

Abstract**MEMS loudspeaker having an actuator structure and a diaphragm spaced apart therefrom**

A MEMS loudspeaker for generating audible sound waves, having a carrier substrate which has a substrate cavity with two substrate openings formed on two opposite sides of the carrier substrate, an actuator, in particular a piezoelectric actuator is arranged in one of the two substrate openings and connected to the carrier substrate in the edge region thereof, and a diaphragm which is anchored in the edge region thereof and can be caused to vibrate by means of the actuator for generating sound waves. The diaphragm is spaced apart from the actuator in a cross-sectional view of the MEMS loudspeaker, with an intermediate cavity formed between the diaphragm and actuator. The MEMS loudspeaker has a coupling element which is arranged in the intermediate cavity, connects the actuator structure to the diaphragm and can vibrate, with the actuator structure and the diaphragm, with respect to the carrier substrate.

Fig. 4