At the corner frequency on the Bode plot of a first order filter

1. The attenuation is $-3\,\mathrm{dB}$

2. The attenuation is $3\,\mathrm{dB}$

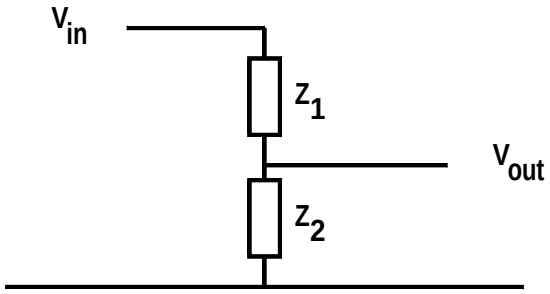
3. The output signal is $0.707\,\mathrm{V}$

4. The ratio of
   output to input voltage is 0.707

5. Some of the above

The corner frequency of a first order RC filter

1. Increases when the resistance is increased
2. Decreases when the resistance is increased
3. Increases when the capacitance is increased
4. Decreases when the capacitance is decreased
5. Increases when RC is increased
6. Decreases when RC is increased



The corner frequency for this filter is at that frequency which makes

1. $Z_1 = Z_2$

2. $Z_1 = jZ_2$

3. $|Z_1| = |Z_2|$

The attenuation of a first order low pass filter at a frequency of $100 \times f_c$ is

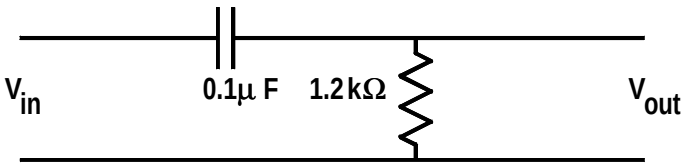
1. -100 dB
2. -40 dB
3. -20 dB
4. -12 dB
5. $+40$ dB

The phase shift at the corner frequency of a first order filter is

1. $+90°$
2. $+45°$
3. $0°$
4. $-45°$
5. $\pm 45°$ depending on type of filter

When the attenuation of a filter is 0 dB, the phase shift is

1. $+90°$
2. $+45°$
3. $0°$
4. $-45°$
5. $-90°$

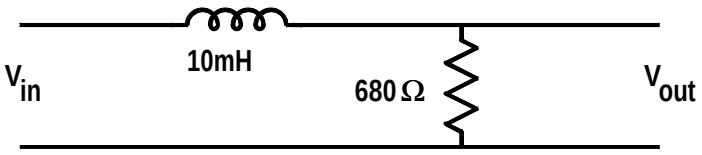


Is this a high pass or low pass filter?

1. High pass

2. Low pass

3. Give reasons

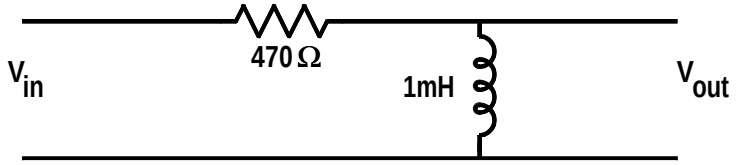


Is this a high pass or low pass filter?

1. High pass

2. Low pass

3. Give reasons

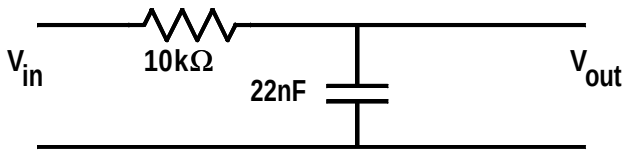


Is this a high pass or low pass filter?

1. High pass

2. Low pass

3. Give reasons



Is this a high pass or low pass filter?

1. High pass

2. Low pass

3. Give reasons