

Title (en)

HOM DAMPED HIGH-FREQUENCY RESONATOR

Title (de)

HOM-GEDÄMPFTER HOCHFREQUENZ-RESONATOR

Title (fr)

RESONATEUR HAUTE FREQUENCE A AMORTISSEMENT DES MODES D'ORDRE SUPERIEUR

Publication

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Application

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Priority

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Abstract (en)

[origin: WO02104086A1] An HOM damped high-frequency resonator, comprising a cylindrical resonator cavity wherein three circular tapered wave guides with respectively two symmetrically arranged connector elements are disposed on the outer surface thereof. The cut-off frequency of the wave guide base mode is kept constant over the entire length of the wave guides by varying the height of the connectors and the connector wave guides are respectively provided on the end thereof having a smaller diameter with an impedance transformer for broadband HF adaptation of the coaxial line. The aim of the invention is to provide an economically space-saving design, displaying a better damping characteristic, in comparison with prior art, with a simultaneously high shunt impedance for the fundamental mode. According to the invention, the wave guides (2.1; 2.2; 2.3) are disposed in an offset manner on the outer surface of the resonator cavity (1) in the direction of the longitudinal axis thereof in order to adjust the assymetry thereof relative to the centre plane of said cylindrical resonator cavity (1) and are embodied in such a way that the angle of said wave guides can be adjusted in relation to the axis of the cylindrical resonator cavity (1). The connectors (S1.1 and S2.1; S1.2 and S2.2; S1.3 and S2.3) of the wave guides (2.1; 2.2; 2.3) protrude into the cylindrical resonator cavity (1) in such a way that the higher order modes are coupled in an optimum manner.

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