



Colegio de San Juan de Letran
Dominican Avenue, Abucay, Bataan
Library and Media Services

RESEARCH GUIDE: CIRCUITS

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RESEARCH GUIDES

CIRCUITS

I. SCOPE NOTE

A closed path that allows electricity to flow from one point to another. techterms.com

II. SEARCH AIDS (BT: Broader Term, RT: Related Term, NT: Narrow Term)

BT:

- Electronics

RT:

- Circuit theory
- Resistive network
- Mesh and node equation
- Network theorems
- Transient analysis
- Laplace transform
- Special circuits
- Complex algebra and phasors
- Impedance and admittance
- Simple AC circuits
- Transformers
- Resonance
- AC network theorems
- Power in AC circuits
- Three phase circuits
- Two-port network parameter
- Network function
- Mesh and network analysis

NT:

- Network problems
- Voltage source
- Resistor
- Capacitor
- Inductor
- Loop currents
- Node voltage
- Three phase generators
- Transmission lines
- Loads
- External circuits

- Ports
- Siemens
- Ohms
- Resistance
- Series circuit
- Parallel circuit
- Harmonic oscillators
- Optical devices
- Mechanical systems
- Superposition theorem
- Thevenin's theorem
- Norton's theorem
- Smoothing network

III. INFORMATION RESOURCES

A. LIBRARY RESOURCES

Note: For the appropriate access credentials, please contact the Letran Bataan Library

➤ E-JOURNALS

- Measurement. https://www.proquest.com/central/publication/publications_2047460
- IOP Conference Series. Materials Science and Engineering. https://www.proquest.com/central/publication/publications_4998670
- Optical and Quantum Electronics. https://www.proquest.com/central/publication/publications_2043598
- Physical Review. X. https://www.proquest.com/central/publication/publications_5161131
- World Journal of Engineering. https://www.proquest.com/central/publication/publications_2068924
- Neural Computing & Applications. https://www.proquest.com/central/publication/publications_2043988
- Journal of Ambient Intelligence and Humanized Computing. https://www.proquest.com/central/publication/publications_2043913
- International Journal of Bifurcation and Chaos in Applied Sciences and Engineering. https://www.proquest.com/central/publication/publications_2049929
- Nonlinear Dynamics. https://www.proquest.com/central/publication/publications_2043746
- International Journal of Electrical and Computer Engineering. https://search.proquest.com/central/publication/publications_1686344
- International Journal of Circuit Theory and Applications. https://search.proquest.com/central/publication/publications_996369
- Journals of Circuits, Systems and Computers. https://search.proquest.com/central/publication/publications_2049873

- Manager's Journal on Circuits & Systems.
https://search.proquest.com/central/publication/publications_2037361
- Journal of Computational Electronics.
https://search.proquest.com/central/publication/publications_2043855

