

## OP-07 Macromodel

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* Linear Technology OP07 op amp model
* Written: 08-24-1989 12:35:59 Type: Bipolar npn input, internal comp.
* Typical specs:
* Vos=3.0E-05, Ib=1.0E-09, Ios=4.0E-10, GBP=6.0E+05Hz, Phase mar.= 70 deg,
* SR(+)=2.5E-01V/us, SR(-)=2.4E-01V/us, Av= 114 dB, CMMR= 126 dB,
* Vsat(+)=2.00V, Vsat(-)=2.00V, Isc=+/-25.0mA, Iq=2500uA
* (input differential mode clamp active)
*
* Connections: + - V+V-O
.subckt OP07 3 2 7 4 6
* input
rc1 7 80 8.842E+03
rc2 7 90 8.842E+03
q1 80 102 10 qm1
q2 90 103 11 qm2
rb1 2 102 5.000E+02
rb2 3 103 5.000E+02
ddm1 102 104 dm2
ddm3 104 103 dm2
ddm2 103 105 dm2
ddm4 105 102 dm2
c1 80 90 5.460E-12
re1 10 12 1.948E+03
re2 11 12 1.948E+03
iee 12 4 7.502E-06
re 12 0 2.666E+07
ce 12 0 1.579E-12
* intermediate
gcm 0 8 12 0 5.668E-11
ga 8 0 80 90 1.131E-04
r2 8 0 1.000E+05
c2 1 8 3.000E-11
gb 1 0 8 0 1.294E+03
* output
rol 1 6 2.575E+01
ro2 1 0 3.425E+01
rc 17 0 6.634E-06
gc 0 17 6 0 1.507E+05
d1 1 17 dm1
d2 17 1 dm1
d3 6 13 dm2
d4 14 6 dm2
vc 7 13 2.803E+00
ve 14 4 2.803E+00
ip 7 4 2.492E-03
dsub 4 7 dm2
* models
.model qm1 npn (is=8.000E-16 bf=3.125E+03)
.model qm2 npn (is=8.009E-16 bf=4.688E+03)
.model dm1 d (is=1.486E-08)
.model dm2 d (is=8.000E-16)
.ends OP07
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* - - - - - * fini OP07 * - - - - - * [oamm vn1 8/89]

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