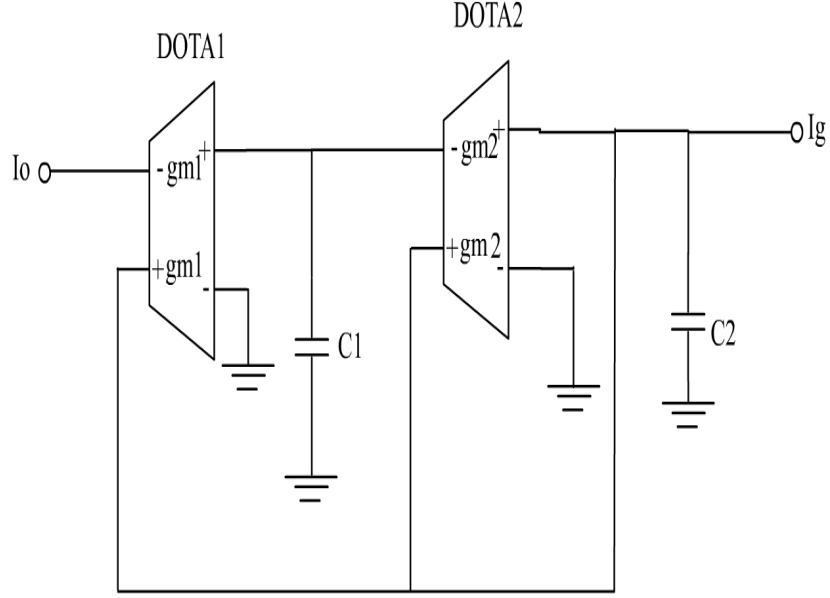


# DO-OTA TABANLI AKTİF SÜZGEÇ DEVRELERİ

## Akım Modlu Alçak Geçiren Süzgeç



Şekil 1. Akım modlu alçak geçiren süzgeç

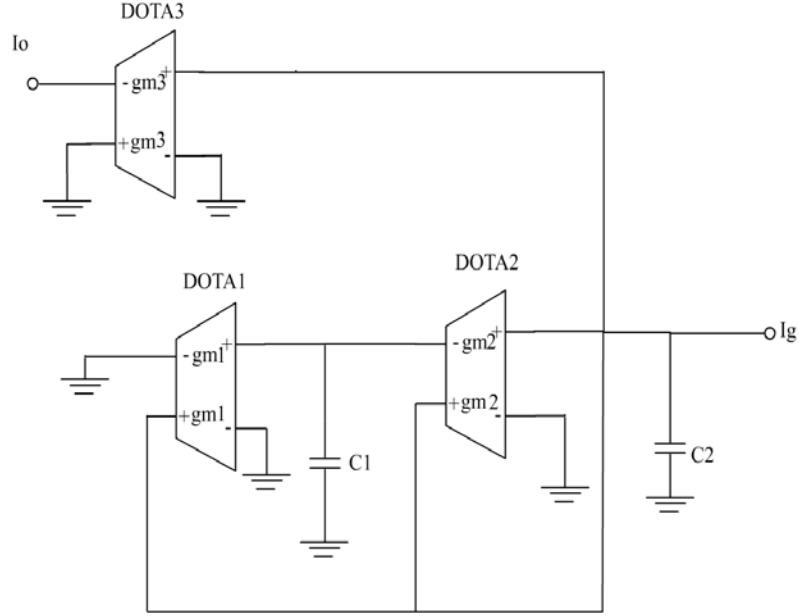
$$H(s) = \frac{a_0}{s^2 + b_1 s + b_0}$$

$$\frac{g_{m1}}{C_1} = \frac{b_0}{b_1}, \quad \frac{g_{m2}}{C_2} = b_1, \quad a_0 = b_0$$

$$b_1 = \frac{\omega_p}{Q_p} \quad b_0 = \omega_p^2$$

$$\omega_p = \frac{\sqrt{g_{m1}} \cdot \sqrt{g_{m2}}}{\sqrt{C_1} \cdot \sqrt{C_2}} \quad Q_p = \frac{\sqrt{g_{m1}} \cdot \sqrt{C_2}}{\sqrt{g_{m2}} \cdot \sqrt{C_1}}$$