➤ E-THESES

- Stetner, M. E. (2019). Algorithms and circuits for motor control and learning in the songbird (Order No. 27721357). Available from ProQuest Central. (2315539795). Retrieved from <https://www.proquest.com/dissertations-theses/algorithms-circuits-motor-control-learning/docview/2315539795/se-2?accountid=190548>
- Huffman, T. A. (2018). Integrated Si₃N₄ waveguide circuits for single- and multi-layer applications (Order No. 10979233). Available from ProQuest Central. (2188088450). Retrieved from <https://www.proquest.com/dissertations-theses/integrated-si-sub-3-n-4-waveguide-circuits-single/docview/2188088450/se-2?accountid=190548>
- Santos, R. A. (2020). Carefully constructing circuits in the developing CNS: How DSCAM intricately modulates visual circuit assembly in vivo (Order No. 27838214). Available from ProQuest Central. (2428025443). Retrieved from <https://www.proquest.com/dissertations-theses/carefully-constructing-circuits-developing-cns/docview/2428025443/se-2?accountid=190548>
- Park, J. S. (2009). System level methodology for low cost performance characterization of analog and mixed -signal circuits (Order No. 3372676). Available from ProQuest Central. (305005064). Retrieved from <https://www.proquest.com/dissertations-theses/system-level-methodology-low-cost-performance/docview/305005064/se-2?accountid=190548>
- Galan, E. (2015). Magnesium diboride superconducting devices and circuits (Order No. 3745867). Available from ProQuest Central. (1756662756). Retrieved from <https://www.proquest.com/dissertations-theses/magnesium-diboride-superconducting-devices/docview/1756662756/se-2?accountid=190548>
- Datteri, R. (2014). Assessing registration quality via registration circuits (Order No. 3648749). Available from ProQuest Central. (1650605485). Retrieved from <https://www.proquest.com/dissertations-theses/assessing-registration-quality-via-circuits/docview/1650605485/se-2?accountid=190548>
- Hassan, Z. (2009). Thermal analysis for nanometer-scale integrated circuits (Order No. 1473684). Available from ProQuest Central. (304868607). Retrieved from <https://www.proquest.com/dissertations-theses/thermal-analysis-nanometer-scale-integrated/docview/304868607/se-2?accountid=190548>
- Gentry, C. M. (2018). Scalable quantum light sources in silicon photonic circuits (Order No. 10791965). Available from ProQuest Central. (2048263084). Retrieved from <https://www.proquest.com/dissertations-theses/scalable-quantum-light-sources-silicon-photonic/docview/2048263084/se-2?accountid=190548>
- Vichik, S. (2015). Quadratic and linear optimization with analog circuits (Order No. 10086165). Available from ProQuest Central. (1779253220). Retrieved from <https://www.proquest.com/dissertations-theses/quadratic-linear-optimization-with-analog/docview/1779253220/se-2?accountid=190548>
- Vlastakis, B. M. (2015). Controlling coherent state superpositions with superconducting circuits (Order No. 10013061). Available from ProQuest Central. (1765648577). Retrieved

- from <https://www.proquest.com/dissertations-theses/controlling-coherent-state-superpositions-with/docview/1765648577/se-2?accountid=190548>
- Brecht, T. L. (2017). Micro machined quantum circuits (Order No. 10783438). Available from ProQuest Central. (2024081578). Retrieved from <https://search.proquest.com/docview/2024081578?accountid=190548>
 - Park, J. S. (2009). System level methodology for low cost performance characterization of analog and mixed -signal circuits (Order No. 3372676). Available from ProQuest Central. (305005064). Retrieved from <https://search.proquest.com/docview/305005064?accountid=190548>
 - Schaeffer, B. (2013). Computer aided design of permutation, linear, and affine-linear reversible circuits in the general and linear nearest-neighbor models (Order No. 1541050). Available from ProQuest Central. (1418478669). Retrieved from <https://search.proquest.com/docview/1418478669?accountid=190548>
 - Burbridge, T. J. (2015). Molecular and activity-dependent mechanisms of visual circuit development (Order No. 3663626). Available from ProQuest Central. (1702039382). Retrieved from <https://search.proquest.com/docview/1702039382?accountid=190548>
 - Narla, A. (2017). Flying qubit operations in superconducting circuits (Order No. 10783459). Available from ProQuest Central. (2024081624). Retrieved from <https://search.proquest.com/docview/2024081624?accountid=190548>

B. OPEN ACCESS

➤ FREE E-BOOKS

- Bird, John. (2007). Electrical Circuit Theory and Technology, 3rd edition. Amsterdam: Elsevier. <https://www.pdfdrive.com/electrical-circuit-theory-and-technology-thirdedition-electrical-circuit-theory-and-technology-d162459767.html>
- Nahvi, Mahmood. (2003). Theory and Problems of ELECTRIC CIRCUITS, 4th edition. New York: McGraw Hill. <https://www.pdfdrive.com/schaums-outline-of-theory-andproblems-of-electric-circuits-d33461668.html>
- Schubert, Tomas F. and Kim, Ernest M. (2014). Fundamentals of Electronics: Book 1 Electronic Devices and Circuit Applications. Morgan & Claypool Publisher. <https://www.pdfdrive.com/fundamentals-of-electronics-book-1-electronic-devices-andcircuit-applications-d186374504.html>
- Kishore, K. Lal. (2008). Electronic Devices and Circuits. India: BS Publisher. <https://www.pdfdrive.com/electronic-devices-and-circuits-d33544943.html>

➤ FREE E-JOURNALS

- Circuits, Systems, and Signal Processing. <https://www.springer.com/journal/34/open-access-publishing>
- Journal of Circuits, Systems and Computers. <https://www.springer.com/journal/34/open-access-publishing>
- Electronics. <https://www.mdpi.com/journal/electronics>
- International Journal of Circuits and Electronics. <https://www.iaras.org/iaras/journals/ijce>

- IEEE Open Journal of Circuits and Systems.
<https://iee-cas.org/publications/openjournal-circuits-and-systems>
- International Journal of Circuits & Electronics.
<https://www.ias.org/ias/journals/ijce>
- Electronics – Open Access Journal.
<https://www.mdpi.com/journal/electronics>
- Electrical & Electronic Technology Open Access Journal.
<https://publons.com/journal/60863/electrical-electronic-technology-open-access-journ/>

➤ FREE E-THESES

- Chen, L. (2021). Noise analysis of translinear circuits. (Thesis). Ryerson University. Retrieved from <http://hdl.handle.net/10.32920/ryerson.14644764.v1>
- Wu, G. (2016). Physical design algorithms for asynchronous circuits. (Thesis). Iowa State University. Retrieved from <https://lib.dr.iastate.edu/etd/15840>
- Li, Q. (2021). Analysis of periodically switched nonlinear circuits and nonlinear oversampled sigma-delta modulators. (Thesis). Ryerson University. Retrieved from <http://hdl.handle.net/10.32920/ryerson.14660691.v1>
- Sciuto, G. (2012). Handbook of experimental-chaotic circuits and their synchronization. (Thesis). Università degli Studi di Catania. Retrieved from <http://hdl.handle.net/10761/1078>
- Baumgart, L. A. (2017). Gene Regulation in Synthetic Biology: Biosensing and Novel Tools for The Construction of Complex Genetic Circuits. (Thesis). University of California – San Diego. Retrieved from <http://www.escholarship.org/uc/item/9cm6x9k9>
- Ng, R. W. T. (2011). Low power digital type analog-to-digital converter. (Thesis). Nanyang Technological University. Retrieved from <http://hdl.handle.net/10356/47580>
- Munoz-Coreas, E. (2020). Resource Efficient Design of Quantum Circuit for Cryptanalysis and Scientific Computing Applications. (Doctoral Dissertation). University of Kentucky. Retrieved from https://uknowledge.uky.edu/ece_etds/157
- Chugh, P. P. (2012). Switch level optimization for CMOS circuits. (Masters Thesis). Texas A&M University. Retrieved from <http://hdl.handle.net/1969.1/ETD-TAMU-1997-THESIS-C485>
- Batchu, S. (2011). Automatic extraction of behavioral models from simulations of analog/mixed-signal (AMS) circuits. (Master's Thesis). University of Utah. Retrieved from <http://content.lib.utah.edu/cdm/singleitem/collection/etd3/id/396/rec/324>
- Chakrabarti, A. (2016). Architectures and Integrated Circuits for Efficient, High-power "Digital" Transmitters for Millimeter-wave Applications. (Doctoral Dissertation). Columbia University. Retrieved from <https://doi.org/10.7916/D8XP74VT>
- Zou, X. (2019). Micro-electro-mechanical Resonator-Based Digital and Interface Elements for Low Power Circuits. (Thesis). King Abdullah University of Science and Technology. Retrieved from <http://hdl.handle.net/10754/660269>
- Alam, S. (2015). Modelling, analysis and design of bioelectronics circuits in VLSI. (Doctoral Dissertation). Massey University. Retrieved from <http://hdl.handle.net/10179/7731>

