

Class-D LC Filter Designer

1 Class-D Configuration

Select the output configuration on the right.

Filter Type

Output Configuration

Load Factor

Enter the speaker load, desired cutoff frequency, and quality factor.

Speaker Load (R_{Load}) Ω

Cutoff Frequency kHz

Quality Factor (Q)

2 Calculated Components

The calculated LC filter component values are shown below.

Inductor (L) μH

Capacitor (C_g) μF

Capacitor (C_{BTL})

Total Cap SE Equivalent μF

3 Graph & Verify

Enter standard inductor and capacitor values below to graph & verify.

Inductor (L) μH

Capacitor (C_g) μF

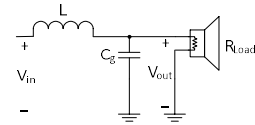
Capacitor (C_{BTL})

Total Cap SE Equivalent μF

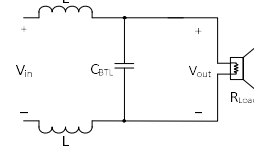
Cut-Off Frequency kHz

Quality Factor (Q)

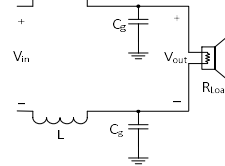
Single-Ended (SE) - AD or BD



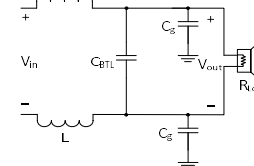
BTL - Differential - AD Mode



BTL - Common Mode - BD or AD Mode



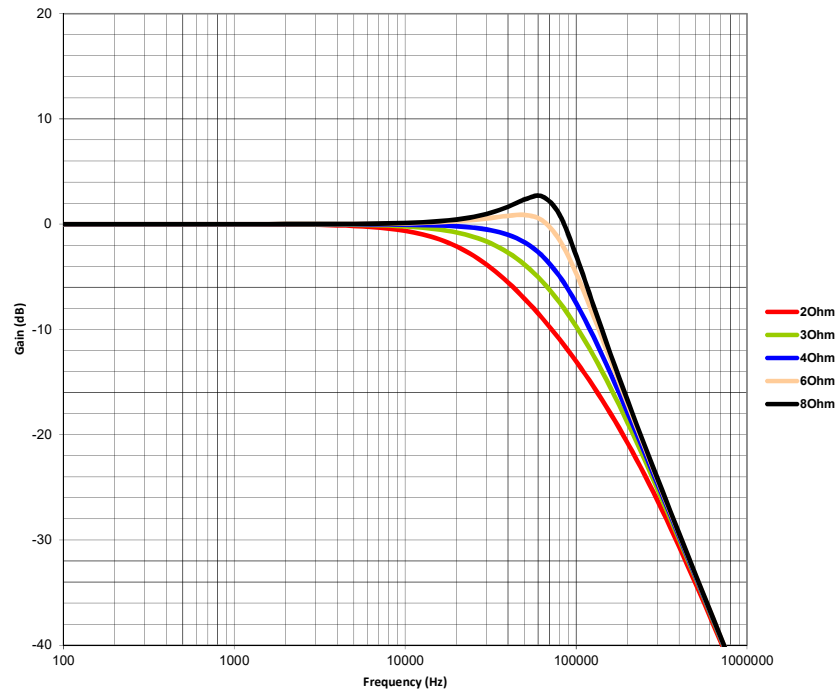
BTL - Hybrid - AD Mode



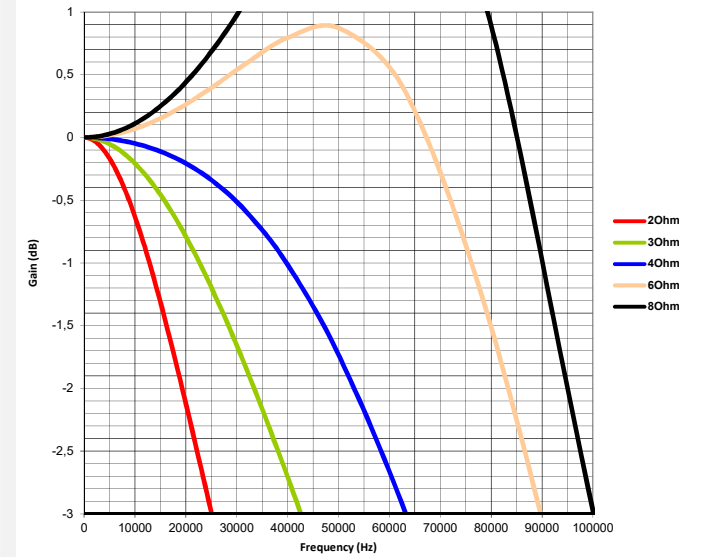
Transfer Function

$$\frac{1}{1 + s \cdot \frac{L}{R_{Load}} + L \cdot C \cdot s^2}$$

Gain vs Frequency



Zoom (Gain vs Frequency)



Graph Settings

Enter up to 5 different loads to graph.

Load	Value	Q
Load 1	2	Ω
Load 2	3	Ω
Load 3	4	Ω
Load 4	6	Ω
Load 5	8	Ω

Q
0,312
0,468
0,623
0,935
1,247