

# USB 2.0 Common Mode Choke 1206



- For common mode noise suppression in high speed differential signal lines: USB2.0, IEEE1394, LVDS, etc.
- Up to 2.7 GHz differential mode 3 dB cutoff frequency
- Up to 2.24 kOhms common mode peak impedance and 40 dB common mode noise attenuation

**Designer's Kit C470** contains 10 each of all 0603USB, 0805USB, 0805USBF, 0805USBN and 1206USB parts

**Core material** Ferrite

**Environmental** RoHS compliant, halogen free

**Terminations** Gold over nickel over silver-palladium-glass frit.

**Ambient temperature** -40°C to +85°C with Irms current

**Maximum part temperature** +105°C (ambient + temp rise)

**Storage temperature** Component: -40°C to +105°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)

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

| Part number <sup>1</sup> | Common mode peak impedance (kOhms) | Cutoff frequency <sup>2</sup> (GHz) | Common mode attenuation typ (dB) |         |         | Inductance <sup>3</sup> min (nH) | DCR max <sup>4</sup> (Ohms) | Isolation <sup>5</sup> (Vrms) | Irms <sup>6</sup> (mA) |
|--------------------------|------------------------------------|-------------------------------------|----------------------------------|---------|---------|----------------------------------|-----------------------------|-------------------------------|------------------------|
|                          |                                    |                                     | 10 MHz                           | 100 MHz | 500 MHz |                                  |                             |                               |                        |
| 1206USB-371ML_           | 0.21 @ 3.0 GHz                     | 2.7                                 | 1.2                              | 4.8     | 8.1     | 31                               | 0.10                        | 250                           | 1000                   |
| 1206USB-102ML_           | 0.36 @ 1.9 GHz                     | 2.2                                 | 3.8                              | 9.0     | 13.3    | 66                               | 0.14                        | 250                           | 850                    |
| 1206USB-172ML_           | 0.55 @ 1.5 GHz                     | 2.1                                 | 5.0                              | 12.4    | 18.0    | 107                              | 0.18                        | 250                           | 700                    |
| 1206USB-262ML_           | 0.76 @ 1.1 GHz                     | 2.0                                 | 6.1                              | 15.3    | 21.0    | 161                              | 0.22                        | 250                           | 600                    |
| 1206USB-372ML_           | 1.11 @ 1.1 GHz                     | 1.2                                 | 9.1                              | 18.5    | 24.4    | 226                              | 0.26                        | 250                           | 600                    |
| 1206USB-532ML_           | 1.45 @ 0.93 GHz                    | 0.78                                | 10.9                             | 21.4    | 26.3    | 319                              | 0.30                        | 250                           | 600                    |
| 1206USB-672ML_           | 1.67 @ 0.81 GHz                    | 0.75                                | 13.9                             | 23.4    | 28.0    | 412                              | 0.34                        | 250                           | 500                    |
| 1206USB-872ML_           | 1.78 @ 0.50 GHz                    | 0.53                                | 16.3                             | 25.3    | 29.4    | 510                              | 0.39                        | 250                           | 500                    |
| 1206USB-113ML_           | 2.24 @ 0.66 GHz                    | 0.51                                | 16.9                             | 27.1    | 30.0    | 623                              | 0.44                        | 250                           | 500                    |
| 1206USB-223ML_           | 3.36 @ 0.34 GHz                    | 0.22                                | 22.4                             | 33.1    | 32.3    | 1040                             | 0.85                        | 250                           | 120                    |

