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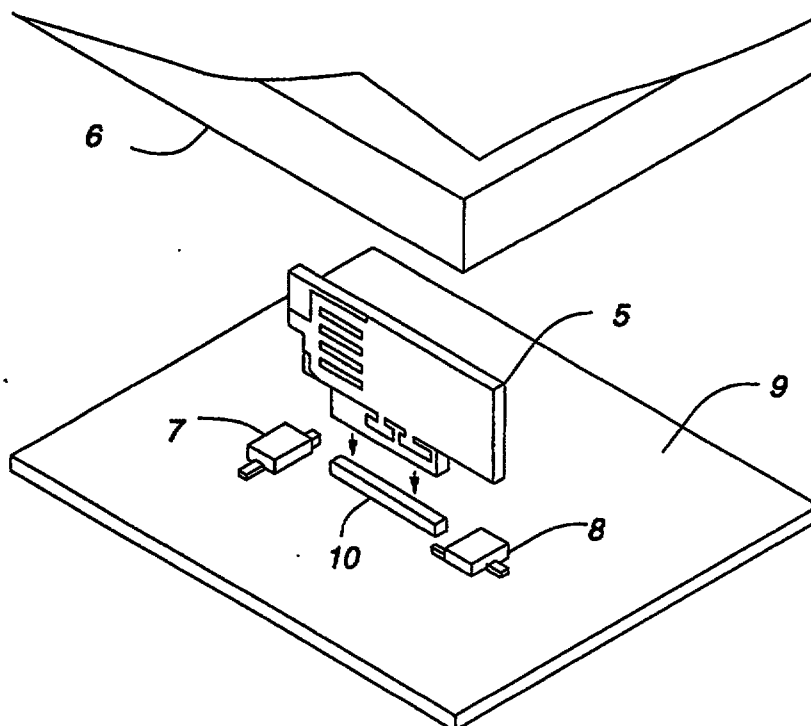


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(54) Title: ORTHOGONALLY MOUNTED SUBSTRATE BASED RESONATOR ✓



(57) Abstract

A resonator (5) includes a substrate (15) to which are attached trimmable capacitance (31, 32A) and inductance (37, 38) portions which together with a varactor (7) and transistor (8) form an oscillator circuit. The resonator (5) mounts orthogonally in a slot (10) on an oscillator board (9) to reduce microphonic effects from a cover (6) that otherwise would degrade the oscillator performance.