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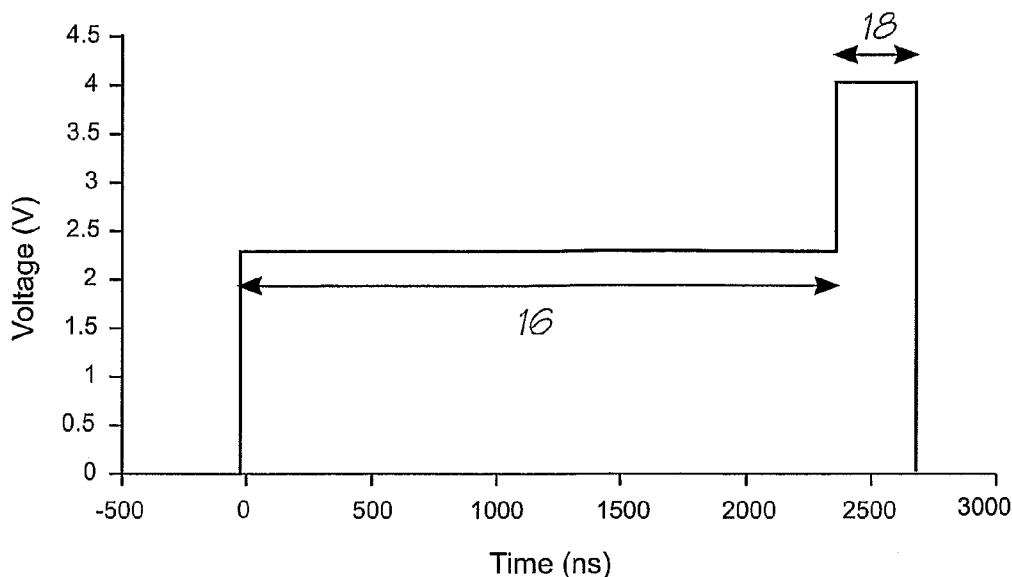
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(54) Title: MEMS BUBBLE GENERATOR FOR LARGE STABLE VAPOR BUBBLES

Shaped input pulse (amplitude modulation)



(57) Abstract: A MEMS vapour bubble generator that uses a heater in thermal contact with a liquid to generate a bubble. The heater is energized by an electrical pulse that is shaped to have a relatively low power, sub-nucleating portion and a high power portion that nucleates the bubble. The thermal energy transferred to the liquid by the sub-nucleating portion speeds up the nucleation of the bubble across the surface of the heater during the nucleating portion. This produces larger, more stable bubble having a regular shape.

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