1. When ordering, please specify **packaging** code:

### 1206USB-113MLC

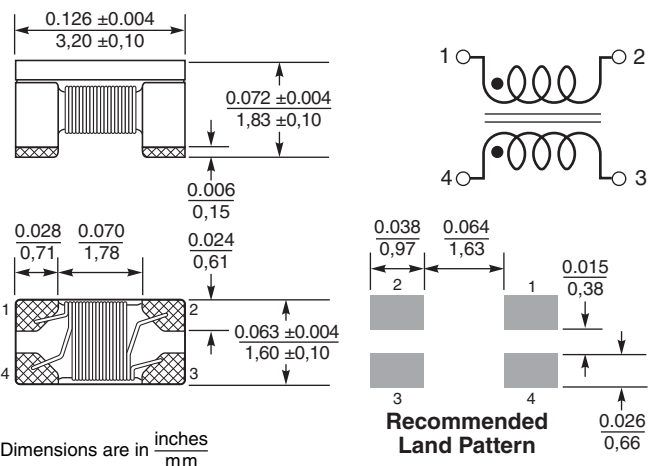
**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

**B** = Less than full reel. In an effort to simplify our part numbering system, Coilcraft is eliminating the need for multiple packaging codes. When ordering, simply change the last letter of your part number from B to C.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape (7500 parts per full reel).

- Frequency at which the differential mode attenuation equals -3 dB
- Inductance measured at 100 MHz using an Agilent/HP 4286A impedance analyzer and a Coilcraft SMD-A fixture.
- DCR is specified per winding.
- Winding to winding isolation (hipot) tested for one minute.
- Current per winding that causes a 20°C rise from 25°C ambient.
- Electrical specifications at 25°C.

