

Transfer function: $\frac{E_o}{\dot{Q}}(s) = \frac{-K_e s}{(\tau_1 s + 1)(\tau_2 s + 1)}$,

where

$$K_e = K_p R_{th} R_f$$

$$\tau_1 = R_{th} C_{th}$$

$$\tau_2 = R_f C_f$$