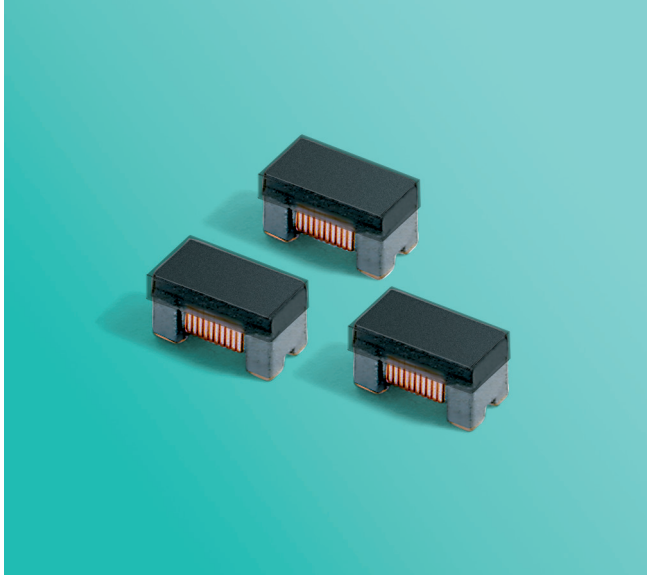


# Common Mode Chokes for Critical Applications



- 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 1.17 mm tall
- Most values provide >15 dB common mode attenuation and >100 ohms impedance.

**Core material** Ferrite

**Terminations** Gold over nickel over silver-palladium-glass frit. Other terminations available at additional cost

**Weight** 4.9 – 5.2 mg

**Ambient temperature** -40°C to +85°C with  $I_{rms}$  current, +85°C to +105°C with derated current

**Storage temperature** Component: -55°C to +105°C.  
Tape and reel packaging: -55°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 per 7" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.14 mm pocket depth

Part number <sup>1</sup>	Common mode impedance typ (Ohms)			Common mode attenuation typ (dB)			Inductance <sup>2</sup> min (nH)	DCR max <sup>3</sup> (Ohms)	Isolation (Vrms)	$I_{rms}$ <sup>4</sup> (mA)
	100 MHz	500 MHz	1 GHz	100 MHz	500 MHz	1 GHz				
CP312FRA251MAZ	25	44	64	1.31	3.16	8.45	18	0.077	250	500
CP312FRA601MAZ	60	99	142	3.00	6.88	13.27	37	0.109	250	500
CP312FRA951MAZ	95	156	234	4.62	9.75	16.06	63	0.142	250	500
CP312FRA142MAZ	145	242	353	6.85	12.80	18.16	98	0.174	250	500
CP312FRA222MAZ	225	384	592	9.14	16.53	20.29	150	0.209	250	500

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

**CP312FRA222MAZ**

**Termination:** **A** = RoHS compliant gold over nickel over silver-palladium-glass frit

**Special order:**

**C** = Tin-lead over gold over nickel over silver-palladium-glass frit

**F** = Tin-silver-copper over gold over nickel over silver-palladium-glass frit

**Testing:** **Z** = COTS

**H** = Screening per Coilcraft CP-SA-10001

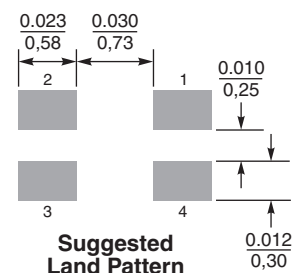
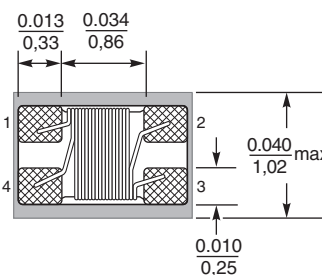
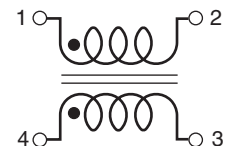
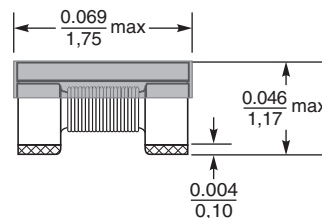
2. Inductance measured at 100 MHz using an Agilent/HP 4286A impedance analyzer and a Coilcraft SMD-A fixture.