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



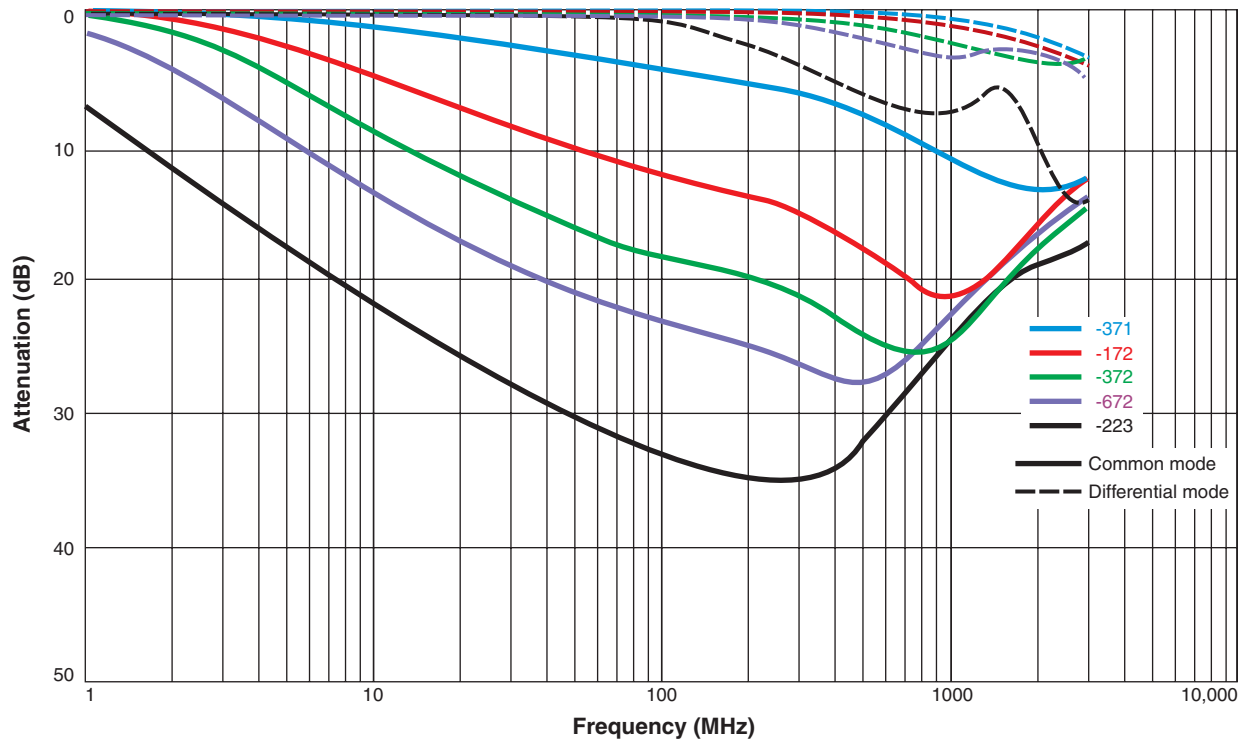
**Weight:** 36.2 – 37.6 mg

**Packaging** 2000/7" reel; 7500/13" reel Plastic tape: 8 mm wide, 0.3 mm thick, 4 mm pocket spacing, 1.9 mm pocket depth

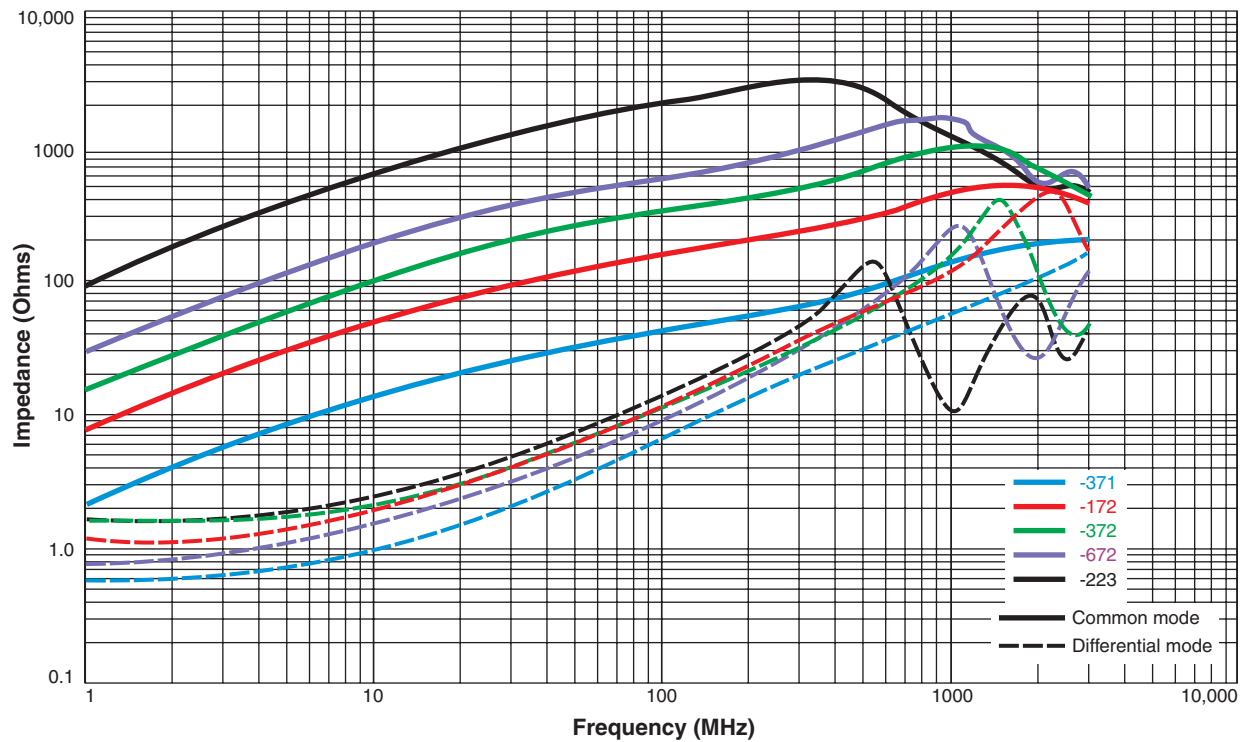


# USB 2.0 Common Mode Filter – 1206

Typical Attenuation (Ref: 50 Ohms)



Typical Impedance vs Frequency



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