PSpice Hints for Project

PSpice Transient and Fourier Analysis Settings

In the schematic window: Analysis -> Setup -> Transient

| ſ | Transient 🛛 🔍 | | | | | | |
|---|---------------------------------|----|--|--|--|--|--|
| | Transient Analysis | | | | | | |
| L | Print Step: | | | | | | |
| | Final Time: 10ms | | | | | | |
| Ľ | No-Print Delay: | | | | | | |
| H | Step Ceiling: 1us | | | | | | |
| | 🔽 Detailed Bias Pt. | | | | | | |
| | Skip initial transient solution | | | | | | |
| L | Fourier Analysis | 1 | | | | | |
| 1 | Enable Fourier | | | | | | |
| 1 | Center Frequency: 10e3 | | | | | | |
| 1 | Number of harmonics: 5 | re | | | | | |
| | Output Vars.: V(Vo) | et | | | | | |
| | | | | | | | |
| | OK Cancel | | | | | | |
| 1 | | | | | | | |

Print Step = 1us This is the time between points in the output data file if you print the waveform out.

Final Time = 10ms I use 100 cycles to let initial transients die out and get an accurate frequency spectrum

Step Ceiling = 1us This forces the maximum simulation time step to this value. A good number to use is 100points per cycle. With a 10kHz input, this is a print step of 1us.

Center Frequency = 10e3 The fundamental frequency used in the Fourier Analysis. For a linear amplifier, set this to your input source (10kHz).

Number of harmonics = 5 The number of harmonics used in the Fourier Analysis. Use 5 or more.

Output Vars = Your output waveform

Viewing PSpice Output File

In "results" window View -> Output File

Example of Power Dissipation Output

TOTAL POWER DISSIPATION 3.95E-04 WATTS

Example of Fourier Analysis Output

FOURIER COMPONENTS OF TRANSIENT RESPONSE V(Vo)

DC COMPONENT = -1.817060E-05

| HARM | ONIC FREC | QUENCY FO | URIER NOF | RMALIZED I | PHASE | NORMALIZED |
|------|-----------|-----------|-----------|------------|-----------|------------|
| NO | (HZ) C | COMPONENT | COMPON | ENT (DEG) | PHASE | (DEG) |
| | | | | | | |
| 1 | 1.000E+04 | 2.273E-02 | 1.000E+00 | 1.795E+02 | 0.000E+(| 00 |
| 2 | 2.000E+04 | 1.462E-05 | 6.433E-04 | 2.901E+01 | -3.301E+0 |)2 |
| 3 | 3.000E+04 | 1.164E-05 | 5.121E-04 | 1.718E+02 | -3.669E+0 |)2 |
| 4 | 4.000E+04 | 1.168E-05 | 5.139E-04 | 2.415E+01 | -6.940E+0 |)2 |
| 5 | 5.000E+04 | 1.084E-05 | 4.771E-04 | -1.235E+02 | -1.021E+(|)3 |
| | | | | | | |

TOTAL HARMONIC DISTORTION = 1.080592E-01 PERCENT