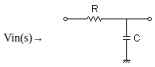
RC Low-pass Filter Design Tool - Result -

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:

$$G(s)=\frac{2127.6595744681}{s+2127.6595744681}$$

R = 4.7kΩ
C = 0.1uF

Cut-off frequency

fc = 338.62753849339[Hz]

Rise/Fall time of step response

fc = 350 Hz
Stead-state value: 0 %→ 90 %

Calculate

tr = 0.001047050855542 [sec]

Pole(s)

p = -338.62753849339[Hz]
$|p|$= 338.62753849339[Hz]

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

$g(\infty)$ = 1

f_c= 350 Hz
C= 100n F (Omitted C=1, 0.1, 0.01…)
Select Resistor Sequence: E24
p:pico, n:nano, u:micro, k:kilo, M:mega

Frequency analysis

- [x] Bode diagram
  - (•) Phase ( ) Group delay
- [ ] Nyquist diagram
- [x] Pole, zero
- [ ] Phase margin
- [ ] Oscillation analysis

Analysis on frequency range:
f1= ~f2= [Hz] (optional)

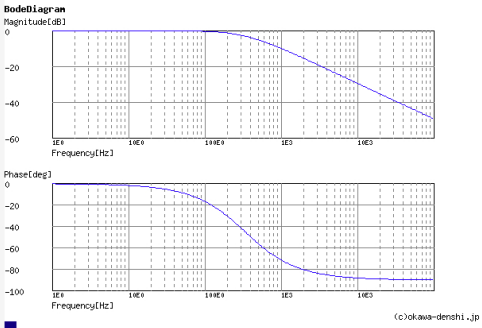
Transient analysis

- [x] Step response
- [ ] Impulse response
- [ ] Overshoot
- [x] Final value of the step response

Analysis on time range:
0~ [sec] (optional)

Calculate

Frequency analysis

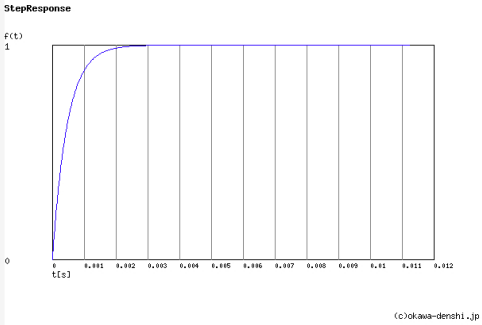


Gain characteristics at the Bode Diagram (provides up to 1 minute)

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

Bode Diagram text data (provides up to 1 minute)

Transient analysis



Step Response text data (provides up to 1 minute)

Suggestion box

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

Post Comment