

4th Order Tubular Bessel Lowpass Filters



RLC Electronics now offers 4th order tubular Bessel Lowpass Filters with 3dB cutoffs from 1GHz to 20 GHz. Computer design and tubular construction allow us to maintain excellent group delay characteristics with reasonable rejection while extending our 3dB cutoff beyond 26 Giga bits. These filters should be regarded as compromise designs for pulsed systems where truthful reproduction of the pulse shape is important. Primarily used on lightwave receivers to reduce the impact of higher order distortion and noise. These high frequency filters are essential for todays high bit rate applications

Specifications

LBT⁻¹

| | | 1-4 GHz | 4-10 GHz | 10-20 GHz |
|----------------------------|-------------|------------|------------|-------------|
| F/Fc | Attenuation | Delta | Delta | Delta |
| 0.20 | -0.1 dB | +/-0.20 dB | +/-0.35 dB | +/-0.40 dB |
| 0.40 | -0.4 dB | +/-0.20 dB | +/-0.35 dB | +/-0.40 dB |
| 0.60 | -1.0 dB | +/-0.20 dB | +/-0.35 dB | +/-0.40 dB |
| 0.80 | -1.9 dB | +/-0.20 dB | +/-0.35 dB | +/-0.40 dB |
| 1.00 | -3.0 dB | +/-0.20 dB | +/-0.35 dB | +/-0.40 dB |
| 1.20 | -4.5 dB | +/-0.48 dB | +/-0.85 dB | +/-1.00 dB |
| 1.33 | -5.7 dB | +/-0.59 dB | +/-1.00 dB | +/-1.20 dB |
| 1.40 | -6.4 dB | +/-0.64 dB | +/-1.10 dB | +/-1.50 dB |
| 1.60 | -8.5 dB | +/-0.74 dB | +/-1.30 dB | +/-2.00 dB |
| 1.80 | -10.9 dB | +/-0.89 dB | +/-1.60 dB | +/-2.40 dB |
| 2.00 | -13.4 dB | +/-1.00 dB | +/-1.80 dB | +/-3.00 dB |
| Recommended Connector | | SMA M/F | SMA M/F | K(2.92) M/F |
| Maximum Overall Length (L) | | 1.8" | 1.54" | 1.25" |

Power Rating: 2 watts average

Impedance: 50 ohms

Connector Type: See Above

Temperature: -55C to +85C

Environmental: MIL-E-5400, Class 1A

Except operating temperature

To designate the filter desired use:

1: 3dB cut-off frequency in MHz

Example: LBT-14000 is a 4th order lowpass with a 3dB point of 14000 MHz and 1 dB point @ .6 Fc 8400 MHz with a Delta of +/-0.4 dB. The maximum overall length for this filter is 1.25 inches.

Outline Drawing

