

Dual Polarity Power Supply

Introduction:

A power supply is the fundamental building block of all but the simplest of electronic devices. It converts the alternating current (AC) from our wall outlets into direct current (DC) at some specified voltage. A dual polarity power supply is capable of supplying +/-DC voltage. Dual polarity power supply is created mostly to power up operational amplifier circuits and other circuits that require dual supply voltage. The voltage is adjustable, requires a few parts, and easy to build.

Schematic Diagram:

The schematic diagram of Dual Polarity Power Supply is shown below:

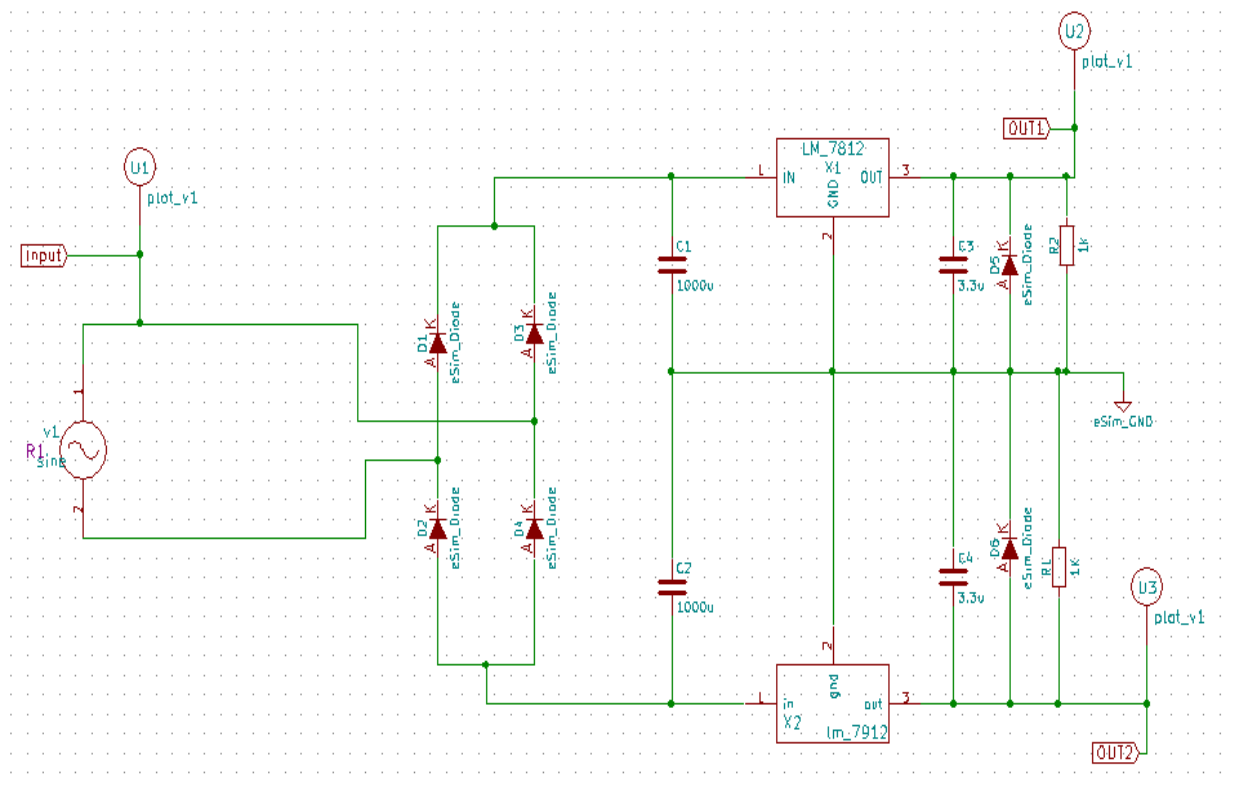


Fig.1. Dual Polarity Power Supply schematic diagram

NGSPICE Output waveform at Input terminal:

