

Title (en)
ULTRASONIC TRANSDUCER WITH A CUP-SHAPED SUPPORT

Title (de)
ULTRASCHALLWANDLER MIT TOPFÖRMIGER HALTERUNG

Title (fr)
TRANSDUCTEUR ULTRASONORE A SUPPORT CUPULIFORME

Publication
EP 1038290 B1 20040128 (DE)

Application
EP 98962245 A 19981103

Priority
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• DE 19754891 A 19971210

Abstract (en)
[origin: WO9930313A1] Disclosed is an ultrasonic transducer that can be used as a transmitter and a receiver in pulse echo applications, especially in automobiles, to detect objects inside the automobile, i.e. for controlling air bag ignition during an accident. The inventive ultrasonic transducer comprises a membrane (2) with a piezoelectric plate (3) on the back thereof. The diameter of the piezoelectric plate (3) is 60 % -85 % the diameter of the membrane (2). A material (4) made of a soft open cell material is foamed on the back of the main surface of the membrane (2). Advantageous features with respect to the sensitivity and the mechanical quality of the transducer are obtained by foaming said material. The cited ratio between the diameter of the piezo ceramic element (3) and the membrane (2) provides a large aperture angle of the sound radiation when said foamed material is used.

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