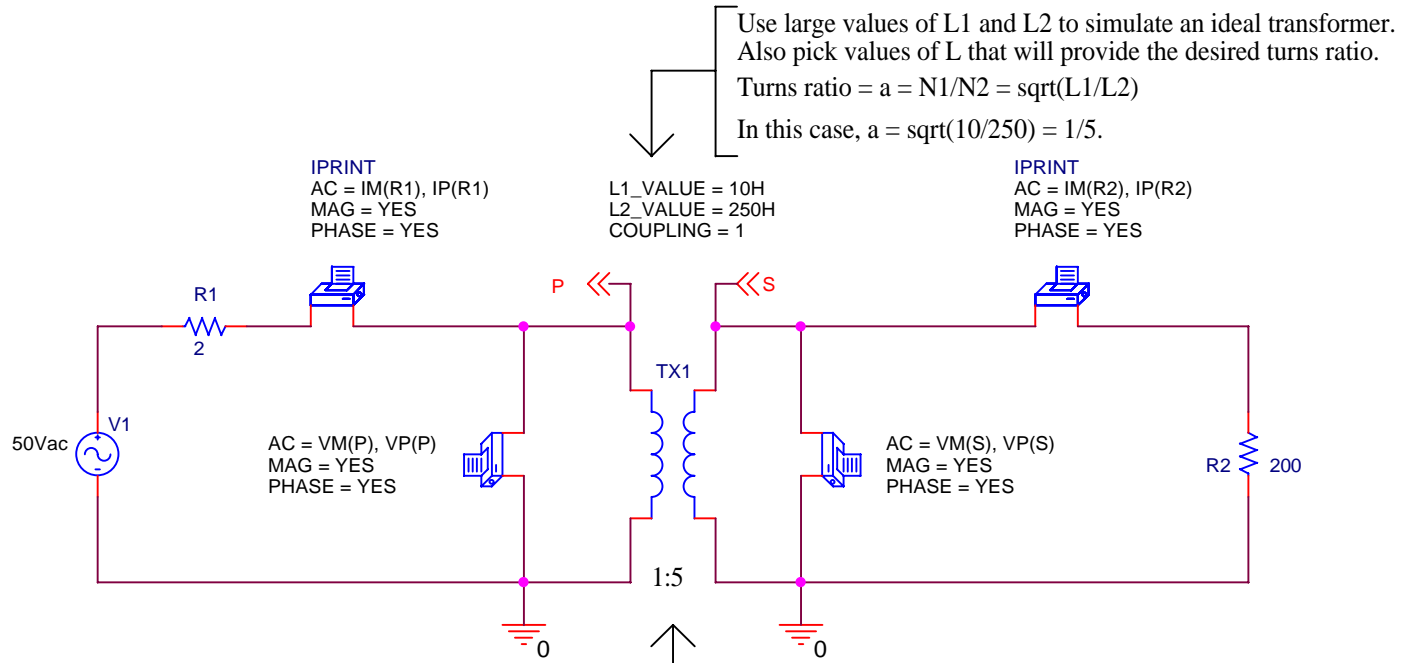


Ideal Transformer

Purpose: Determine the voltage and current for the primary and secondary of a transformer circuit using an ideal transformer.

Analysis: The source voltage is $50\cos(1000t)$, so us an AC Sweep with a single frequency of $1000/(2\pi) = 159.15$ Hz



Note that two ground symbols are required.

Text was added to label the turns ratio.

The transformer (part XFRM_LINEAR) is available in the ANALOG library.

To change the orientation of a symbol, right-click on the symbol and then select ROTATE(or use ctrl-R), MIRROR HORIZONTALLY, or MIRROR VERTICALLY.

For convenience, OFFPAGE symbols were used to label the primary (P) and the secondary (S).

Edit attributes of parts as follows:

- 1) If the attribute appears next to the part, double click it and then change its value
- 2) If the attribute does not appear next to the part, double click on the part, find the desired attribute, right click on it and select DISPLAY. Then indicate what Display Format is desired. Once the attribute has been displayed, double-click on it and change the value.

