BANNARI AMMAN INSTITUTE OF TECHNOLOGY SATHYAMANGALAM ERODE

NIVEDHA R P-DEPT OF ECE

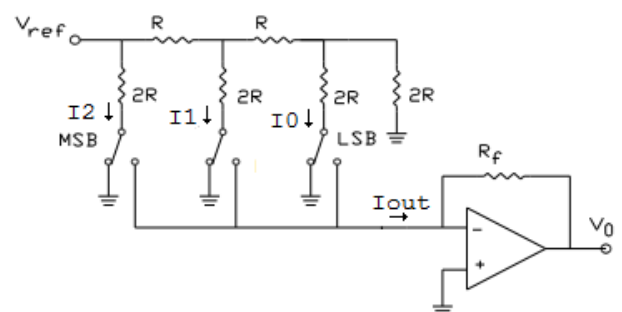08.10.2022

3-BIT DAC USING ESIM

ABSTRACT:

The Digital to Analogue Converter, or DAC's as they are more commonly known, are the opposite of the Analogue to Digital Converter we looked at in a previous tutorial. DAC's convert binary or non-binary numbers and codes into analogue ones with its output voltage (or current) being proportional to the value of its digital input number.
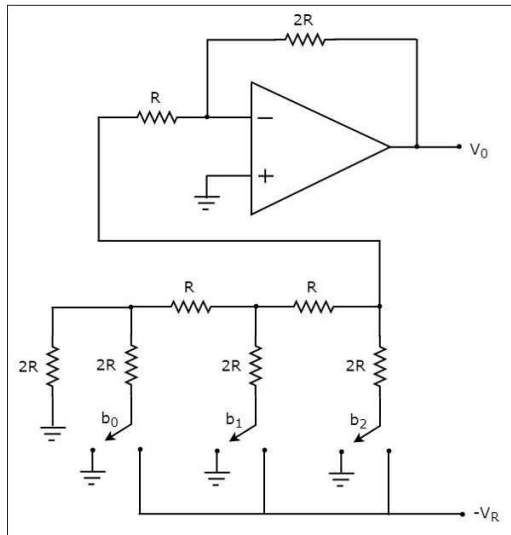
DESCRIPTION:

The output is a voltage that is proportional to the binary number input. The resolution of this DAC is 3 (the number of bits) or -0.25V (the step size). To have more bits, add an additional resistor for each additional bit. Note the relationship between adjacent resistor values.

The most popular DAC connection method is via USB from a computer. There are also digital feeds available from Optical and Coaxial outputs -- also known as SPDiF connections -- found on CD/DVD players and other audio gadgets that can connect into a DAC. Modern smartphones can even be hooked into outboard amp/DACs, typically by using sundry interconnect cables and adapters.
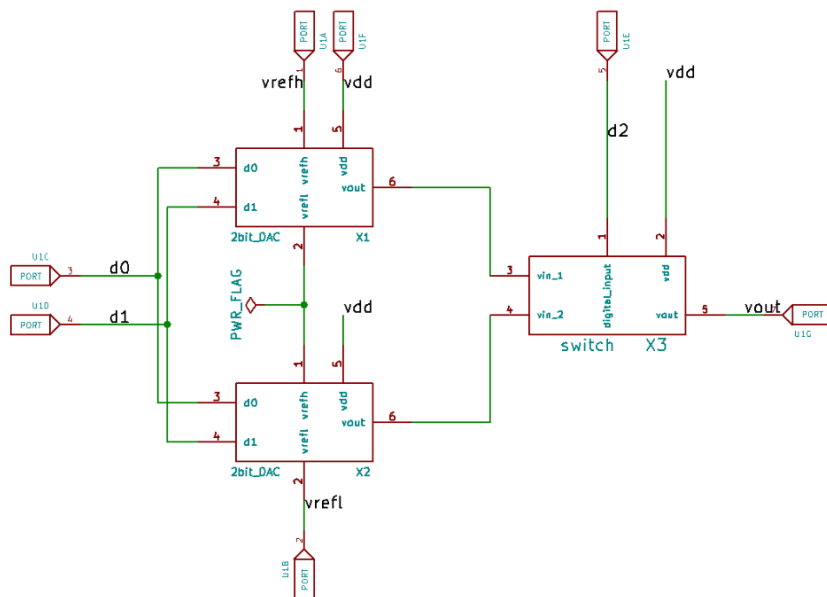
DIAGRAM:

REFERENCES:

https://www.electronics-tutorials.ws/combination/digital-to-analogue-converter.html

https://erikvanzijst.github.io/electronics/opamp.html

CIRCUIT: