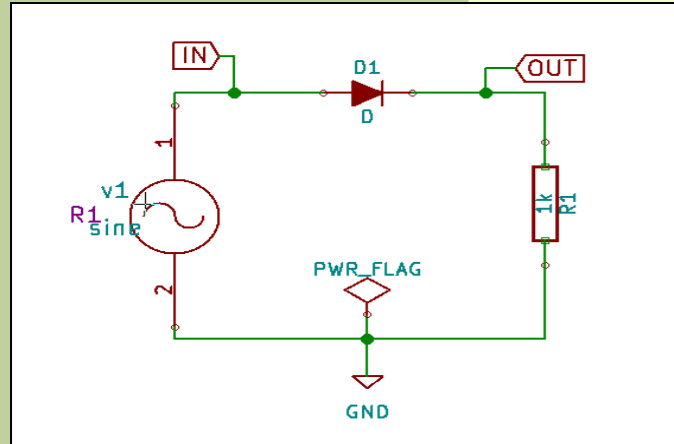


Features of eSim

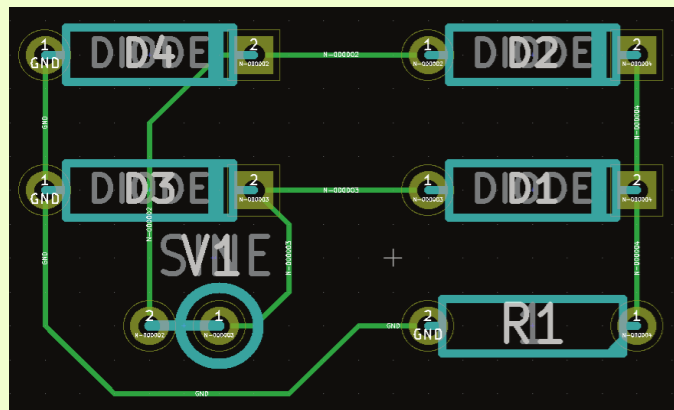
Create Circuit Schematic

- Generate netlists for simulation and PCB design
- Perform Electric Rules Check (ERC)
- Create new components using Library Editor



Create PCB Layout

- Lay tracks
- Modify the width of tracks
- Create multi-layer PCB designs
- Add/edit design rules
- Generate Gerber files

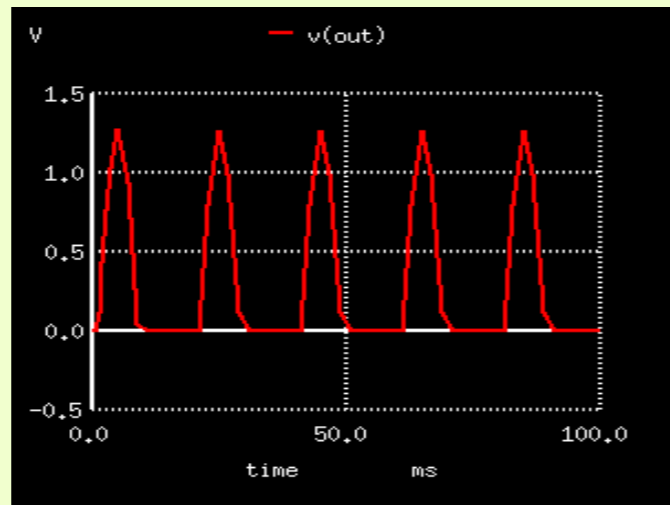
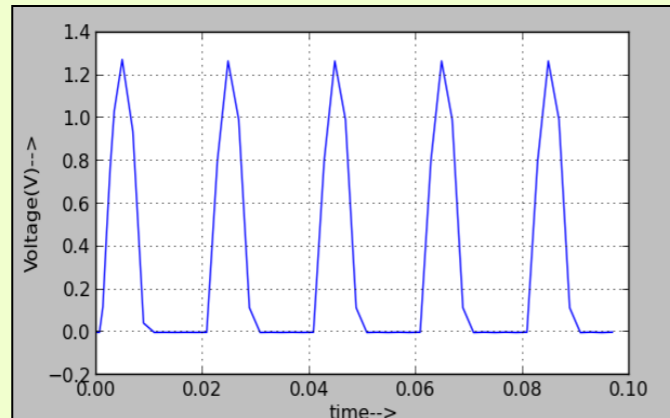


