#1. LET V_L = VOLTAGE DROP ACROSS R_L

IN FIG 1., IF $R_L = \infty$, THEN $V_L = \frac{R_2}{R_1+R_2} * V_0$

MUST BE SAME IN FIG 2.

HENCE

$$\boxed{V_{TH} = \frac{R_2}{R_1+R_2} V_0}$$

SUPPOSE NOW $R_L = 0$.

IN FIG 2, $i = V_{TH}/R_{TH}$

IN FIG 1, $R_L = 0 \Rightarrow i = V_0/R_1$,

WHERE i = CURRENT THROUGH R_L.

HENCE, $i = V_0/R_1 = V_{TH}/R_{TH}$

$$= \frac{R_2}{R_1+R_2} \cdot V_0/R_{TH}$$

$$\Rightarrow \boxed{R_{TH} = \frac{R_1 R_2}{R_1+R_2}}$$

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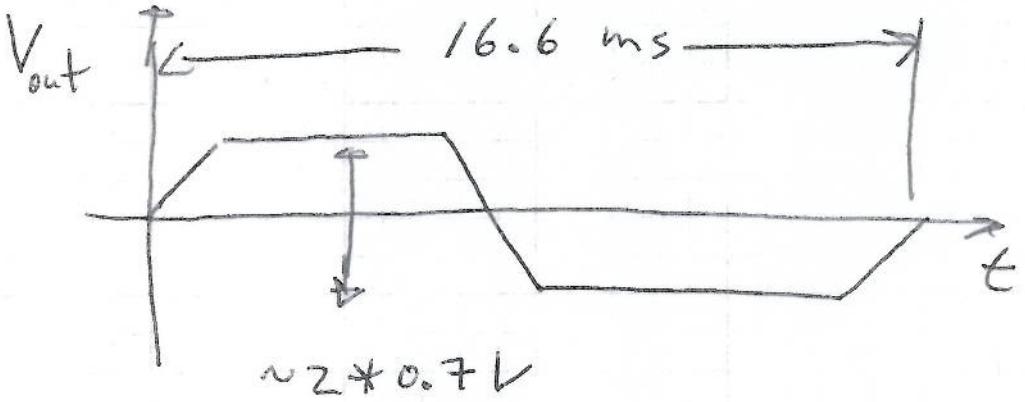
~~#1~~ #2

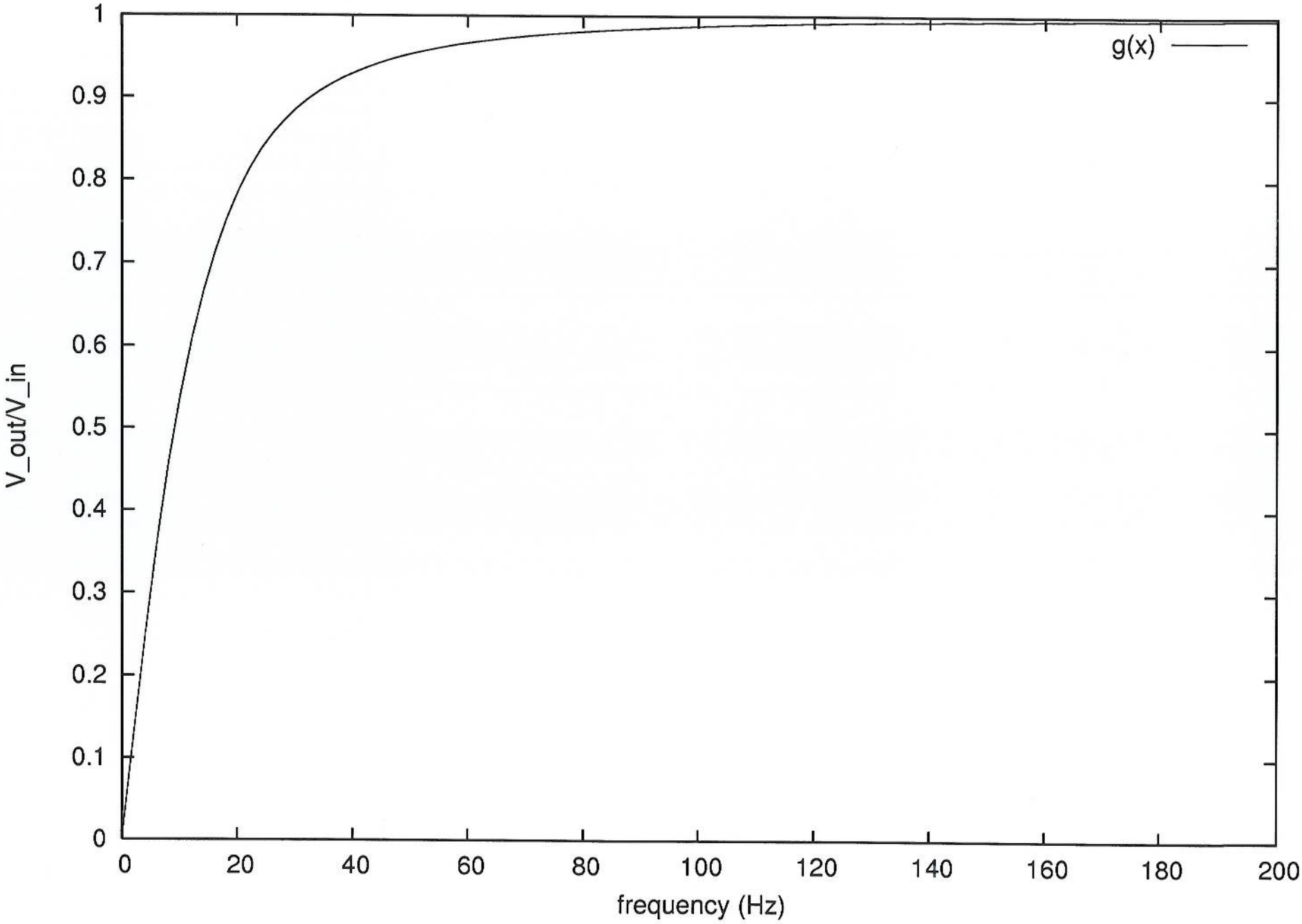


$\sim 2 * 0.7 V$

WAVEFORM IS SYMMETRIC

DIODES CLAMP OUTPUT.

USEFUL TRICK FOR LIMITING VOLTAGE INPUT INTO SENSITIVE AMPLIFIERS.


g(x)
V_out/V_in
frequency (Hz)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
20
40
60
80
100
120
140
160
180
200