10 MHz High-Pass Filter



EF515

Description

The EF515 High-Pass Filter employs a 6th order elliptic filter design. The design delivers excellent low-band rejection (>48 dB typ) with reduced group delay variation for passband transparency above 10 MHz. Uniquely, the EF515 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.

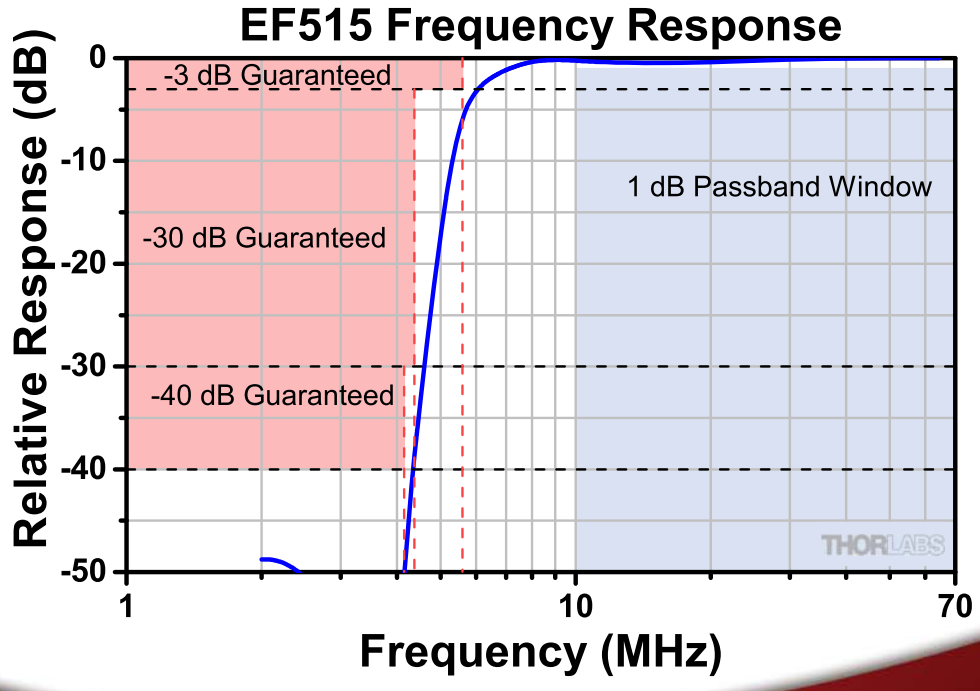
Specifications

EF515	
	Value[a]
Passband (1 dB Window)[b]	>10 MHz
3 dB Rejection	< 5.6 MHz
30 dB Rejection	< 4.37 MHz
40 dB Rejection	< 4.15 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

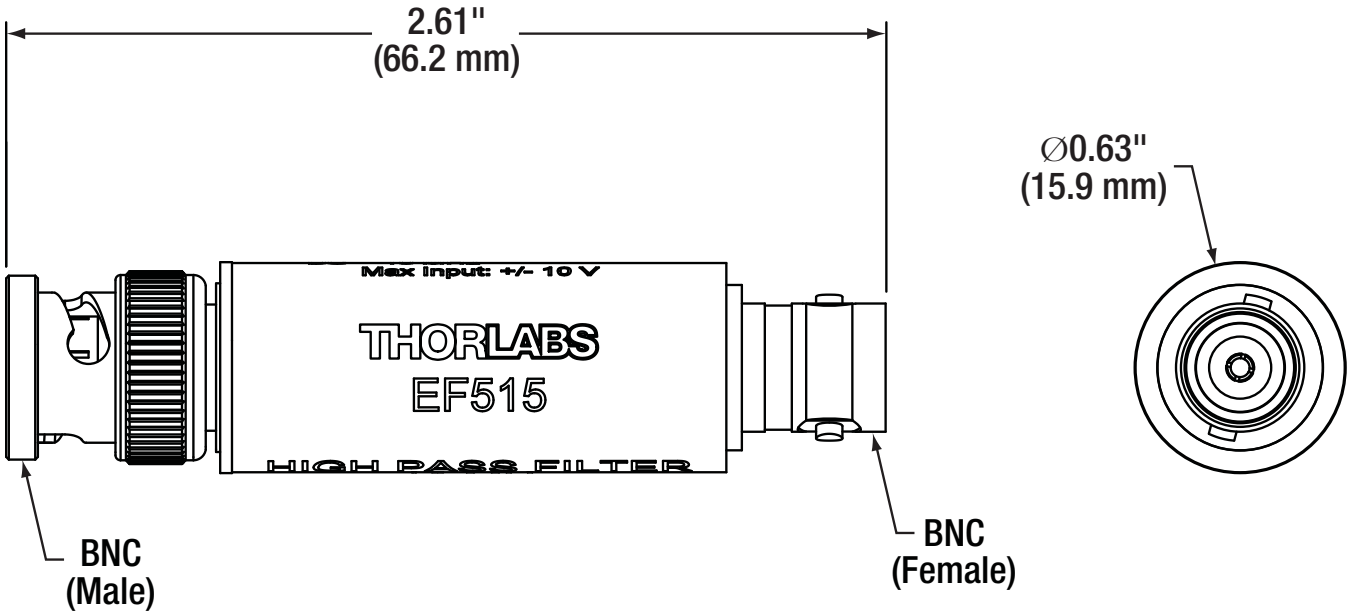
a. Values measured at 25 °C.
b. Performance measured to 500 MHz.
c. This filter can be operated with termination resistances below 1 kΩ, however, the passband will narrow at smaller termination resistances and the performance is not guaranteed.