Features Work

- Integrating eSim and OpenModelica
- Integrating eSim with GHDL for mixed mode simulation
- Pspice to eSim conversion

Perform Circuit Simulation

- Analog, digital and mixed signal circuit simulations
- Perform AC, DC, nested DC and Transient analyses
- Interactive Python plotting



Advance Features

Model Builder:

- Create a new model for an electronic device
- Edit an existing model of an electronic device

Sub circuit Builder:

- Create a new sub circuit
- Edit an existing Sub circuit

Mixed mode simulation:

- Mixed mode simulation can be done using the NGHDL module which is created by integrating Ngspice and GHDL

eSim Textbook Companion

The Textbook Companion Project (TBC) aims to create eSim project files for all the solved simulation examples present in standard Electrical and Electronics Engineering textbooks.

The objectives of this project are:

- To make it easy for users of such textbooks to start using eSim (Oscad\FreeEDA)
- To improve the documentation available for eSim

How can one contribute to TBC:

- Participate and create an eSim Textbook Companion(s)
- Use the Textbook Companions and give feedback
- Earn attractive honorarium and a Certificate of Participation from FOSSEE, IIT Bombay

esim.fossee.in/textbook-companion-project

eSim Textbook Companions completed till date :

- **Electronic Devices And Circuit Theory 10 Edition**
- by Louis Nashelsky | Robert L. Boylestad, Pearson, 2009
- **Microelectronic Circuits : Theory And Applications**
- by Adel S. Sedra | Kenneth C. Smith, Oxford University Press, 2009
- **Electronic Circuits, Analysis And Design**
- by Donald A Neamen, Tata Mcgraw-hill, New Delhi, 2007
- **Digital Principles And Applications**
by Donald P Leach | Albert Paul Malvino | Goutam Saha, Tata Mc. Hill Education Pvt Ltd, Delhi, 2009
- **Fundamentals Of Digital Logic**
- by Stephen Brown, Mcgraw Hill Companies , India, 2007
- **Digital Fundamentals**
- by Thomas L.floyd, Pearson Education, Delhi-110092, 2002 Prentice Hall, 1995
- **Spice For Circuits And Electronics Using Pspice**
- by Muhammad H. Rashid, Prentice Hall, 1995

eSim Textbook Companions under progress :

- **A Textbook Of Electrical Technology In SI Units Volume 1**
- by B. I. Theraja, S. Chand, Uttarakhand, 2005
- **Basic Electrical And Electronics Engineering**
- by S. K. Bhattacharya, Pearson Education India, 2011
- **Digital Computer Fundamentals**
by Thomas. C. Bartee, Tata Mcgraw-hill, New Delhi, 2009
- **Electronic Devices And Circuits**
- by S. Salivahanan | A. Vallavaraj | N. Suresh Kumar, Tata Mcgraw-hill , 2011
- **Electronic Devices And Circuits**
- by Russell L. Meade | Robet Diffenderfer, Cengage Learning India Private Limited New Delhi, 2008
- **Electronic Devices And Circuits**
- by David. A. Bell, Oxford, 2008
- **Electronics Circuits**
- by Dr. H. N. Shivashankar | Basavaraj, Jaico Publishing House Mumbai - 400 001, 2009
- **Electronics Laboratory Primer**
- by S. Poorna Chandra | B. Sasikala, S. Chand & Company Ltd. & New Delhi, 2008
- **Electronics Principles**
- by Albert Malvino | David J Bater, Mcgraw Hill Education(india) Pvt Ltd New Delhi, 2007
- **High Voltage Engineering**
- by C.I.wadhwa, New Age International Publishers & New Delhi, 2012
- **Linear Integrated Circuits**
- by D. Roy Choudhury, New Age International, New Delhi, 2009
- **Network Analysis And Synthesis**
- by K. M. Soni, S K Kataria And Sons, 2012
- **Networks And Systems**
- by D. Roy Choudhury, New Age International(p) Limited, New Delhi, 2010
- **Op-amps And Linear Integrated Circuits**
- by Ramakant A Gayakwad, Phi Learning New Delhi - 110001, 2009
- **Operational Amplifiers With Linear Integrated Circuits**
- by William D.stanley, Pearson & India, 2007

github repository: <https://github.com/FOSSEE/eSim>