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(54) **Title**: VERTICAL TUNNELING NEGATIVE DIFFERENTIAL RESISTANCE DEVICES

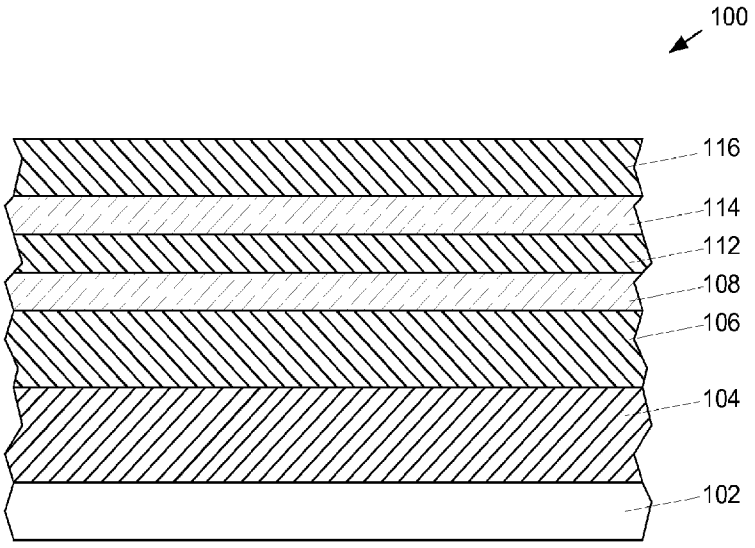


FIG. 1

(57) **Abstract**: The present disclosure relates to the fabrication of microelectronic devices having at least one negative differential resistance device formed therein. In at least one embodiment, the negative differential resistance devices may be formed utilizing quantum wells. Embodiments of negative differential resistance devices of present description may achieve high peak drive current to enable high performance and a high peak-to-valley current ratio to enable low power dissipation and noise margins, which allows for their use in logic and/or memory integrated circuitry.

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