



EF500

Description

The EF500 DC Block Filter employs a modified 1st order Butterworth filter design. The design extends the low end of the 1 dB passband to 1 Hz in a BNC coaxial package. The EF500 is designed to terminate into DAQ, lab equipment, oscilloscopes, or any modern voltage signal transfer systems that have high impedance inputs. For $V_{transfer}$ systems, this architecture provides the highest signal-to-noise ratio capabilities.

Specifications

| EF500 | |
|--|-------------------------|
| | Value ^a |
| Pulse Rise Time | >250 ps |
| Passband (1 dB Window) ^b | >1 Hz (Nominal) |
| 3 dB Rejection | <0.3 Hz (Nominal) |
| 40 dB Rejection | <3 mHz (Nominal) |
| 80 dB Rejection | <30 μ Hz (Nominal) |
| Source Impedance (BNC Female) | 50 Ω (Typical) |
| Load Impedance ^c (BNC Male) | ≥ 100 k Ω |
| Input Voltage | ± 10 V (Max) |
| Storage Temperature | -20 to +70 $^{\circ}$ C |

a. Values measured at 25 $^{\circ}$ C.

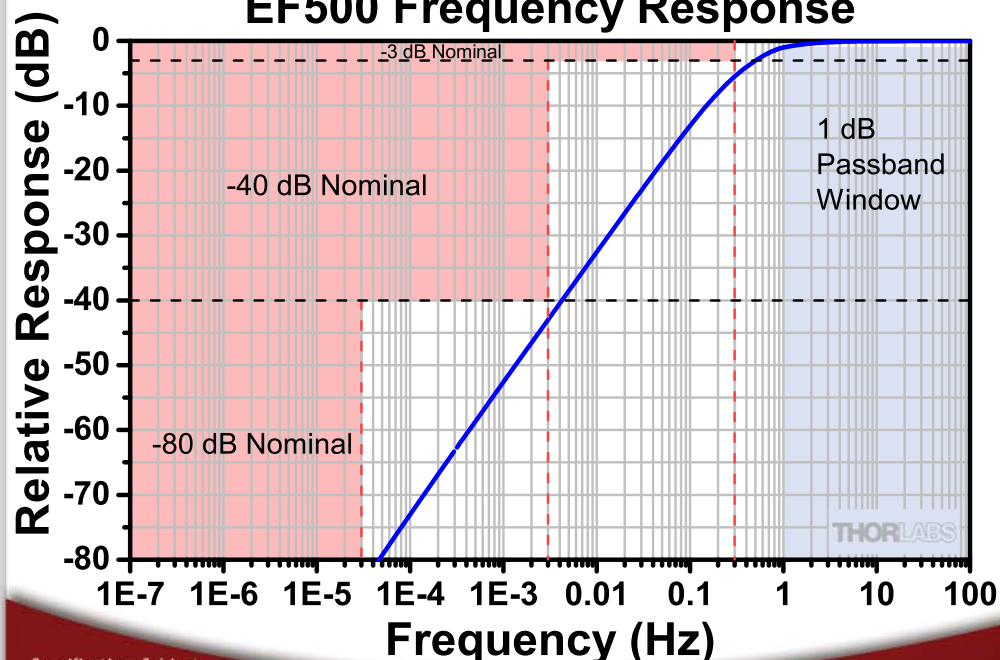
b. Performance measured to 600 MHz.

c. This filter can be operated with termination resistances below 1 k Ω , however, the passband will narrow at smaller termination resistances and the performance is not guaranteed.

Sample Response Data

| Frequency (Hz) | Rel. Resp. (dB) |
|----------------|-----------------|
| 0.00003 | -84.00 |
| 0.0003 | -63.00 |
| 0.0027 | -44.00 |
| 0.1 | -12.40 |
| 0.3 | -5.16 |
| 0.6 | -2.29 |
| 0.8 | -1.43 |
| 1 | -0.95 |
| 1.5 | -0.57 |
| 2 | -0.35 |
| 3 | -0.21 |
| 6 | -0.07 |
| 10 | -0.07 |
| 30 | 0.00 |
| 100 | 0.00 |

EF500 Frequency Response



Drawings