**Akım Modlu Band Geçiren Süzgeç:**



**Şekil-2** Akım Modlu Band geçiren Süzgeç

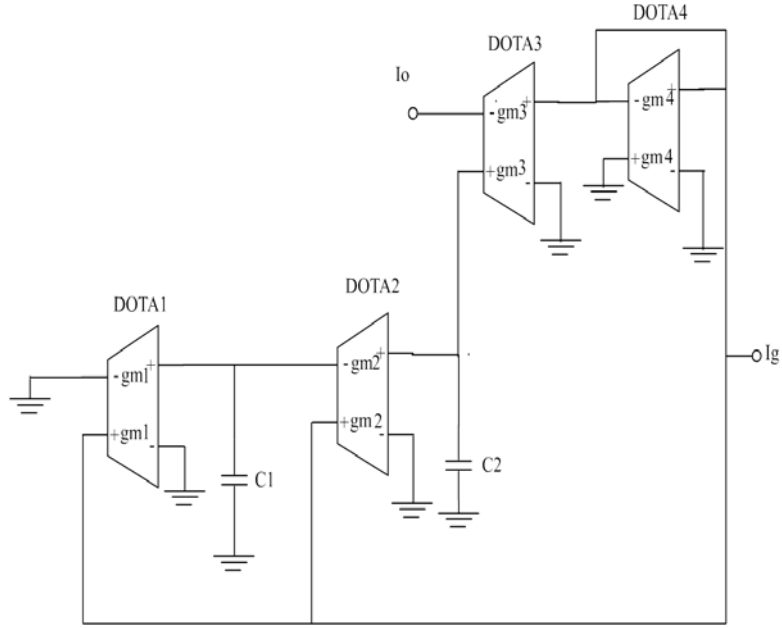
$$H(s) = \frac{a_1 s}{s^2 + b_1 s + b_0}$$

$$\frac{g_{m1}}{C_1} = \frac{b_0}{b_1}, \quad \frac{g_{m2}}{C_2} = b_1, \quad \frac{g_{m3}}{C_2} = a_1 \quad ($$

$$b_1 = \frac{\omega_p}{Q_p} \quad b_0 = \omega_p^2$$

$$\omega_p = \frac{\sqrt{g_{m1} \cdot \sqrt{g_{m2}}}}{\sqrt{C_1 \cdot \sqrt{C_2}}} \quad Q_p = \frac{\sqrt{g_{m1} \cdot \sqrt{C_2}}}{\sqrt{g_{m2} \sqrt{C_1}}}$$

### Akım Modlu Yüksek geçiren Süzgeç



Şekil 3. Akım Modlu Yüksek geçiren Süzgeç

$$H(s) = \frac{a_2 s^2}{s^2 + b_1 s + b_0}$$

$$\frac{g_{m1}}{C_1} = \frac{b_0}{b_1}, \quad \frac{g_{m3}}{g_{m4}} = a_2, \quad \frac{g_{m2}}{C_2} = \frac{b_2}{a_2}$$

$$b_1 = \frac{\omega_p}{Q_p} \quad b_0 = \omega_p^2$$

$$\omega_p = \frac{\sqrt{g_{m1}} \cdot \sqrt{g_{m2}} \cdot \sqrt{g_{m3}}}{\sqrt{C_1} \cdot \sqrt{C_2} \cdot \sqrt{g_{m4}}} \quad Q_p = \frac{\sqrt{g_{m1}} \sqrt{g_{m4}} \cdot \sqrt{C_2}}{\sqrt{g_{m2}} \sqrt{g_{m3}} \sqrt{C_1}}$$