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(54) **TIME INTERLEAVED TRACK AND HOLD**

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See application file for complete search history.

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(57) **ABSTRACT**

The present application relates to an apparatus comprising a first transistor element, with at least three terminals, and at least one switching unit. The present application relates also to a method, computer readable medium having a computer program stored thereon and a track and hold circuit comprising the apparatus. The apparatus comprises a first transistor element with at least three terminals, wherein a first terminal is supplied with a first voltage, and wherein a second terminal is supplied with a second voltage. The apparatus comprises a first switching unit, wherein a third terminal is connected to ground potential via the first switching unit. The transistor element comprises a predefined threshold voltage. The first voltage and the second voltage are predefined alternating voltages. The transistor element is configured such that in case a differential voltage between the first predefined alternating voltage and the second predefined alternating voltage is higher than the predefined threshold voltage and the first switching unit is not conductive the third terminal is charged with the first predefined alternating voltage.

20 Claims, 5 Drawing Sheets

