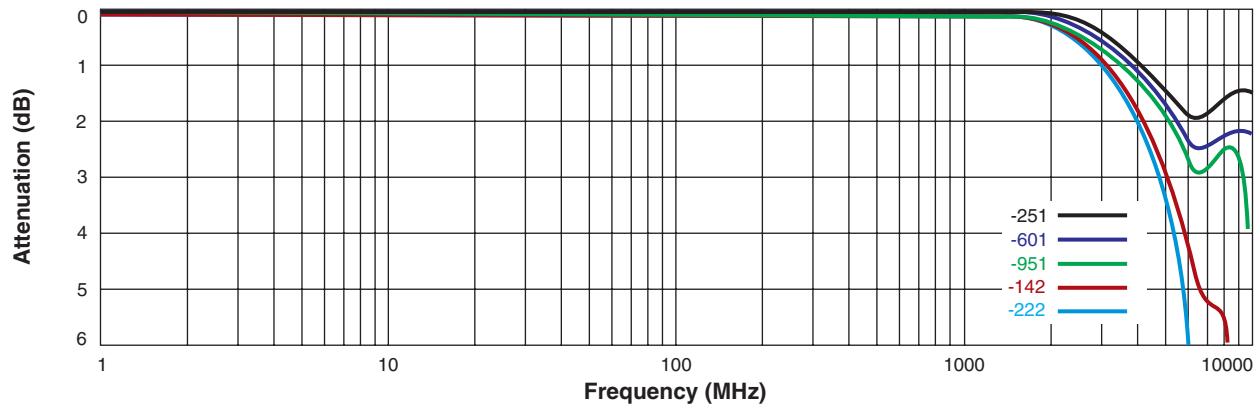
Fax 847-639-1508
Email cps@coilcraft.com
www.coilcraft-cps.com

Document AR406-1 Revised 06/07/23

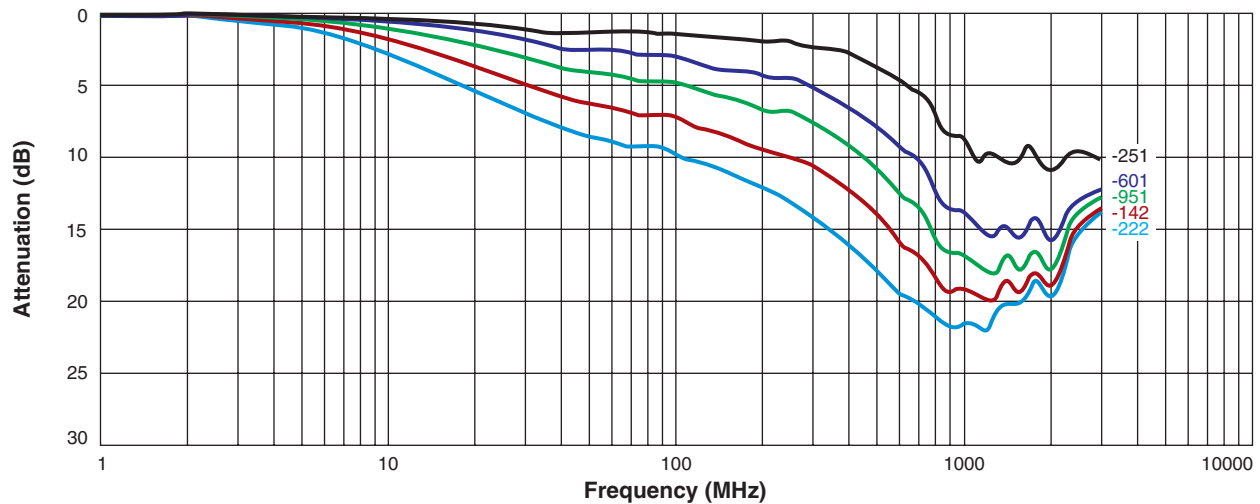
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

USB 3.0 Common Mode Filter – AR312FRA

Typical differential mode attenuation (Ref: 50 Ohms)



Typical common mode attenuation (Ref: 50 Ohms)



Typical impedance vs frequency

