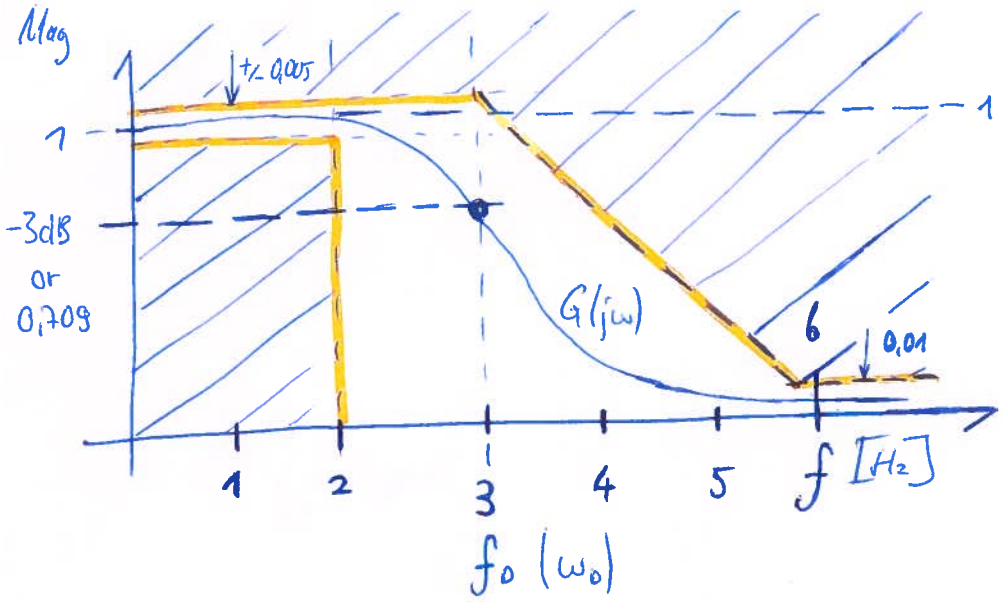
wikipedia.org/wiki/Butterworth-Filter: $(p+1)(p^2+0{,}445p+1)(p^2+1{,}247p+1)(p^2+1{,}8019p+1)$

↳ normalised denominator-polynom $p = \frac{s}{\omega_0}$ ↗ ⇕ ω_0 to align passband frequency ⇕



$[f_0 = \omega_0 \cdot 2 \cdot \pi]$

ISO 15037 (heavy)

Frequency response graph $G(j\omega)$ within allowed frame

by choosing $f_0 = 3\,Hz$ $(\omega_0 = 6\pi \frac{rad}{s})$:

$$G(s) = \frac{1}{\left(\frac{s}{\omega_0}+1\right)\left(\left(\frac{s}{\omega_0}\right)^2 + 0{,}445 \cdot \frac{s}{\omega_0} + 1\right)\left(\left(\frac{s}{\omega_0}\right)^2 + 1{,}247 \cdot \frac{s}{\omega_0} + 1\right)\left(\left(\frac{s}{\omega_0}\right)^2 + 1{,}8019 \cdot \frac{s}{\omega_0} + 1\right)}$$