

LT1178 Macromodel

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* Linear Technology LT1178 op amp model (with calls for LT1179)
* Written: 11-02-1989 13:20:10 Type: Bipolar pnp input, internal comp.
* Typical specs:
* Vos=4.0E-05, Ib=3.0E-09, Ios=5.0E-11, GBP=6.0E+04Hz, Phase mar.= 60 deg,
* SR(-)=2.5E-02V/us, SR(+)=2.4E-02V/us, Av= 117 dB, CMMR= 102 dB,
* Vsat(+)=1.00V, Vsat(-)=0.00V, Isc=+/- 5.0mA, Iq=14uA.
* (input common mode clamp active)
* (2 for 1)
*
* Connections: + - V+V-O
.subckt LT1178 3 2 7 4 6
* input
rc1 4 80 8.842E+04
rc2 4 90 8.842E+04
q1 80 102 10 qm1
q2 90 103 11 qm2
rb1 2 102 6.000E+02
rb2 3 103 6.000E+02
dcm1 105 102 dm2
dcm2 105 103 dm2
vcmc 105 4 4.000E-01
c1 80 90 8.660E-12
re1 10 12 1.933E+04
re2 11 12 1.933E+04
iee 7 12 7.560E-07
re 12 0 2.646E+08
ce 12 0 1.579E-12
* intermediate
gcm 0 8 12 0 8.984E-11
ga 8 0 80 90 1.131E-05
r2 8 0 1.000E+05
c2 1 8 3.000E-11
gb 1 0 8 0 1.647E+02
* output
ro1 1 110 2.000E+02
ro2a 1 0 2.166E+03
ro2b 6 110 1.634E+03
ec 17 0 110 0 1
d1 1 17 dm1
d2 17 1 dm1
d3 110 13 dm2
d4 14 110 dm2
d5 6 110 dm2
d6 110 6 dm2
vc 7 13 1.762E+00
ve 14 4 7.617E-01
ip 7 4 1.324E-05
dsub 4 7 dm2
* models
.model qm1 pnp (is=8.000E-16 bf=1.240E+02)
.model qm2 pnp (is=8.012E-16 bf=1.261E+02)
.model dm1 d (is=1.961E-16)
.model dm2 d (is=8.000E-16)
.ends LT1178
*
.subckt LT1179 3 2 7 4 6
x_LT1179 3 2 7 4 6 LT1178
.ends LT1179
*
* - - - - - * fini LT1178 family * - - - - - * [oamm vp01 10/89]

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