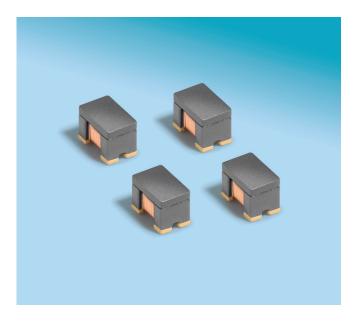
## utgassing Compliant USB Chokes AR336FRA



- For common mode noise suppression in high speed differential signal lines: USB2.0, IEEE1394, LVDS, etc.
- Up to 3.4 GHz differential mode 3 dB cutoff frequency
- Up to 2 kOhms common mode peak impedance
- Up to 35 dB common mode noise attenuation.
- 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 13.8 – 15.8 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; 7500/13" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.5 mm pocket depth

|                          | Common mode<br>peak impedance | Cutoff<br>frequency <sup>2</sup> | Common mode attenuation typ (dB) |         |         | Inductance <sup>3</sup> | DCR<br>max <sup>4</sup> | <b>Isolation</b> <sup>5</sup> | Imax |
|--------------------------|-------------------------------|----------------------------------|----------------------------------|---------|---------|-------------------------|-------------------------|-------------------------------|------|
| Part number <sup>1</sup> | · (kOhms)                     | (ĠHz)                            | 10 MHz                           | 100 MHz | 500 MHz | min (nH)                | (Ohms)                  | (Vrms)                        | (mA) |
| AR336FRA421MPZ           | >0.22 @ >3.0 GHz              | 3.5                              | 0.9                              | 4.5     | 7.1     | 23                      | 0.12                    | 250                           | 500  |
| AR336FRA901MPZ           | >0.29 @ >3.0 GHz              | 2.5                              | 0.5                              | 7.3     | 12.4    | 47                      | 0.17                    | 250                           | 500  |
| AR336FRA172MPZ           | 0.64 @ 1.8 GHz                | 1.8                              | 4.4                              | 12.3    | 16.9    | 84                      | 0.25                    | 250                           | 500  |
| AR336FRA262MPZ           | 0.82 @ 1.8 GHz                | 1.5                              | 7.6                              | 15.3    | 20.1    | 147                     | 0.26                    | 250                           | 500  |
| AR336FRA372MPZ           | 1.06 @ 1.4 GHz                | 0.82                             | 9.7                              | 18.5    | 23.4    | 189                     | 0.32                    | 250                           | 500  |
| AR336FRA502MPZ           | 1.42 @ 1.1 GHz                | 0.7                              | 8.2                              | 20.3    | 26.1    | 273                     | 0.37                    | 250                           | 500  |
| AR336FRA672MPZ           | 1.75 @ 0.93 GHz               | 0.46                             | 12.5                             | 22.9    | 28.2    | 322                     | 0.45                    | 250                           | 500  |
| AR336FRA902MPZ           | 2.06 @ 0.81 GHz               | 0.47                             | 10.7                             | 24.8    | 29.8    | 413                     | 0.65                    | 250                           | 250  |

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

## AR336FRA902MPZ

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 silverpalladium-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)
  - 1/2/3 = EEE-INST-002 (Family 1) Level 1/2/3
    - 4/5 = MIL-STD-981 (Family 11) Class B=4, Class S=5
    - · 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.

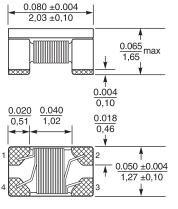
- 4. DCR is specified per winding.
- 5. Winding to winding isolation (hipot) tested for one minute.



1102 Silver Lake Road Cary, IL 60013 **CRITICAL PRODUCTS & SERVICES** Phone 800-981-0363

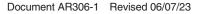
6. Electrical specifications at 25°C.

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



3 Dimensions are in inches 0.030 0.036 0.76 0.91 0.014 2 0.36

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.



Suggested

Land Pattern

0.020

0.51

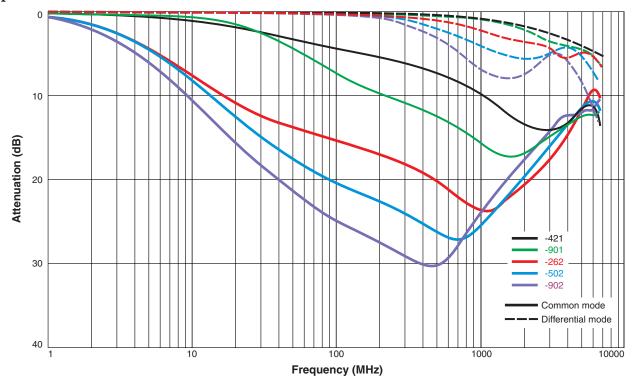
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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

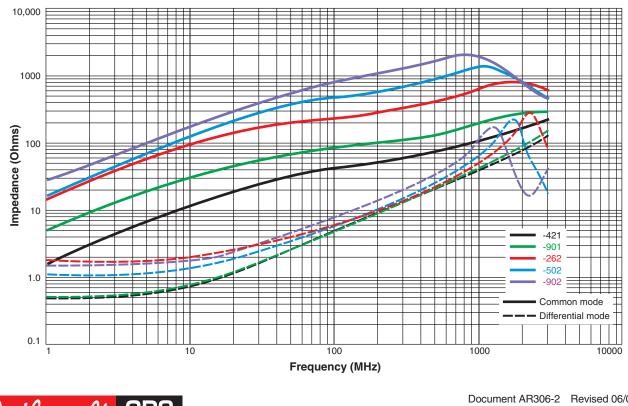
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## USB 2.0 Common Mode Filter – AR336FRA

Typical Attenuation (Ref: 50 Ohms)



**Typical Impedance vs Frequency** 





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