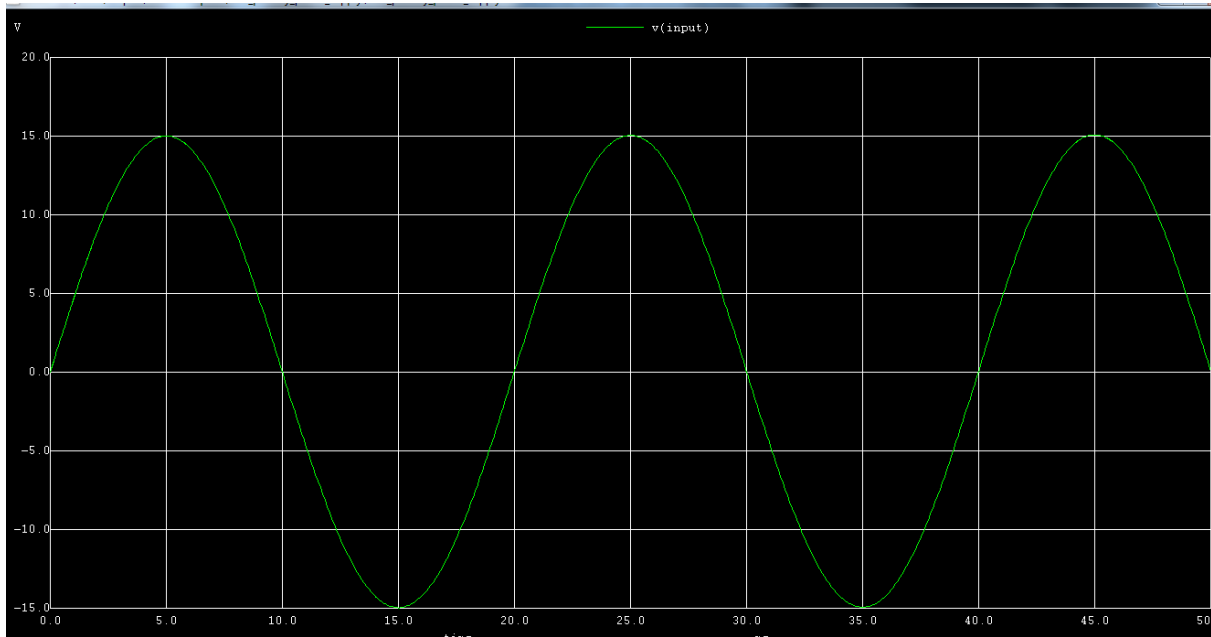


Fig.2. NGSPICE Output waveform at Input terminal of Dual Polarity Power Supply

NGSPICE Output waveform at Out1 terminal:

