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 (MHz) | Inductance (µH) | DCR max (mOhms) | Isolation (Vrms) | Current max (mA) |
|-------------|-------|-----------------------------------|-----------------------|----------------|-----------------|----------------|----------------|------------------|
| DLF 8000L   | 8     | 2.03 @ 8.3 MHz                    | 200                   | 28             | 100             | 300            | 100             |
| DLF 8500L   | 8     | 0.60 @ 40 MHz                     | 1000                  | 5              | 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   | 3     | 1.98 @ 13 MHz                     | 650                   | 28             | 100             | 300            | 100             |
| DLF 3500L   | 3     | 1.45 @ 15 MHz                     | 670                   | 24             | 45              | 300            | 500             |
| DLF 2000L   | 2     | 2.03 @ 14 MHz                     | 660                   | 28             | 100             | 300            | 100             |
| DLF 2500L   | 2     | 1.55 @ 14 MHz                     | 610                   | 24             | 45              | 300            | 500             |

1. For optional cover add “C” to part number just before the “L”: e.g. DLF 8000CL. Not available on 3500, 4000 and 4500 parts.
2. Frequency at which the differential mode attenuation equals −3 dB
3. Inductance is per winding.
4. DCR is specified per winding.
5. Winding to winding isolation (hipot) tested for one minute.
6. Operating temperature range −40°C to +85°C.
7. 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)
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCBt_Washing.pdf.
Through Hole Data Line EMI Filters
Without Optional Cover

Dimensions are in inches

Recommended PC Board Layouts

Schematics

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

Recommended PC Board Layouts

Schematics

Note: Polarity marking is for reference only. Parts may be inserted into the circuit with polarity reversed without affecting performance.
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Typical Attenuation (Ref: 50 Ohms)
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Typical Impedance vs Frequency