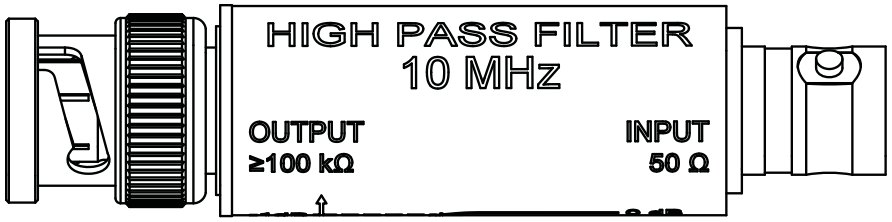
Sample Response Data

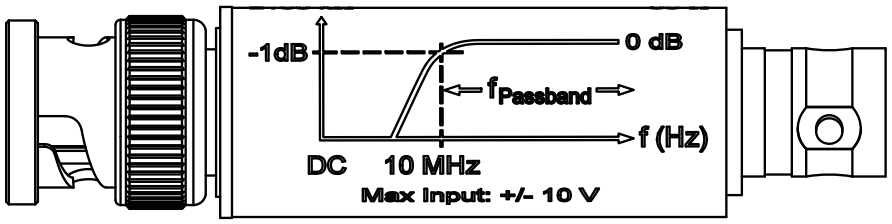
Frequency (MHz)	Rel. Resp. (dB)	Frequency (MHz)	Rel. Resp. (dB)	Group Delay Variation (nS)
2.000	-48.79	5.075	-15.25	217.28
2.201	-48.74	5.210	-12.06	253.05
2.642	-50.93	5.347	-9.27	285.55
2.985	-58.57	5.585	-5.82	317.37
3.172	-68.98	5.834	-3.88	300.16
3.371	-58.34	6.200	-2.46	217.31
3.678	-51.33	6.589	-1.71	155.18
4.012	-54.48	6.943	-1.21	123.96
4.119	-52.02	7.315	-0.81	103.72
4.155	-49.96	7.707	-0.51	88.80
4.339	-40.29	8.191	-0.27	73.36
4.377	-38.72	8.706	-0.19	62.15
4.454	-35.78	9.093	-0.18	55.65
4.734	-25.12	9.497	-0.20	50.24
		10.006	-0.25	44.64
		10.094	-0.26	43.53
		11.205	-0.37	32.75
		13.105	-0.47	22.38
		17.927	-0.45	10.01
		22.092	-0.33	6.18
		25.614	-0.22	4.24
		29.958	-0.12	2.76
		38.225	-0.02	1.37
		51.388	0.00	0.37
		62.776	-0.01	-0.02
		64.437	0.00	0.00



Drawings


2.61"
(66.2 mm)
∅0.63"
(15.9 mm)
Max Input: +/- 10 V
THORLABS
EF515
HIGH PASS FILTER
BNC
(Male)
BNC
(Female)


HIGH PASS FILTER
10 MHz
OUTPUT
≥100 kΩ
INPUT
50 Ω


-1dB
0 dB
f Passband
f (Hz)
DC
10 MHz
Max Input: +/- 10 V