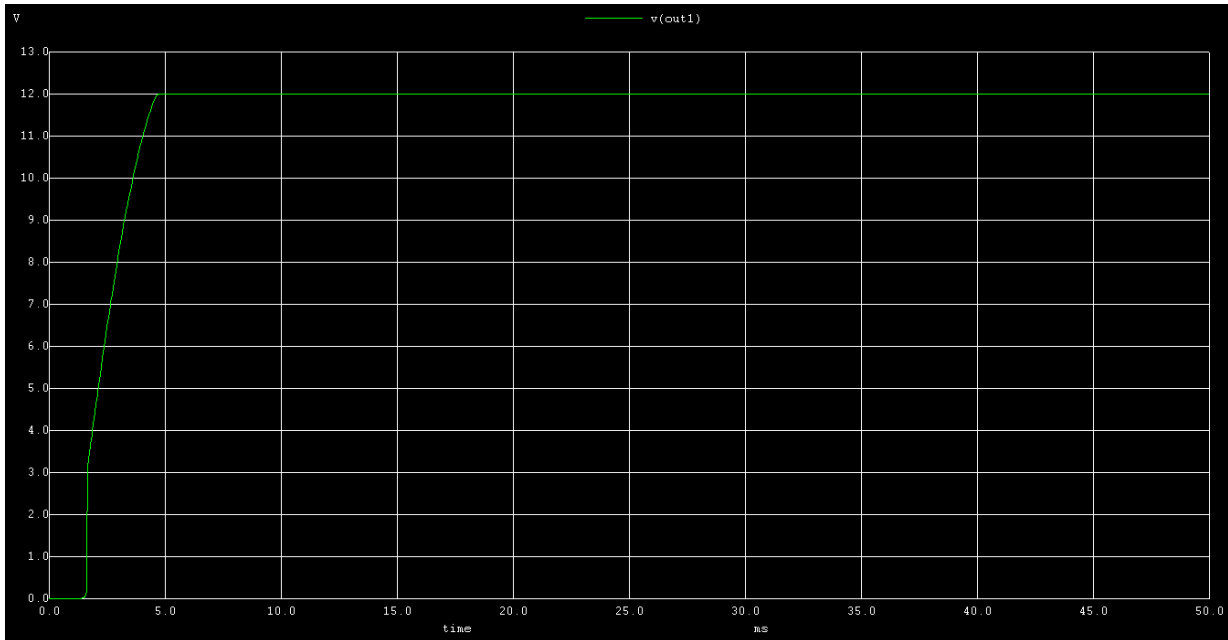


Fig.3. NGSPICE Output waveform at Out1 terminal of Dual Polarity Power Supply

NGSPICE Output waveform at Out2 terminal:

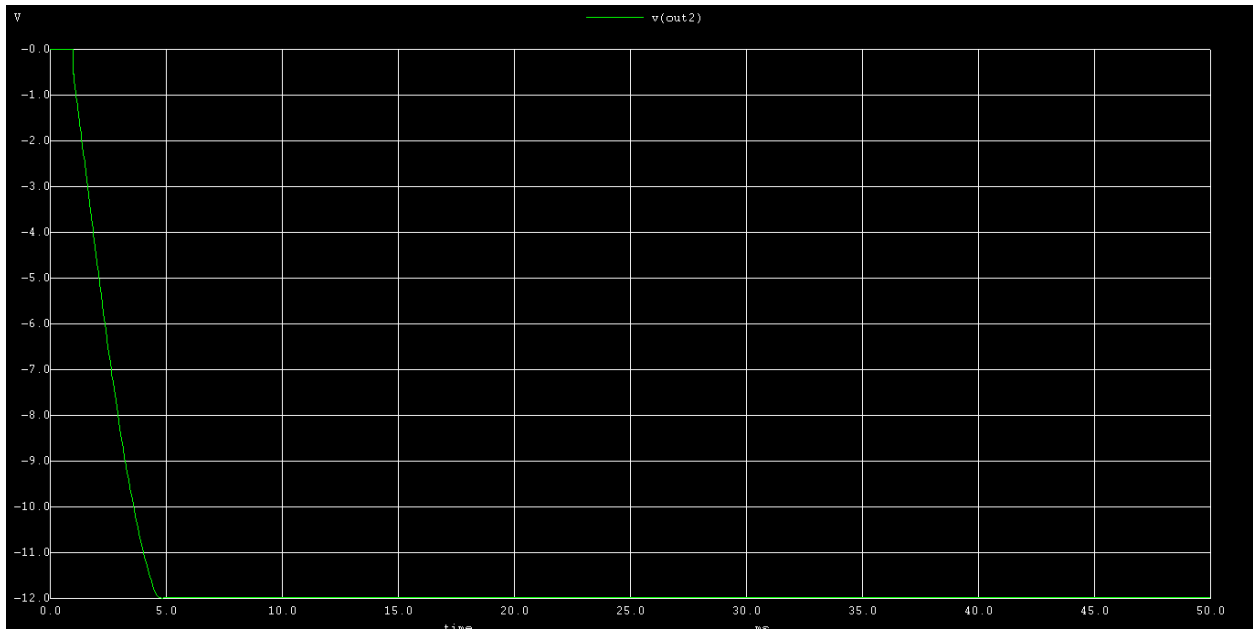


Fig.4. NGSPICE Output waveform at Out2 terminal of Dual Polarity Power Supply

Python Plot at Input terminal:

