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Patent Number(s): US2012081003-A1; KR2012035045-A

Title: Terahertz interaction circuit for amplifying interaction between electron beam and electromagnetic waves, has waveguide with ridge portion in which portion surface waveguide protrudes into waveguide

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Abstract: NOVELTY - The terahertz interaction circuit has a waveguide (110) with a folding shape and in which an electromagnetic wave propagates. An electron beam tunnel (120) is formed to penetrate through the waveguide and through which an electron beam passes. The waveguide has a ridge portion (115a,115b) in which a portion a surface the waveguide protrudes into the waveguide. A thickness the portion the waveguide at the ridge portion is thinner than a thickness a waveguide portion (111) on either side the ridge portion.

USE - Terahertz interaction circuit for amplifying interaction between electron beam and electromagnetic waves.

ADVANTAGE - The high output power can be obtained by improving intensity the electric field. The operating frequency band can be increased by lowering the cutf frequency. The transit time between electron beam and the electromagnetic wave is reduced so that the high frequency oscillation can be realized.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for method fabricating terahertz interaction circuit.

DESCRIPTION DRAWING(S) - The drawing shows a perspective view the terahertz interaction circuit.

Block (100)

Waveguide (110)

Waveguide portion (111)

Ridge portions (115a,115b)

Electron beam tunnel (120)

Drawing:

Derwent Class Code(s): M23 (Soldering, welding); P55 (Soldering, welding metal); V05 (Valves, Discharge Tubes and CRTs); X24 (Electric Welding)

Derwent Manual Code(s): M23-D04; V05-C01B1; V05-C02C5; X24-D02

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