

Title (en)

ROD-SHAPED ULTRASONIC RESONATOR FOR PRODUCING ULTRASOUND IN LIQUIDS

Title (de)

ULTRASCHALL-STABSCHWINGER ZUR ERZEUGUNG VON ULTRASCHALL IN FLÜSSIGKEITEN

Title (fr)

TRANSDUCTEUR A TIGE POUR LES ULTRASONS DESTINE A PRODUIRE UN ULTRASON DANS DES LIQUIDES

Publication

EP 1859436 A1 20071128 (DE)

Application

EP 06700984 A 20060113

Priority

- EP 2006000251 W 20060113
- DE 102005007056 A 20050215

Abstract (en)

[origin: WO2006087053A1] The invention relates to a rod-shaped ultrasonic resonator which comprises a heat-transfer element that is coupled to the piezoelectric transducer in a thermally advantageous manner. The heat-transfer element reduces the thermal resistance relative to the surrounding atmosphere or the housing and thereby relative to the bath when the rod-shaped resonator is submerged in said bath.

IPC 8 full level

G10K 11/00 (2006.01)

CPC (source: EP US)

G10K 11/004 (2013.01 - EP US)

Citation (search report)

See references of WO 2006087053A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

DE 102005007056 A1 20060824; BR PI0607338 A2 20100323; BR PI0607338 B1 20171107; CN 101142619 A 20080312; CN 101142619 B 20110608; DK 1859436 T3 20121015; EP 1859436 A1 20071128; EP 1859436 B1 20120711; EP 1859436 B8 20120815; ES 2392946 T3 20121217; JP 2008529777 A 20080807; JP 5243802 B2 20130724; PL 1859436 T3 20130131; US 2008212408 A1 20080904; US 7688681 B2 20100330; WO 2006087053 A1 20060824

DOCDB simple family (application)

DE 102005007056 A 20050215; BR PI0607338 A 20060113; CN 200680004937 A 20060113; DK 06700984 T 20060113; EP 06700984 A 20060113; EP 2006000251 W 20060113; ES 06700984 T 20060113; JP 2007555468 A 20060113; PL 06700984 T 20060113; US 88433206 A 20060113