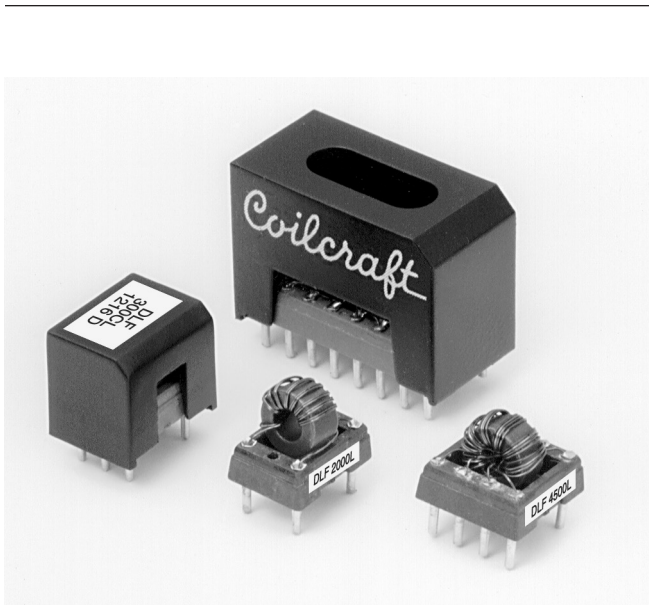


# Through Hole Data Line EMI Filters



These filters are designed to virtually eliminate conducted EMI in data line applications. They provide exceptional common mode noise reduction from 5 MHz to 300 MHz while passing signal line data frequencies below 200 MHz with minimal attenuation.

These low resistance filters feature excellent electrical isolation, environmental stability and low cost. Optional covers make them auto insertable. They also meet IEC 695-2-2 needle flame test requirements. There are 8, 4, 3 and 2-line versions with DC current capacity of 100 mA (DLF x000 series) or 500 mA (DLF x500 series).

Coilcraft **Designer's Kit D303** contains four samples of all values shown plus samples of our PDLF and CCDLF surface mount filters. To order, contact Coilcraft or visit <http://order.coilcraft.com>.

Part number	Lines	Common mode peak impedance (kOhms)	Cutoff frequency <sup>2</sup> (MHz)	Inductance <sup>3</sup> min (µH)	DCR max <sup>4</sup> (mOhms)	Isolation <sup>5</sup> (Vrms)	Current max (mA)
DLF 8000L <sup>1</sup>	8	2.03 @ 8.3 MHz	200	28	100	300	100
DLF 8500L <sup>1</sup>	8	0.60 @ 40 MHz	60	25	45	300	500
DLF 4000L	4	2.13 @ 12 MHz	390	28	100	300	100
DLF 4500L	4	1.62 @ 14 MHz	730	24	45	300	500
DLF 3000L <sup>1</sup>	3	1.98 @ 13 MHz	650	28	100	300	100
DLF 3500L	3	1.45 @ 15 MHz	670	24	45	300	500
DLF 2000L <sup>1</sup>	2	2.03 @ 14 MHz	660	28	100	300	100
DLF 2500L <sup>1</sup>	2	1.55 @ 14 MHz	610	24	45	300	500

- For optional cover add "C" to part number just before the "L": e.g. DLF 8500CL. Not available on 3500, 4000 and 4500 parts.
- Frequency at which the differential mode attenuation equals -3 dB
- Inductance is per winding.
- DCR is specified per winding.
- Winding to winding isolation (hipot) tested for one minute.
- Operating temperature range -40°C to +85°C.
- Electrical specifications at 25°C.

