

# 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 <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)	Irms <sup>4</sup> (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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