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(54) Title: ARCHITECTURE FOR ADJUSTING NATURAL FREQUENCY IN RESONANT CLOCK DISTRIBUTION NETWORKS

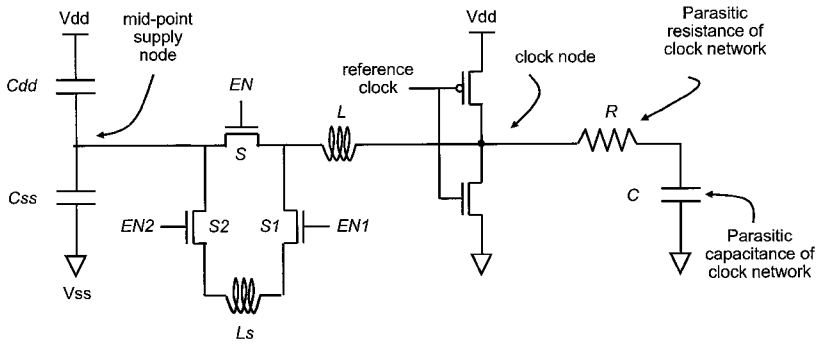

Figure 5

(57) Abstract: An inductor architecture for resonant clock distribution networks is proposed. This architecture allows for the adjustment of the natural frequency of a resonant clock distribution network, so that it achieves energy-efficient operation at multiple clock frequencies. The proposed architecture is primarily targeted at the design of resonant clock distribution networks with integrated inductors and exhibits relatively low area overheads. Such an architecture is generally applicable to semiconductor devices with multiple clock frequencies, and high-performance and low-power clocking requirements such as microprocessors, ASICs, and SOCs. Moreover, it is applicable to the binning of semiconductor devices according to achievable performance levels.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/052396

A. CLASSIFICATION OF SUBJECT MATTER

G06F 1/04(2006.01)i, G06F 1/06(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)

G06F 1/04; H03K 3/00; H03K 19/00

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: resonant clock, inductance, switch, etc.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 05734285A A (HARVEY; GEOFFREY P.) 31 March 1998 See column 9, lines 25 - 35, column 11, line 64 - column 12, line 7; and figures 4, 8, 9, 14, 22, 29.	1,2,4
Y	US 6882182 B1 (ROBERT O. CONN et al.) 19 April 2005 See column 5, line 25 - column 7, line 13; and figures 2-3.	1,2,4
A	US 2009-0027085 A1 (ISHII ALEXANDER T. et al.) 29 January 2009 See paragraphs [0026]-[0037]; and figures 2, 3, 4, 7, 9, 11.	1-17
A	US 2008-0150605 A1 (CHUEH JUANG-YING et al.) 26 June 2008 See paragraphs [0040]-[0051]; and figures 1, 2, 4.	1-17

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Information on patent family members

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