6.7 MHz High-Pass Filter



EF513

Description

The EF513 High-Pass Filter employs a 6th order elliptic filter design. The design delivers excellent low-band rejection (>60 dB typ) with reduced group delay variation for passband transparency above 6.7 MHz. Uniquely, the EF513 is designed to terminate into DAQ, lab equipment, oscilloscope, 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

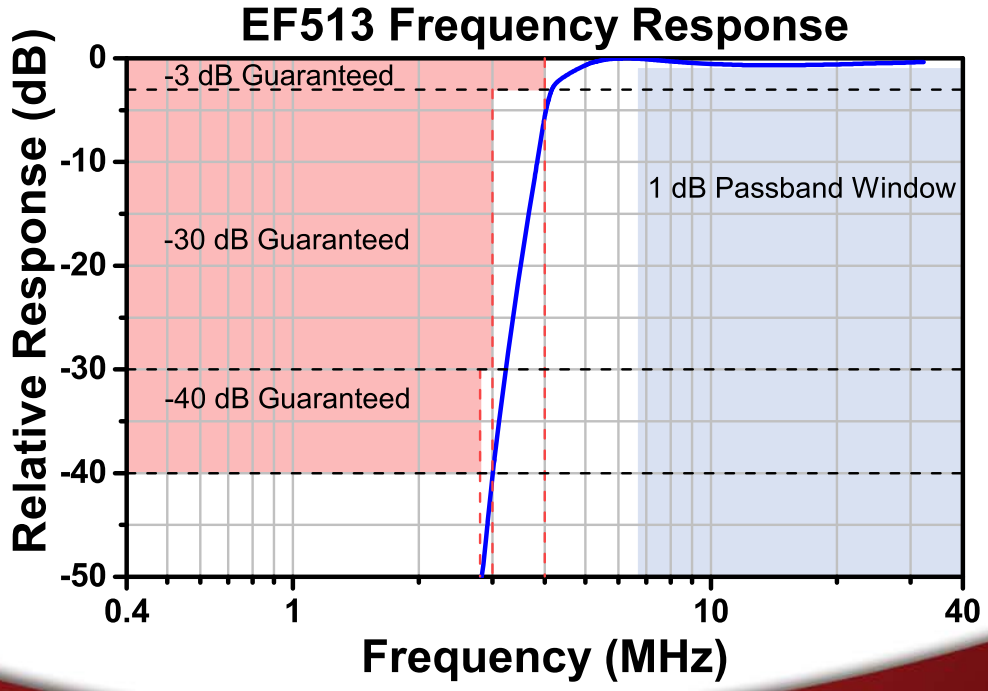
EFS513	
	Value[a]
Passband (1 dB Window)[b]	>6.7 MHz
3 dB Rejection	< 4 MHz
30 dB Rejection	<3 MHz
40 dB Rejection	<2.85 MHz
Source Impedance (BNC Female)	50 Ω (Typical)
Load Impedance[c] (BNC Male)	≥100 kΩ (Typical)
Input Voltage	±10 V (Max)
Storage Temperature	-20 to +70 °C

a. Values measured at 25 °C.
b. Performance measured to 400 MHz.
c. This filter can be operated with termination resistances below 1 kΩ, however, the passband will narrow at smaller termination resistances and the performance is not guaranteed.