**Core material** Ferrite

**Terminations** Tin-silver over tin over phos bronze

**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)**

60 per billion hours / 16,666,667 hours, calculated per Telcordia SR-332

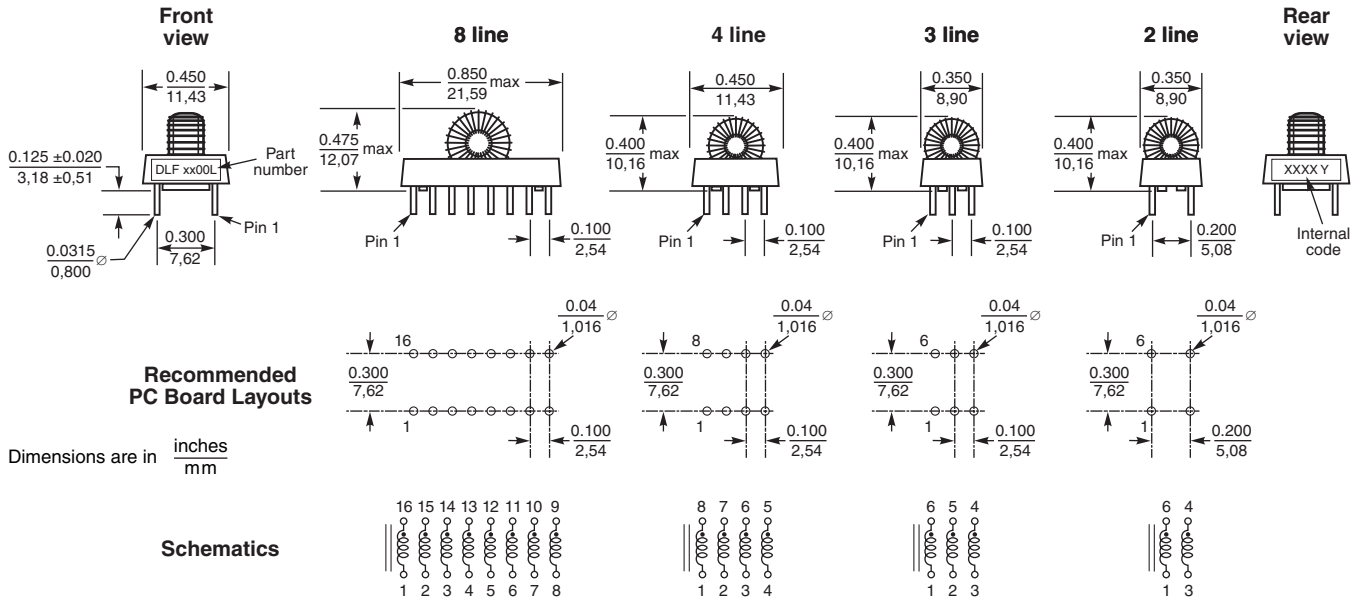
**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCBt\\_Washing.pdf](#).

Part number	Weight typ (g)	Packaging
DLF 2000L	0.74	75 per tube
DLF 2000CL	1.32	64 per tube
DLF 2500L	0.78	75 per tube
DLF 2500CL	1.36	64 per tube
DLF 3000L	0.83	75 per tube
DLF 3000CL	1.41	64 per tube
DLF 3500L	0.91	75 per tube
DLF 4000L	0.95	55 per tube
DLF 4500L	1.09	55 per tube
DLF 8000L	1.56	27 per tube
DLF 8000CL	2.70	25 per tube
DLF 8500L	2.22	27 per tube
DLF 8500CL	3.36	25 per tube



