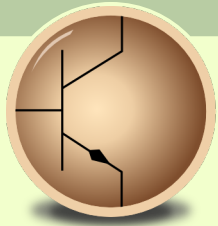


# A Free and Open Source EDA Tool

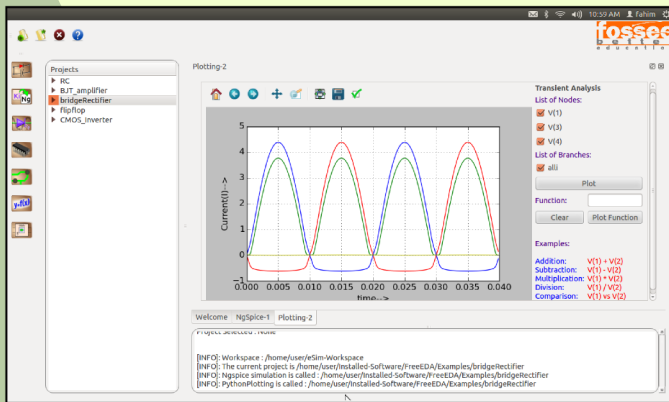


# eSim

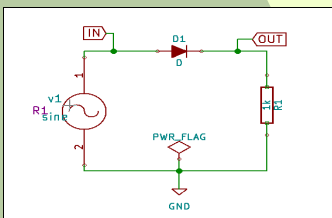
<http://esim.fossee.in>

**eSim** (formerly known as Oscad/ FreeEDA) is an open source EDA tool for circuit design, simulation, analysis and PCB design, developed by FOSSEE team at IIT Bombay. A mixed mode simulator which uses Ngspice for analog simulation and GHDL for digital simulation is also integrated with eSim. It is released under GNU GPL License & runs on Linux and Windows.

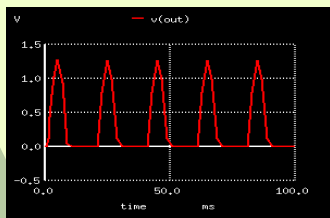
It is an integrated tool, built using open source software, such as, KiCad (<http://www.kicad-pcb.org>) and Ngspice (<http://ngspice.sourceforge.net>). eSim has been successfully ported to the low cost FOSSEE Laptop (<http://laptop.fossee.in>).



eSim Interface



Circuit Schematic



Circuit Simulation

# Lab Migration

This activity aims to migrate labs that use proprietary EDA tools to eSim which offers the same capabilities for circuit design, simulation, analysis and PCB design as any other proprietary EDA tool. Hence educational institutions can save a huge amount of money which they may spend on procuring licenses. Use of eSim may also improve employment potential for your students.

## The FOSSEE team helps migrate your lab to eSim in the following ways:

- Provide suggestions on different ways eSim can be implemented in the laboratory
- Coordinate the migration of the lab to eSim
- Provide eSim solutions to the lab's problem statements
- Conduct eSim workshops free of cost

## How can one participate in Lab Migration:

- Migrate labs in your institute that use proprietary EDA tools.
- Provide an undertaking that the migrated labs will use eSim for the next two academic sessions
- Earn attractive honorarium and a Certificate of Participation from FOSSEE, IIT Bombay

## Labs migrated / Under Progress:

- Open Source EDA Lab - Electronics Engineering, National Institute of Science and Technology, Odisha
- Introduction to Electronics - Electrical Engineering, IIT Bombay, Mumbai, Maharashtra
- Integrated Circuits Lab - Instrumentation Engineering, Dr. Mahalingam College of Engg & Tech. Pollachi, Tamilnadu
- Design Lab - Electronics Engineering, Haldia Institute of Technology, West Bengal
- Basic Electronics Lab - Electronics Engineering, Aryanet Institute of Technology, Palakkad, Kerala

## Following are the lab problems for which eSim solutions are available:

- Full Wave Rectifier
- Clipper Circuit using Diode
- Frequency Response of BJT
- Subtractor using OPAMP
- OPAMP Inverting Amplifier
- Digital Logic Gate Testing
- Binary to Gray Converter
- BJT Biasing Circuit
- BJT Amplifier Circuit
- Half Adder
- Full Adder
- SOP Implementation
- Study of Multiplexer
- Full Subtractor
- PISO

## To know more about Lab Migration, please visit:

<http://esim.fossee.in/lab-migration-project>

## About FOSSEE

FOSSEE (Free and Open Source Software for Education) project is funded by the National Mission on Education through ICT, MHRD.

The FOSSEE team works on the 'Adaptation and development of Open Source simulation packages equivalent to proprietary software' and is based at IIT Bombay.

## Other Projects under FOSSEE

- Scilab
- Python
- DWSIM
- OpenModelica
- FOSSEE Laptop
- OpenFOAM
- Osdag
- OR Tools
- Sandhi

## Activities of FOSSEE

- Textbook Companion
- Lab Migration
- Spoken Tutorials
- Affordable Laptop
- Workshops
- Forums

## General help and queries, email us at:

[contact-esim@fossee.in](mailto:contact-esim@fossee.in)



National Mission on Education through ICT, MHRD  
<http://sakshat.ac.in>