

{tag} International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

[Volume 171](#)

-
[Number 2](#)

Year of Publication: 2017

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10.5120/ijca2017914988

{bibtex}2017914988.bib{/bibtex}

Abstract

A simple and low-cost circuit for controlling hysteresis of Schmitt trigger is proposed in this paper. The hysteresis of the circuit is digitally tuned by employing binary-weighted resistors in place of feedback resistor. The behavior of proposed circuit has been tested experimentally in hardware. The results obtained are satisfactory and are also presented.

References

1. Fei Yuan, "A high speed differential CMOS Schmitt trigger with regenerative current feedback and adjustable hysteresis", Analog Integrated Circuits and Signal Processing, , Vol. 63, pp. 121-127, issue 1, 2010.
2. Sharam Minaei and Ekram Yuce, "A simple Schmitt trigger circuit with grounded passive elements and its applications to square/triangular wave generator", Circuits, systems and signal processing, Vol. 231, pp 877-888, June 2012.
3. Marzaki A, Bidal V, Rahajandraibe W, Portal J L & Bouchakour R., "New Schmitt trigger

with controllable hysteresis using dual control gate-floating gate transistor (DCG-FGT)", International journal of reconfigurable and Embedded systems, Vol. 2, No.1, pp. 49-54, March 2013.

4. Wuttipong Tamnupan and VarakornKasemsuwan, "A low voltage low power current mode differential adjustable Schmitt trigger", 9th International conference on Electrical Engineering/Electronics, Computer, Telecommunication and information, ieepp 1-4, 2012.

5. Katyal Vipul, Geiger Randall L & Chen Degang J, "Adjustable Hysteresis CMOS Schmitt Triggers", IEEE International Symposium on Circuits and systems, pp. 1938-1941, 2008.

6. Jiri Misurec and Jaroslav Koton, "Schmitt trigger with controllable hysteresis using current conveyors", International journal of advances in telecommunication, Electrotecnics, signals and systems, Vol. 1, No.1, pp 26-30, 2012.

7. W.Prodanov, M. C Schneider, "A digitally programmable current Schmitt-trigger. In: XVI International Conference on Microelectronics and Packaging, Pirenópolis - GO. SBMICRO 2001, pp. 106-110, 2001.

8. Ramakant A. Gayakyard, "Operational Amplifiers and linear Integrated circuits", Prentice Hall of India 4th Edition.

Index Terms

Computer Science

Circuits and Systems

Keywords

Binary Weighted Resistors, Operational Amplifier, Schmitt trigger.