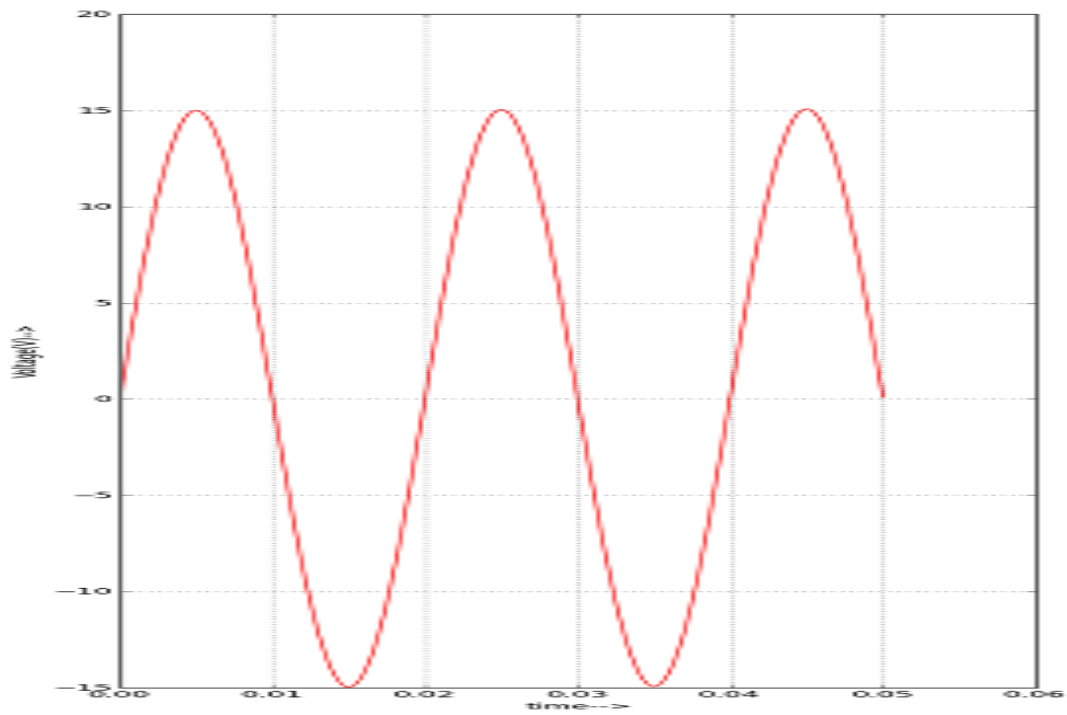


Fig.5. Python Plot at Input terminal of Dual Polarity Power Supply

Python Plot at Out1 terminal::

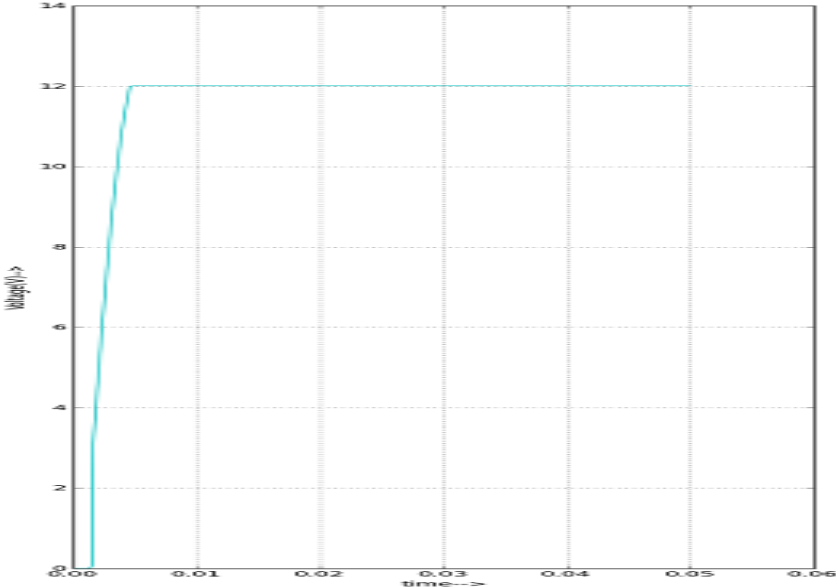


Fig.6. Python Plot at Out1 terminal of Dual Polarity Power Supply

Python Plot at Out2 terminal:



Fig.7. Python Plot at Out2 terminal of Dual Polarity Power Supply

Reference:

<https://www.eeweb.com/circuit-projects/dual-polarity-regulated-power-supply>

<https://www.eleccircuit.com/power-supply-regulator-15v-15v-1a-by-ic-7815-7915/>

<https://www.instructables.com/id/5V-and-5V-Dual-Regulated-Power-Supply/>

Conclusion:

Thus Dual Polarity Power Supply was designed and output waveform is obtained successfully using eSim software.

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