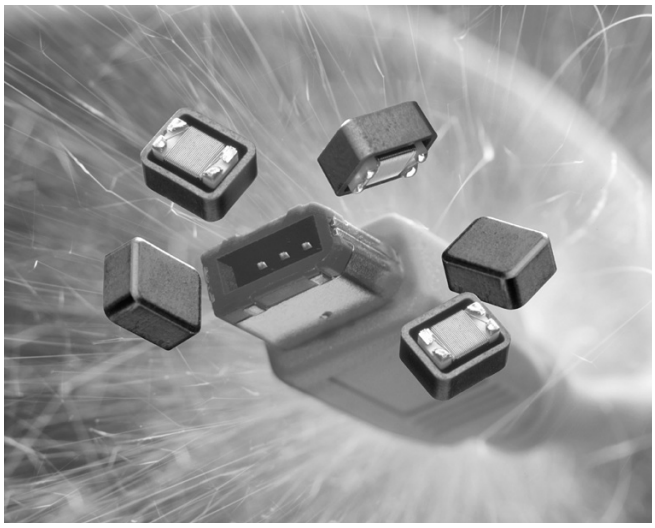
IEEE 1394 Common Mode Choke



The CM1394 provides a low cost, high performance way to virtually eliminate common mode noise from IEEE 1394 and other high-speed twisted pair interfaces.

It provides over 17 dB attenuation of common mode noise at 400 MHz while differential mode signals extend out to 800 MHz before reaching the 3 dB point.

This shielded, 1812 size filter is machine wound, making it less expensive than hand-wound toroid designs. It also assures tighter tolerances between windings for excellent impedance balance. Coilcraft's CM1394 meets the IEEE 1.5 Amp Irms specification and has a maximum DCR of 0.105 Ohms.

To request free evaluation samples, contact Coilcraft or visit **www.coilcraft.com**.

Part number[1]	Inductance[2] min (µH)	DCR max (Ohms)	Irms[3] (Amps)
CM1394L_	0.22	0.105	1.5

Insertion loss (dB) common mode/differential mode			
100 MHz	200 MHz	400 MHz	500 MHz
9.04/0.19	13.66/0.94	17.75/1.79	17.11/2.09

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

CM1394LC

Packaging:
- **C** = 7″ machine-ready reel. EIA-481 embossed plastic tape (600 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 (2200 parts per full reel).

2. Inductance measured at 100 kHz.
3. Average current for 15°C rise from 25°C ambient
4. Operating temperature range -40°C to +85°C
5. Electrical specifications at 25°C

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

Core material Ferrite

Terminations RoHS compliant gold over nickel over moly-manganese

Weight: 30 mg

Ambient temperature –40°C to +85°C

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

Packaging 600/7″ reel; 2200/13″ reel Plastic tape: 12 mm wide, 0.25 mm thick, 8 mm pocket spacing, 3.9 mm pocket depth

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

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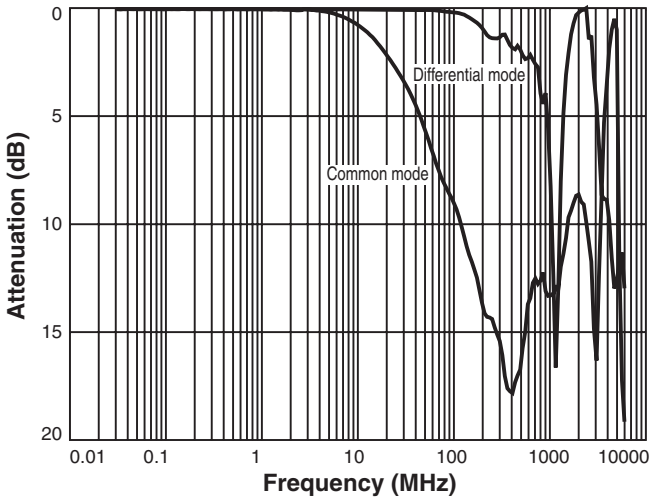
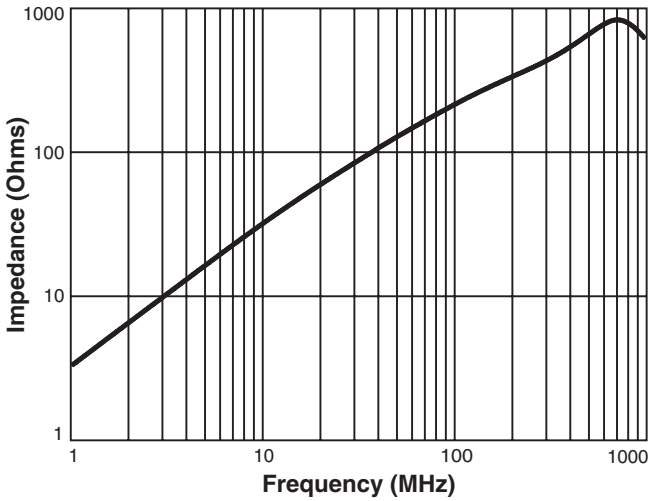
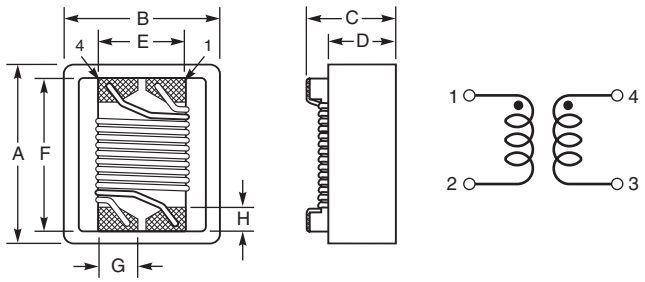
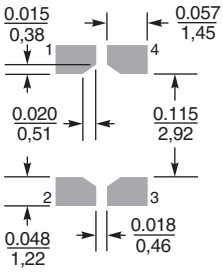
Frequency Response



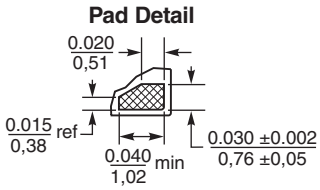
Impedance vs Frequency







Recommended Land Pattern



A max	B max	C max	D ref	E ref	F ref	G min	H
0.231	0.196	0.150	0.107	0.100	0.178	0.04	0.03
5,87	4,98	3,81	2,72	2,54	4,52	1,02	0,76

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