# Through Hole Data Line EMI Filters

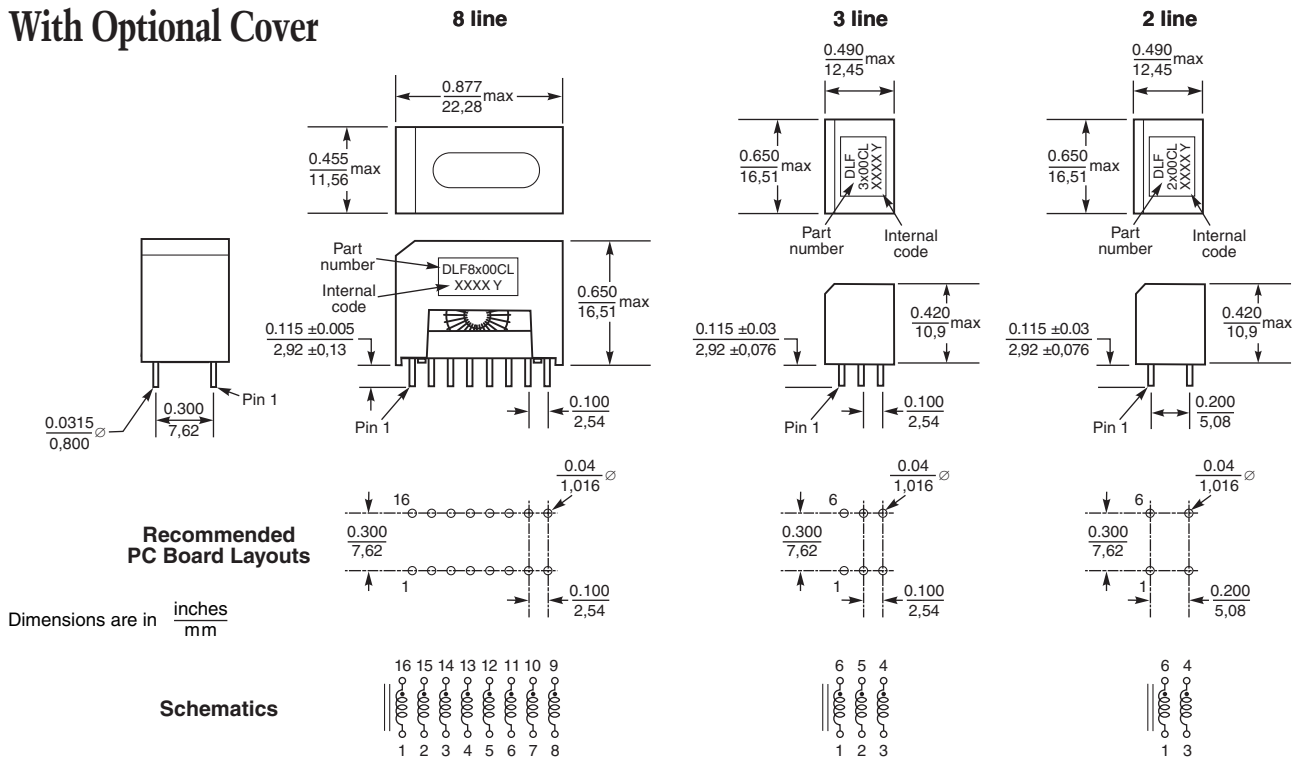
## Without Optional Cover



Dimensions are in inches / mm

Note: Polarity marking is for reference only. Parts may be inserted into the circuit with polarity reversed without affecting performance.

## With Optional Cover



Dimensions are in inches / mm

Note: Polarity marking is for reference only. Parts may be inserted into the circuit with polarity reversed without affecting performance.



