Special Problem II.A-9

A lossless, passive, linear filter has the scattering parameter:

$$S_{21}(\omega) = \frac{10^6}{10^6 + j\omega}$$

a) Find $\mathbf{T}(\omega)$ and $\mathbf{\Gamma}(\omega)$ of this filter.

b) What **kind** of filter is this (i.e., high-pass, band-pass, low-pass, etc.)

c) What is the 3 dB **bandwidth** of this filter ??