Tip and Ring Common Mode Filters

These economical filters are designed to help telecommunications equipment engineers meet FCC and CCITT requirements. Available in 1 or 2 line (2 or 4 wire) versions, Coilcraft tip and ring filters provide >20 dB attenuation of common mode noise over the 3 to 300 MHz frequency range.

**Core material** Ferrite

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

**Weight** TRF 2000, 1.52 g; TRF 4000, 1.71 g

**Ambient temperature** −40°C to +85°C

**Storage temperature** Component: −40°C to +85°C. Tray packaging: −40°C to +80°C

**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

**Packaging** 50 per tube

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Lines</th>
<th>Common mode peak impedance (kOhms)</th>
<th>Cutoff frequency (MHz)</th>
<th>Inductance (μH)</th>
<th>DCR max (mOhms)</th>
<th>Isolation (Vrms)</th>
<th>Current max (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRF 2000L</td>
<td>1</td>
<td>3.00 @ 97 MHz</td>
<td>13</td>
<td>20</td>
<td>65</td>
<td>1500</td>
<td>500</td>
</tr>
<tr>
<td>TRF 4000L</td>
<td>2</td>
<td>2.54 @ 84 MHz</td>
<td>18</td>
<td>20</td>
<td>65</td>
<td>1500</td>
<td>500</td>
</tr>
</tbody>
</table>

1. Frequency at which the differential mode attenuation equals −3 dB
2. Inductance is per winding.
3. DCR is specified per winding.
4. For TRF 2000, isolation measured from pins 1,8 to 4,5. For TRF 4000, isolation measured from pins 1,2,7,8 to pins 3,4,5,6. Isolation (hipot) tested for one minute.
5. Electrical specifications at 25°C.
Tip and Ring Common Mode Filters – TRF 2000, TRF 4000

TRF 2000L

TRF 4000L

Typical Attenuation (Ref: 50 Ohms)

Typical Impedance vs Frequency

A max | B max | C max | D | E | F | G
---|---|---|---|---|---|---
0.425 | 0.550 | 0.475 | 0.115 | 0.300 | 0.100 | 0.300 inches
10,80 | 13,97 | 12,07 | 2,92 | 7,62 | 2,54 | 7,62 mm