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(51) International Patent Classification:
H03K3/00 (2006.01) H03K21/00 (2006.01)

(54) Title: Latch circuit, flip-flop circuit and frequency divider

(57) Abstract: The invention pertains to a latch circuit (10) comprising a sensing arrangement (12) with one or more sensing transistors (T 1, T 2) adapted to sense an input signal (D, D n) and to provide a first signal based on the sensed input signal (D, D n), and a sensing arrangement switch device (16) connected or connectable to a first current source (18), the sensing arrangement switch device (16) being adapted to switch on or off a current to the one or more sensing transistors (T 1, T 2) based on a first clock signal (CLK). The latch circuit (10) further comprises a storage arrangement (14) with one or more storage transistors (T 3, T 4) adapted to store the first signal and to provide a second signal based on the first signal, and a storage arrangement switching device (20) being connected or connectable to the first current source (18) or a second current source, the storage arrangement switching device (20) being adapted to switch on or off a current to the storage transistors (T 3, T 4) based on a second clock signal (CLK n), as well as a tuning arrangement (24) connected or connectable to a temperature sensor (106, 108), the tuning arrangement (24) being adapted to bias a current of the sensing arrangement (12) and/or the storage arrangement (14) based on a temperature signal provided by the temperature sensor (106, 108). The invention also pertains to a flip-flop circuit with two or more latch circuits and a frequency divider (100) comprising at least one latch circuit (10) as described.
INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2010/053408

A. CLASSIFICATION OF SUBJECT MATTER

H03K 3/00(2006.01)i, H03K 21/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H03K 3/00; H03K 3/286; H03K 3/02; H03K 3/356; H03K 19/003; H03K 3/037; H03K 19/08

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords: latch, temperature, sensing

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search

10 AUGUST 2012 (10.08.2012)

Date of mailing of the international search report

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Name and mailing address of the ISA/KR

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