3. DCR is specified per winding.

4. Current per winding that causes a 20°C rise from 25°C ambient.

5. Electrical specifications at 25°C.

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



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

**Coilcraft CPS**  
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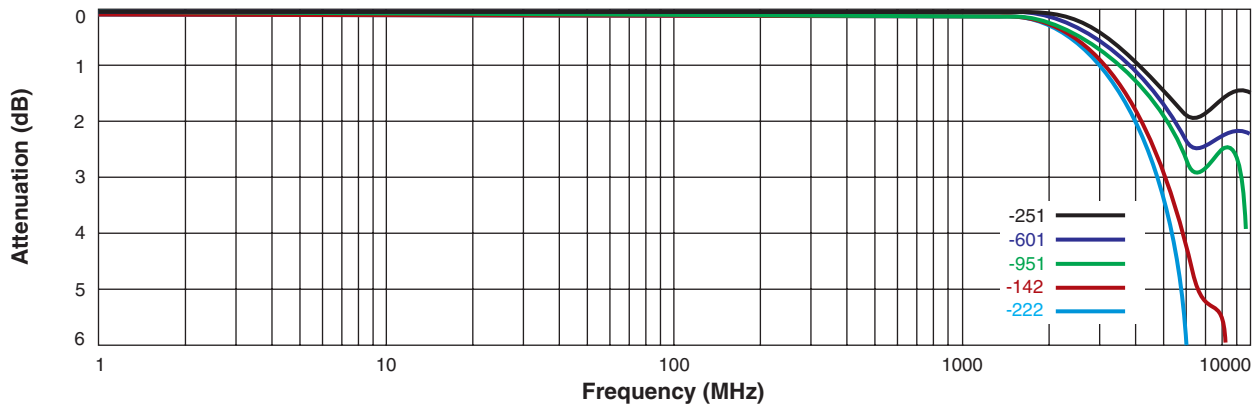
Fax 847-639-1508  
Email [cps@coilcraft.com](mailto:cps@coilcraft.com)  
[www.coilcraft-cps.com](http://www.coilcraft-cps.com)

Document CP406-1 Revised 07/11/12

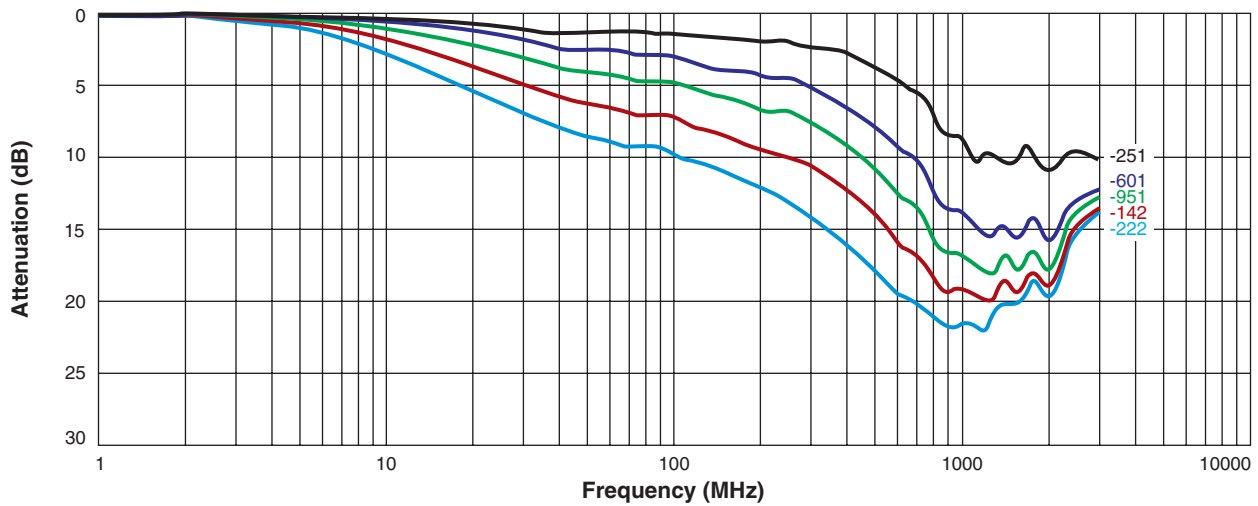
This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

# 0603 Common Mode Choke – CP312FRA

Typical differential mode attenuation (Ref: 50 Ohms)



Typical common mode attenuation (Ref: 50 Ohms)



Typical impedance vs frequency

