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transformation to obtain transfer function of highpass filter.

The order of the filter.

$$N = \frac{\log\sqrt{\frac{10^{0.1\Omega_s}-1}{10^{0.1\Omega_p}-1}}}{\log\frac{\Omega_s}{\Omega_p}} = \frac{\log\sqrt{\frac{10^{0.1(10)}-1}{10^{0.1(3)}-1}}}{\log\frac{7265}{2235}}$$

$$= \frac{\log 3}{\log 3.25} = \frac{0.4771}{0.5118}$$

$$= 0.932$$

Therefore, we take $N = 1$

The first order Butterworth filter for

$\Omega_c = 1$ rad/sec is $H(s) = \frac{1}{1+s}$

The highest filter for $\Omega_c = \Omega_p = 7265$ rad/sec can be obtained by using the