Title		
<Title>		
Size	Document Number	Rev
A	<Doc>	<RevCode>
Date:	Wednesday, January 26, 2000	Sheet 1 of 1

**** 01/26/00 14:25:02 ***** Evaluation PSpice (Mar 1999) *****

** circuit file for profile: AC Sweep

**** CIRCUIT DESCRIPTION

** WARNING: THIS AUTOMATICALLY GENERATED FILE MAY BE OVERWRITTEN BY SUBSEQUENT PROFILES

*Libraries:

* Local Libraries :

* From [PSPICE NETLIST] section of pspiceev.ini file:

.lib nom.lib

*Analysis directives:

.AC LIN 1 159.15Hz 159.15Hz

.PROBE

.INC "transformers - ideal-SCHEMATIC1.net"

**** INCLUDING "transformers - ideal-SCHEMATIC1.net" ****

* source TRANSFORMERS - IDEAL

V_V1 N00023 0 DC 0Vdc AC 50Vac

R_R1 N00023 N00029 2

R_R2 0 N00065 200

K_TX1 L1_TX1 L2_TX1 1

L1_TX1 P 0 10H

L2_TX1 S 0 250H

V_PRINT1 N00029 P 0V

.PRINT AC

+ IM(V_PRINT1)

+ IP(V_PRINT1)

.PRINT AC

+ VM([S],[0])

+ VP([S],[0])

.PRINT AC

+ VM([P],[0])

+ VP([P],[0])

V_PRINT4 S N00065 0V

.PRINT AC

+ IM(V_PRINT4)

+ IP(V_PRINT4)

**** RESUMING "transformers - ideal-SCHEMATIC1-AC Sweep.sim.cir" ****

.INC "transformers - ideal-SCHEMATIC1.als"

**** 01/26/00 14:25:02 ***** Evaluation PSpice (Mar 1999) *****

** circuit file for profile: AC Sweep

**** SMALL SIGNAL BIAS SOLUTION TEMPERATURE = 27.000 DEG C

NODE	VOLTAGE	NODE	VOLTAGE	NODE	VOLTAGE	NODE	VOLTAGE
(P)	0.0000	(S)	0.0000	(N00023)	0.0000	(N00029)	0.0000
(N00065)	0.0000						

VOLTAGE SOURCE CURRENTS
NAME CURRENT

V_V1	0.000E+00
V_PRINT1	0.000E+00
V_PRINT4	0.000E+00

TOTAL POWER DISSIPATION 0.00E+00 WATTS

**** 01/26/00 14:25:02 ***** Evaluation PSpice (Mar 1999) *****

** circuit file for profile: AC Sweep

**** AC ANALYSIS TEMPERATURE = 27.000 DEG C

FREQ IM(V_PRINT1) IP(V_PRINT1)

1.592E+02	5.000E+00	-3.667E-02	So $I_P = 5.00/-0.04^\circ \text{ A} \approx 5.00/0^\circ \text{ A}$
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**** AC ANALYSIS TEMPERATURE = 27.000 DEG C

FREQ VM(S,0) VP(S,0)

1.592E+02	2.000E+02	9.168E-03	So $V_S = 200.0/0.009^\circ \text{ V} \approx 200/0^\circ \text{ V}$
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**** AC ANALYSIS TEMPERATURE = 27.000 DEG C

FREQ VM(P,0) VP(P,0)

1.592E+02	4.000E+01	9.168E-03	So $V_P = 40.0/0.009^\circ \text{ V} \approx 40.0/0^\circ \text{ V}$
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**** AC ANALYSIS TEMPERATURE = 27.000 DEG C

FREQ IM(V_PRINT4) IP(V_PRINT4)

1.592E+02	1.000E+00	9.168E-03	So $I_S = 1.00/0.009^\circ \text{ A} \approx 1.00/0^\circ \text{ A}$
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JOB CONCLUDED
TOTAL JOB TIME