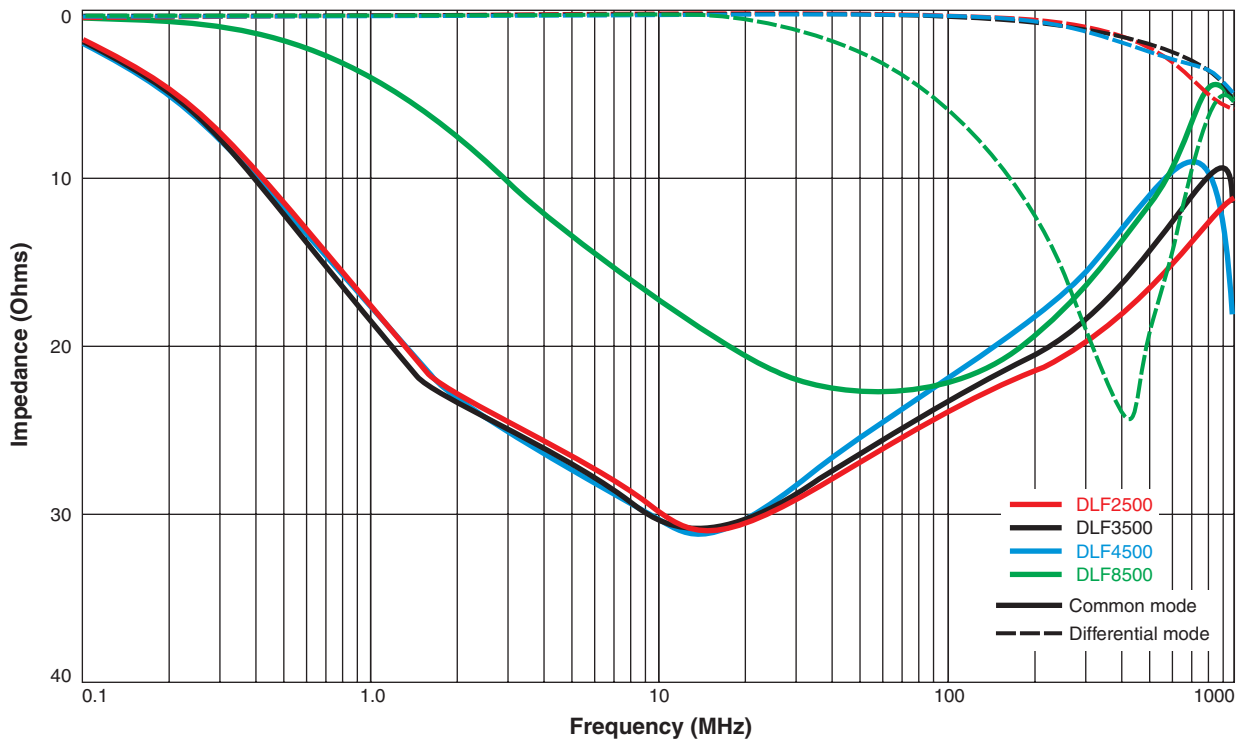
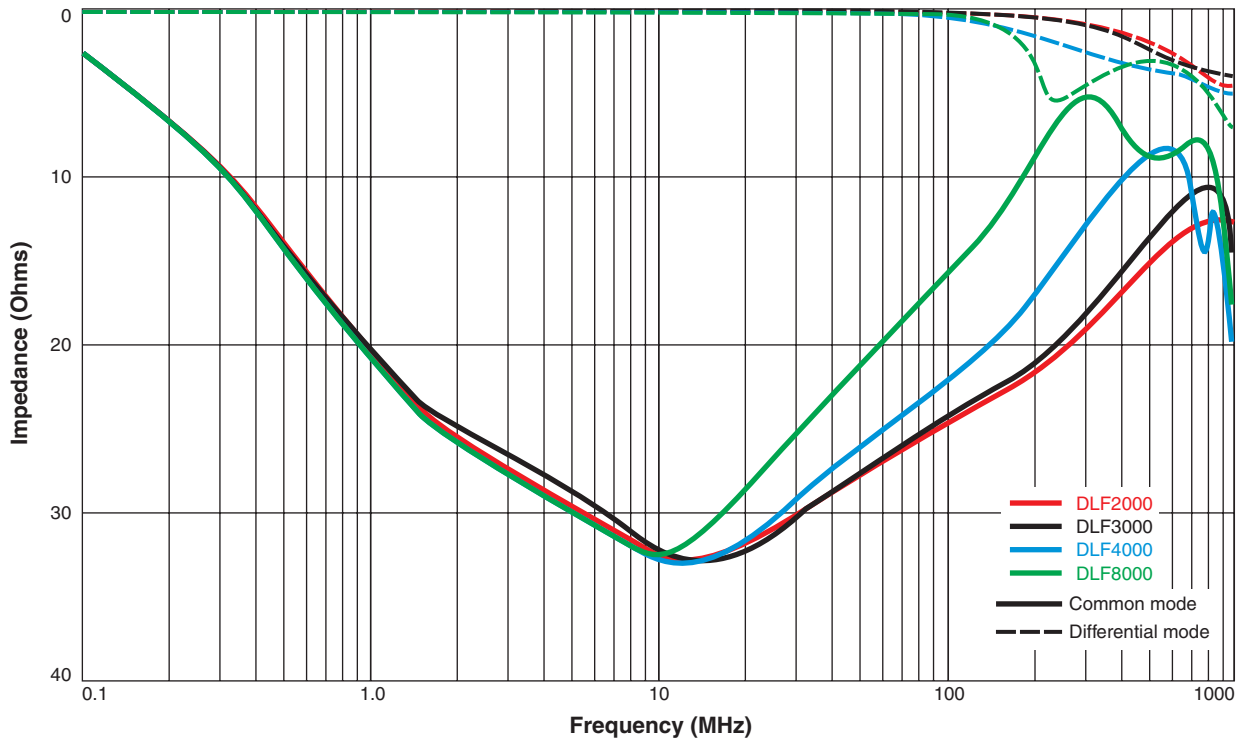
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# Through Hole Data Line EMI Filters

