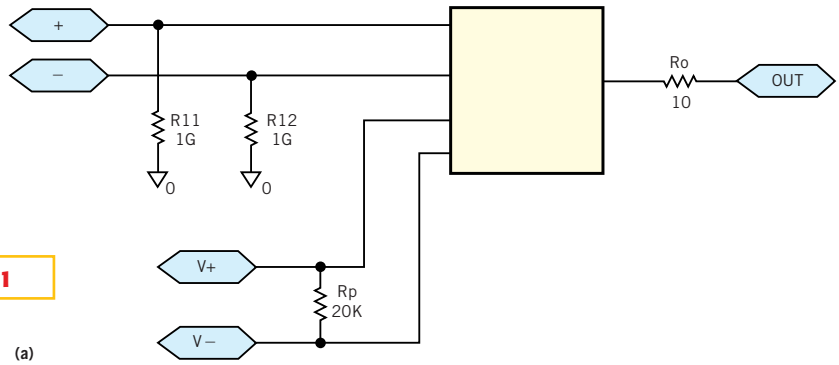
PARAMETERS:

AV	10K
VRP	1
VRN	1

((V(%IN3,%IN4) – {VRP} – {VRN})/{PI})*ATAN({AV}*{PI}*V(%IN1,%IN2)/(V(%IN3,%IN4) – {VRP} – {VRN}))+(V(%IN3)+V(%IN4) – {VRP}+{VRN})/2



(a)

Figure 1

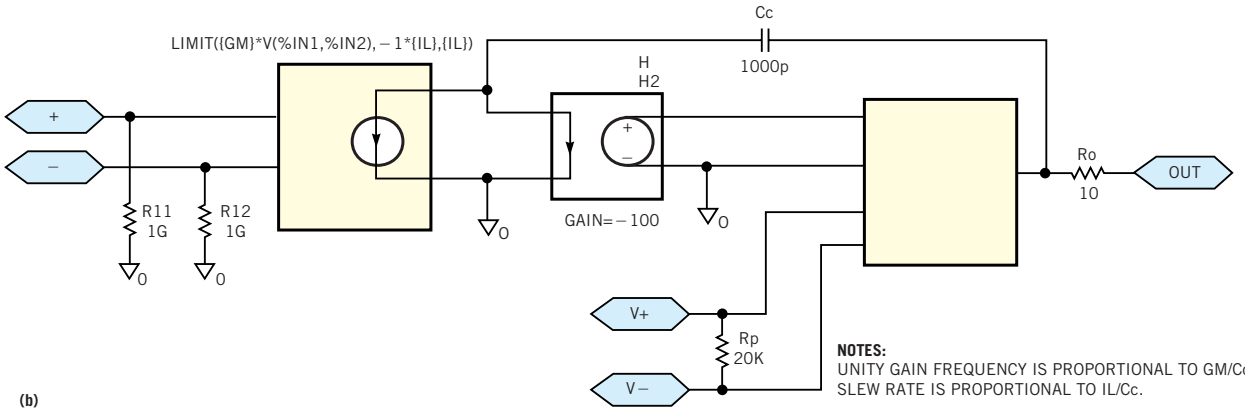
PARAMETERS:

GM	10m
IL	0.5m

PARAMETERS:

AV	100K
VRP	1
VRN	1

((V(%IN3,%IN4) – {VRP} – {VRN})/{PI})*ATAN(({AV}/({GM}*100))*{PI}*V(%IN1,%IN2)/(V(%IN3,%IN4) – {VRP}-{VRN}))+(V(%IN3)+V(%IN4) – {VRP}+{VRN})/2



(b)

A dc op-amp model uses one complex equation to describe most of the op amp's dc behavior (a). An expanded version of this model results in an ac