

USB 2.0 Common Mode Choke 0805



Eliminates virtually all common mode noise in high-speed, differential mode signal transmission applications such as USB 2.0, IEEE1394, HDMI and LVDS. Most provide >25 dB common mode attenuation and >100 ohms impedance.

Designer's Kit C384 contains 10 each of all 0603USB, 0805USB 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

Storage temperature Component: -40°C to +85°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)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

PCB washing Tested with pure water or alcohol only. For other solvents, see Doc787_PCB_Washing.pdf

| Part number ¹ | Common mode impedance typ (Ohms) | | | Common mode attenuation typ (dB) | | | Inductance ² min (nH) | DCR max ³ (Ohms) | Isolation (Vrms) | Irms ⁴ (mA) |
|--------------------------|----------------------------------|---------|---------|----------------------------------|---------|---------|----------------------------------|-----------------------------|------------------|------------------------|
| | 10 MHz | 100 MHz | 500 MHz | 10 MHz | 100 MHz | 500 MHz | | | | |
| 0805USB-421ML_ | 14 | 42 | 70 | 1.1 | 2.3 | 8.4 | 23 | 0.12 | 250 | 500 |
| 0805USB-901ML_ | 28 | 90 | 154 | 1.4 | 4.2 | 16.9 | 47 | 0.17 | 250 | 500 |
| 0805USB-172ML_ | 57 | 170 | 303 | 2.3 | 6.7 | 22.0 | 84 | 0.25 | 250 | 500 |
| 0805USB-262ML_ | 85 | 260 | 435 | 3.0 | 8.6 | 27.8 | 147 | 0.26 | 250 | 500 |
| 0805USB-372ML_ | 118 | 370 | 641 | 4.5 | 11.9 | 34.3 | 189 | 0.32 | 250 | 500 |
| 0805USB-502ML_ | 148 | 500 | 945 | 4.9 | 14.5 | 31.3 | 273 | 0.37 | 250 | 500 |
| 0805USB-672ML_ | 246 | 670 | 1231 | 8.4 | 16.6 | 30.0 | 322 | 0.45 | 250 | 500 |
| 0805USB-902ML_ | 294 | 900 | 1715 | 8.7 | 18.7 | 30.5 | 413 | 0.65 | 250 | 400 |

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

0805USB-902MLC

Packaging: C= 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).

B= Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

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

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

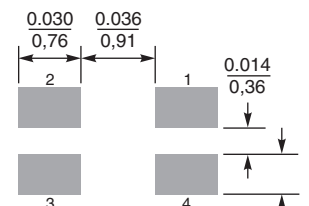
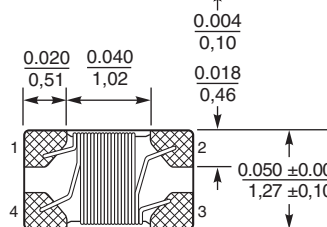
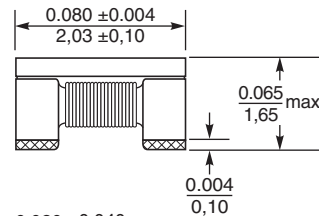
3. DCR is specified per winding.

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

5. Operating temperature range -40°C to 85°C.

6. Electrical specifications at 25°C.

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



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

Recommended Land Pattern

Weight 14.9 – 15.2 mg

Packaging 2000/7" reel; 7500/13" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.14 mm pocket depth



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USB 2.0 Common Mode Filter – 0805

Typical Differential Mode Attenuation (Ref: 50 Ohms)



Typical Common Mode Attenuation (Ref: 50 Ohms)



Typical Impedance vs Frequency



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