Typical Attenuation (Ref: 50 Ohms)



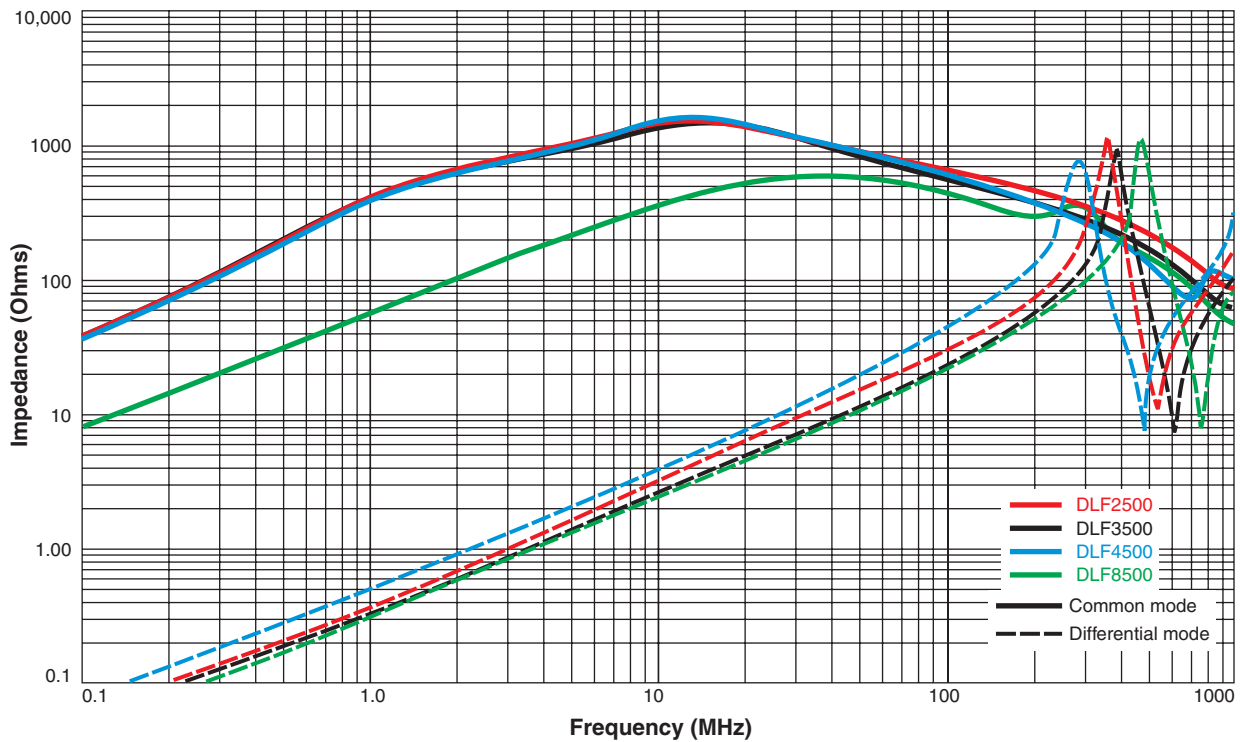
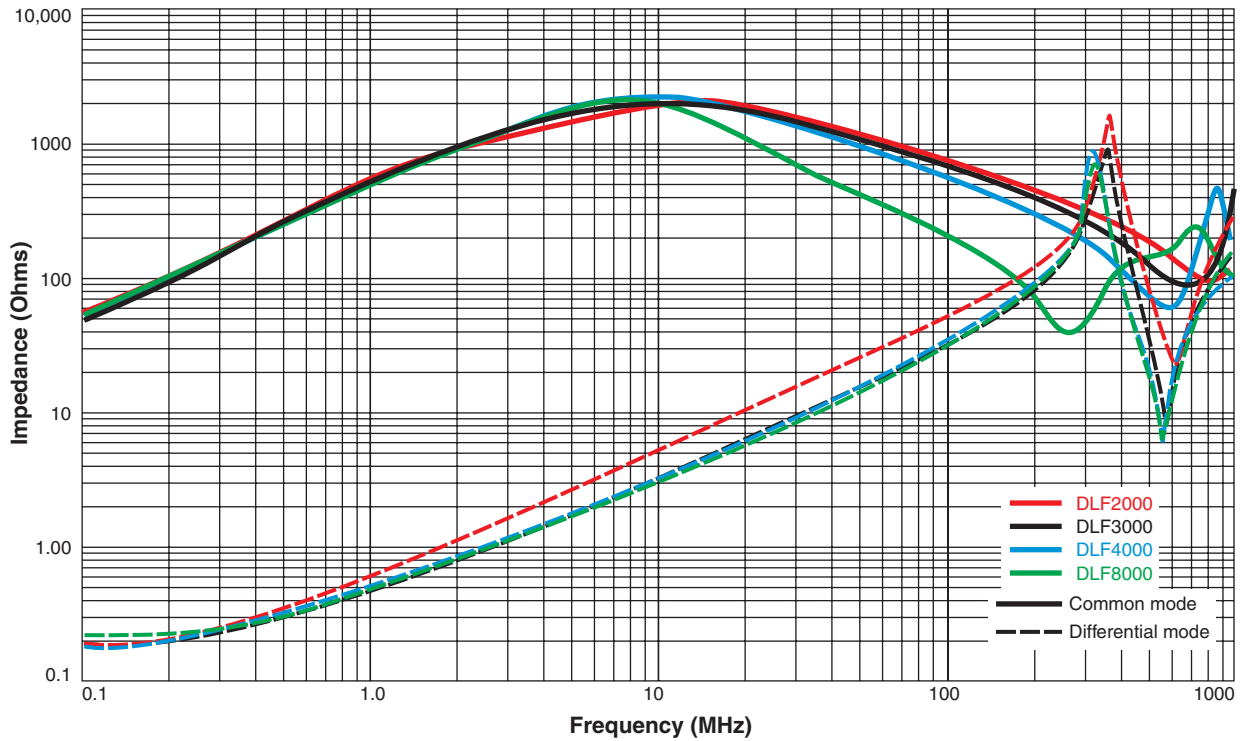
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# Through Hole Data Line EMI Filters

## Typical Impedance vs Frequency



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