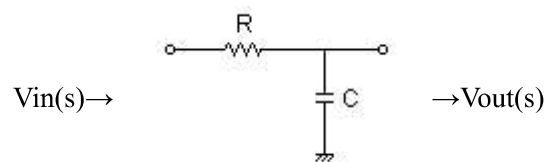


RC Low-pass Filter Design Tool - Result -

Calculated the Transfer Function for the RC Low-pass filter, displayed on graphs, showing Bode diagram, Nyquist diagram, Impulse response and Step response

CR Filter



Transfer Function:

$$G(s) = \frac{21276.595744681}{s + 21276.595744681}$$

Cut-off frequency

$$f_c = 3386.2753849339 \text{ [Hz]}$$

Rise/Fall time of step response

$$R = 470 \text{ } \Omega \quad C = .0000001 \text{ F}$$

$$\text{Stead-state value: } 0 \text{ \%} \rightarrow 90 \text{ \%}$$

Calculate

$$tr = 0.00010822149937072 \text{ [sec]}$$

Intuitive Test & Measurement

See how one Keithley source n instrument is both a power sup DMM

Tektronix

Open

$$R = 470 \text{ } \Omega \quad C = .0000001 \text{ F}$$

p:pico, n:nano, u:micro, k:kilo, M:mega

Frequency analysis

- Bode diagram
 - Phase Group delay
 - Nyquist diagram
 - Pole, zero
 - Phase margin
 - Oscillation analysis
- Analysis on frequency range:
 f1= 300 ~f2= 10000 [Hz] (optional)

Pole(s)

$$p = -3386.2753849339[\text{Hz}]$$
$$|p| = 3386.2753849339[\text{Hz}]$$

Final value of the step response (on the condition that the system converged when t goes to infinity)

$$g(\infty) = 1$$

Transient analysis

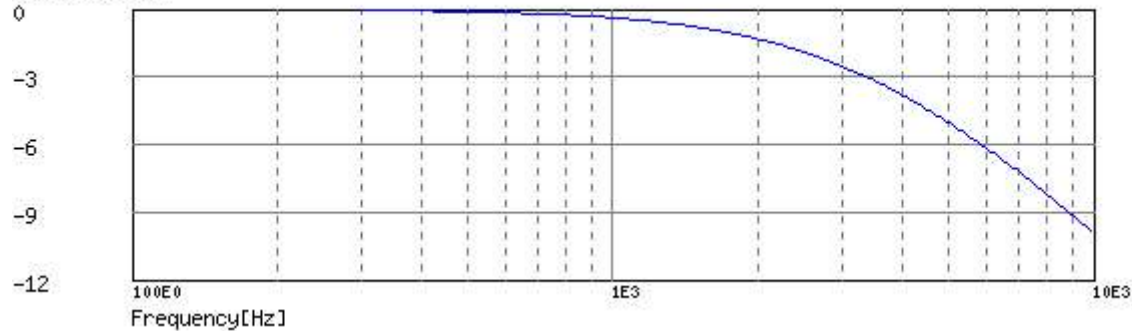
- Step response
 - Impulse response
 - Overshoot
 - Final value of the step response
- Analysis on time range:
0 ~ [sec] (optional)

Calculate

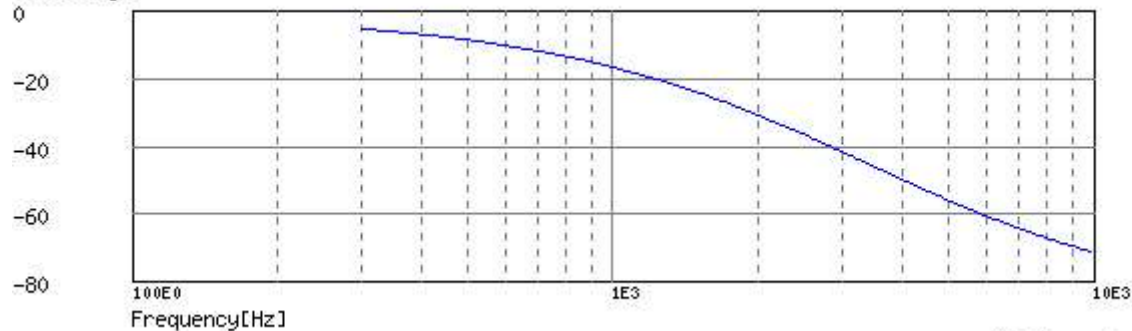
Frequency analysis

BodeDiagram

Magnitude[dB]



Phase[deg]



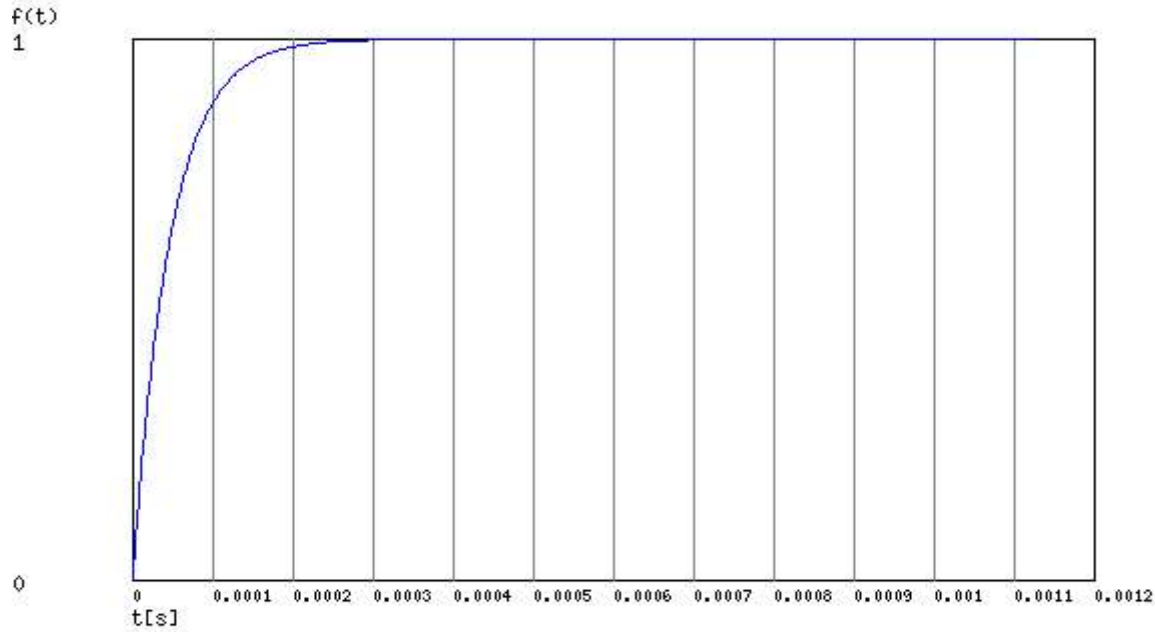
[Gain characteristics at the Bode Diagram](#) (provides up to 1 minute)

[Phase characteristics at the Bode Diagram](#) (provides up to 1 minute)

[Bode Diagram text data](#) (provides up to 1 minute)

Transient analysis

StepResponse



[Step Response text data](#) (provides up to 1 minute)

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Suggestion box

We'll use your suggestion to improve site quality in future.

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