

Title (en)

CRYSTALLINE ALUMINA LOADED CAVITY RESONATOR

Publication

EP 0173545 A3 19860910 (EN)

Application

EP 85305945 A 19850821

Priority

AU 669284 A 19840821

Abstract (en)

[origin: EP0173545A2] This invention describes a crystalline alumina loaded cavity resonator which has low loss and high frequency stability such that its frequency is well-defined and only weakly perturbed by temperature, pressure and mechanical changes in its environment. Basically the resonator is a single crystal of sapphire (1) having protusions (2) and (2 min) fitting closely into recesses in the base (3) and lid (3 min) of a niobium housing. The lid (3 min) is clamped by groove (4) and having an indium seal to seal the lid (3 min) to the side walls (5) at groove (6) in lid (3 min). A microwave probe (7) is used to couple microwave power into the cavity through hole (8).

IPC 1-7

H01P 7/10; H01P 7/06

IPC 8 full level

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CPC (source: EP)

H01P 7/06 (2013.01); **H01P 7/10** (2013.01)

Citation (search report)

- [Y] US 4028652 A 19770607 - WAKINO KIKUO, et al
- [A] GB 2129228 A 19840510 - MURATA MANUFACTURING CO
- [A] DE 1284491 B 19681205 - TELEFUNKEN PATENT
- [YD] IEEE TRANSACTIONS ON MAGNETICS, vol. MAG-17, no. 1, January 1981, pages 955-957, IEEE, New York, US; V.B. BRAGINSKII et al.: "The properties of superconducting resonators on sapphire"
- [A] IEEE PROCEEDINGS SECTION AAI, vol. 129, no. 4, part H, August 1982, pages 183-187, Old Working, Surrey, GB; C. VEDRENNE et al.: "Whispering-gallery modes of dielectric resonators"
- [Y] J. PHYSICS E, vol. 10, no. 12, 1977, pages 1193-1207; A. SEPTIER et al: "Microwave applications of superconducting materials"

Cited by

CN103716977A; DE4316334A1; DE19824997A1; DE19824997C2; EP2178156A1; EP2315305A1; EP0306090A1; FR2620281A1; GB2323840A; GB2323840B; EP0392417A1; FR2646022A1; US5027090A; US11091784B2; WO0233780A1; WO9723430A1; US8031036B2; US8598970B2

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