

Time Constant and High Frequency Cut Off Calculator

Time Constant (τ) (nsec)	Frequency (MHz) f_h		Time Constant (τ) (nsec)	Frequency (MHz) f_h
0.1	1592.36		10	15.92
0.2	796.18		20	7.96
0.3	530.79		40	3.98
0.4	398.09		80	1.99
0.5	318.47		100	1.59
0.6	265.39		120	1.33
0.7	227.48		140	1.14
0.8	199.04		150	1.06
0.9	176.93		160	1.00
1	159.24		180	0.88
2	79.62		200	0.80
3	53.08		220	0.72
4	39.81		240	0.66
5	31.85		250	0.64
6	26.54		260	0.61
7	22.75		280	0.57
8	19.90		300	0.53
9	17.69		320	0.50

$$f_h = 1/(2*\pi*\tau)$$

f_h = high cutoff frequency

τ = time constant of detector (unbiased or biased) - see detector data sheet for values

Calculators

Solve for frequency (MHz)- enter tau to calculate for high cutoff frequency

enter
0.27 589.46 MHz
 τ f_h

Solve for time constant - enter frequency (MHz) to calculate for tau

enter
1000 0.16
 f_h τ



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