- Li, Y. (2017). Low-cost, high-precision DAC design based on ordered element matching and verification against undesired operating points for analog circuits. (Thesis). Iowa State University. Retrieved from <https://lib.dr.iastate.edu/etd/17249>

C. PROFESSIONAL ORGANIZATIONS

- The International Society for Optics & Photonics. <https://spie.org/>
- Association for Computing Machinery. <https://www.acm.org/>
- Audio Engineering Society. <https://aes2.org/>
- Electric Power Research Institute. <https://www.epri.com/>
- Institution of Electrical & Electronics Engineer. <https://www.ieee.org/>
- The Institution of Engineering & Technology. <https://www.theiet.org/>
- Electronic Power Research Institute. <https://www.epri.com/>
- American Society for Engineering Education. <http://www.asee.org/>
- IEEE Communication Society. <https://www.comsoc.org/>

D. OTHER RELATED WEB PORTALS

- Circuit Lab. <https://www.circuitlab.com/>
- Hackaday. <https://hackaday.com/about/>
- Virtual Labs. <https://www.vlab.co.in/>
- MIT Open Courseware. <https://ocw.mit.edu/index.htm>
- Makezine. <https://makezine.com/>
- Electronics Weekly. <https://www.electronicsworld.com/>
- Tutorials Point. <https://www.tutorialspoint.com/index.htm>
- Wolfram. <https://demonstrations.wolfram.com/>
- All about Circuits. <https://www.allaboutcircuits.com/>
- Electrical 4 U. <https://www.electrical4u.com/>
- Electronics. <http://electronics.wisc-online.com/>
- Electrical Engineering Portal. <https://electrical-engineering-portal.com/>

E. RELATED RESEARCH GUIDES

- University Houston Library. <https://guides.lib.uh.edu/ece>
- University of Melbourne. https://unimelb.libguides.com/elec_eng
- Bloomsburg Library. <https://guides.library.bloomu.edu/c.php?g=318635&p=2127019>
- Washington University Library. <https://libguides.libraries.wsu.edu/EE>
- Northwestern Library. <https://libguides.northwestern.edu/eecs>

IV. TUTORIALS

- Circuit Basics - The Learning Circuit. <https://www.youtube.com/watch?v=iZYedWOERN0>
- Electronics Tutorial. <https://www.electronics-tutorials.ws/>
- Lesson 1 - Voltage, Current, Resistance (Engineering Circuit Analysis). https://www.youtube.com/watch?v=OGa_b26eK2c

- Thevenin Equivalent Circuits | Basic Circuits | Electronics Tutorials. <https://www.youtube.com/watch?v=vT92Sdb1Q0g>
- Learn electronics quick video series tutorials 1 introducing circuits. <https://www.youtube.com/watch?v=-nES34akEJY>
- Series and Parallel Circuits. <https://learn.sparkfun.com/tutorials/series-and-parallel-circuits/all>
- Basic Electronics for Beginners. <https://www.youtube.com/watch?v=uXr4lXYjXuU>
- Electric Circuit Analysis Tutorial - Physics GCSE. <https://www.youtube.com/watch?v=vRdlQLOPTUA>
- Electronics & You. <http://www.electronicandyou.com/electronic-circuits-for-beginners.html>
- Basic Relationships, Concepts and Laws of Electric Circuits. <https://www.allaboutcircuits.com/video-tutorials/essential-concepts-of-electric-circuits/>
- Electronic Circuit Design Tutorial for Beginners. <https://ettron.com/electronic-circuit-design-tutorial-for-beginners/>
- Spark Fun. <https://learn.sparkfun.com/tutorials/what-is-a-circuit/all>
- Tutorials Point. https://www.tutorialspoint.com/electronic_circuits/index.htm
- All about Circuits. <https://www.allaboutcircuits.com/video-tutorials/>
- Circuits Today. <https://www.circuitstoday.com/category/tutorials>
- The Physics Classroom. <https://www.physicsclassroom.com/class/circuits>

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