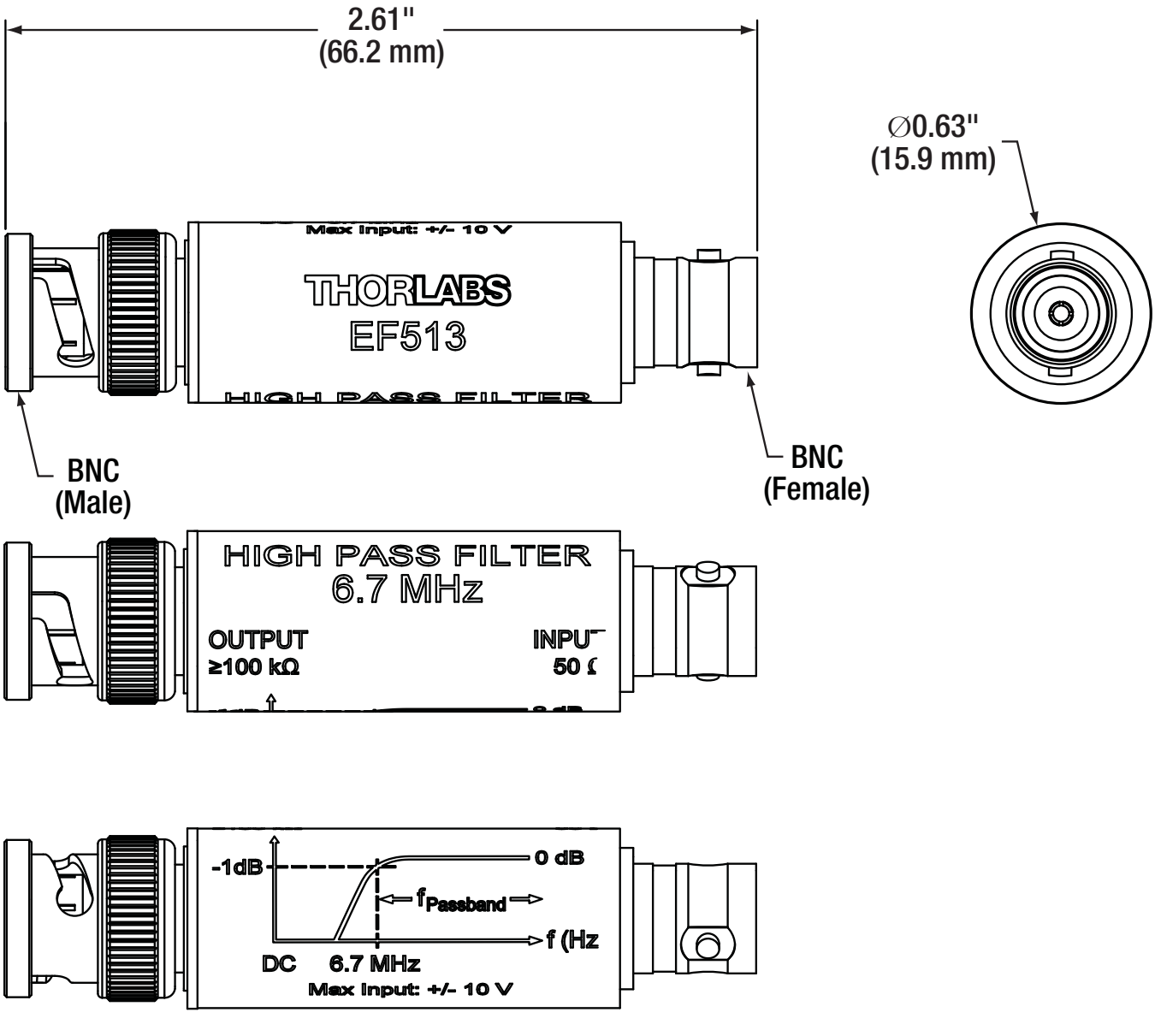
Sample Response Data

Frequency (Hz)	Rel. Resp. (dB)
1000000	-58.7
1100466	-57.8
1211026	-57.2
1332694	-56.9
1466585	-57.2
1613927	-58.4
1776073	-61.5
1954508	-71.8
2150871	-63.9
2366961	-57.2
2604761	-58.1
2841614	-49.6
2866452	-48.1
2993941	-40.6
3020111	-39.1
3323531	-25.8

Frequency (Hz)	Rel. Resp. (dB)	Group Delay Variation (nS)
3657434	-15.0	315.5
3990007	-5.7	521.4
4024884	-5.0	528.0
4131355	-3.2	504.9
4240642	-2.2	440.4
5003179	-0.6	176.5
5271380	-0.3	144.0
5553958	-0.1	122.1
5800976	0.0	108.8
6328462	0.0	88.4
6667706	0.0	78.0
6725989	0.0	76.2
7210972	-0.1	63.8
7663934	-0.2	55.3
8433902	-0.4	44.6
9281226	-0.5	35.0
10950144	-0.6	23.9
12050265	-0.7	18.7
13260912	-0.7	15.0
14593188	-0.7	12.3
16059314	-0.7	9.8
17672735	-0.6	8.0
19448252	-0.6	6.6
21402148	-0.6	5.4
23552345	-0.5	4.5
25918564	-0.5	3.8
28522510	-0.4	3.1
31388064	-0.4	2.7
32218377	-0.4	2.6



Drawings


2.61"
(66.2 mm)
∅0.63"
(15.9 mm)
Max Input: +/- 10 V
THORLABS
EF513
HIGH PASS FILTER
BNC
(Male)
BNC
(Female)
HIGH PASS FILTER
6.7 MHz
OUTPUT
≥100 kΩ
INPUT
50 Ω
-1dB
0 dB
f Passband
f (Hz
DC
6.7 MHz
Max Input: +/- 10 V