

# Second-Order Filter Functions

$$T(s) = \frac{a_2 s^2 + a_1 s + a_0}{s^2 + \frac{\omega_0}{Q} s + \omega_0^2}$$

**Low Pass**  
 $a_1=0, a_2=0$

**High Pass**  
 $a_0=0, a_1=0$

**Bandpass**  
 $a_0=0, a_2=0$

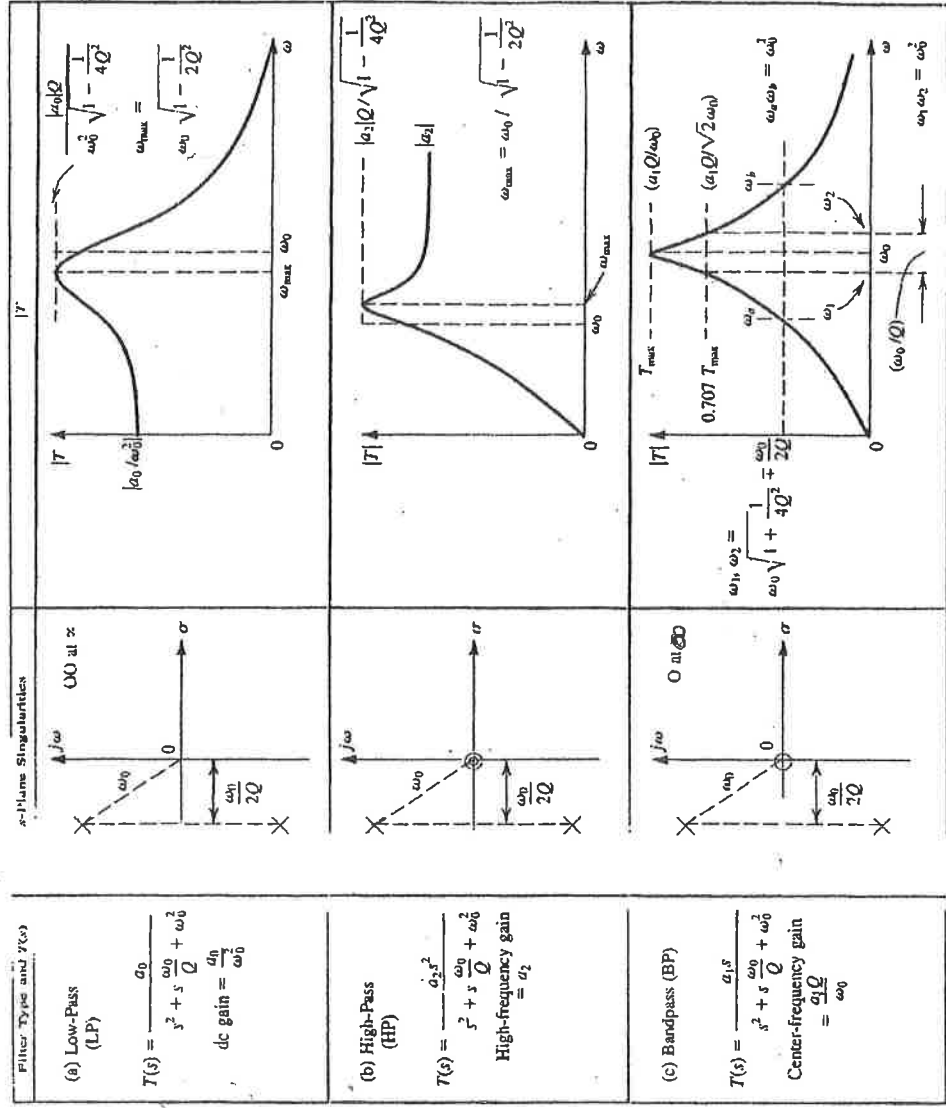


Fig. 11.16 Second-order filtering functions.

# Second-Order Filter Functions

$$T(s) = \frac{a_2 s^2 + a_1 s + a_0}{s^2 + \frac{\omega_0}{Q} s + \omega_0^2}$$

**Notch**

$$a_1 = 0$$

**Low Pass Notch**

$$a_1 = 0$$

**High Pass Notch**

$$a_1 = 0$$

**All-Pass**

