$$f_{1/f}(t) = L^{-1}[\frac{1}{\sqrt{s}} \times \frac{F(s)}{1.25399 \cdot \tau}]$$

is for flicker noise.

$$f_{1/f}(t/\tau) = L^{-1}[\frac{\tau}{\sqrt{s \cdot \tau}} \times \frac{F(s \cdot \tau)}{1.25399 \cdot \tau}] = \frac{1}{\sqrt{\tau}} L^{-1}[\frac{F(s \cdot \tau)}{\sqrt{s} \cdot 1.25399}]$$