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*   Date: Wednesday, November 19, 2008
*****************************************************************
* General
* Device Name No:    BJT_MODEL_BC489
* Device Type:              NPN
* Semiconductor:        Si
* Simulation Temperature                = 2.700e+001 degr.C
* Model Parameters at nominal Temperature    = 2.500e+001 degr.C
* Veb0                  = 5.000e+000 V
* hoe                   = 1.000e+002 umhos
* Ic                    = 5.000e+002 mA
* Vce                   = 8.000e+001 V
* ts                    = 7.000e+001 ns
* Ic                    = 2.000e+001 mA
* Ib1                   = 7.000e+000 mA
* Ib2                   = 7.000e+000 mA
* Ceb1                  = 5.200e+001 pF at     1.000e-001 V
* Ceb2                  = 5.000e+001 pF at     3.000e-001 V
* Ceb3                  = 4.800e+001 pF at     5.000e-001 V
* Ceb4                  = 2.800e+001 pF at     4.000e+000 V
* Ccb1                          = 1.800e+001 pF at     1.000e-001 V
* Ccb2                          = 1.500e+001 pF at     3.000e-001 V
* Ccb3                  = 1.300e+001 pF at     6.000e-001 V
* Ccb4                          = 4.500e+000 pF at     5.000e+001 V
* hFE at 25 degr.C
* hFE1                          = 9.500e+001 at        5.000e-001 mA
* hFE2                  = 1.500e+002 at        3.500e+000 mA
* Max hFE               = 2.500e+002
* IL at 0.5 Max hFE (low val.)                  = 2.000e+000 mA
* Ikf at 0.5 Max hFE (high val.)           = 2.500e+002 mA
* hFE at 1.250e+002 degr.C
* hFE1                  = 1.850e+002 at        5.000e-001 mA
* hFE2                          = 2.900e+002 at        3.500e-003 mA
* hFEMax                = 3.700e+002
* IL at 0.5 Max hFE (low val.)                  = 5.000e-001 mA
* "On" Vbe1             = 5.700e-001 V at Ic = 5.000e-001 mA
* "On" Vbe at 0.5 Max hFE (low val.)         = 6.000e-001 V
* "On" Vbe at Max hFE (low val)             = 7.000e-001 V
* Vce_sat @ Ic/Ib=10    = 2.000e-001 V at Ic = 5.000e+002 mA
* Vbe_sat               = 9.500e-001 V at Ic = 5.000e+002 mA
* Vbe2_sat              = 8.300e-001 V at Ic = 1.000e+002 mA
* Vce2_sat @ Ic/Ib=10         = 3.000e-001 V at Ic = 1.000e+003 mA
* fT                    = 2.000e+002 MHz
* Lowest Value of B.-E. Voltage Temp. Coeff. = -2.200e+000 mV/degr.C

.MODEL BJT_MODEL_BC489  NPN
+ IS=1.384e-013 NF=1.000e+000 ISE=1.343e-013
+ NE = 1.307e+000 BF = 3.000e+002 BR = 1.000e+000
+ IKF = 2.500e-001 VAF = 4.920e+003 VAR = 2.000e+001
+ EG = 1.110e+000 XTI = 2.878e+000 XTB = 0.000e+000
+ RC = 2.000e-001 RB = 3.000e-001 RE = 0.000e+000
+ CJE = 5.300e-011 MJE = 1.178e+000 VJE = 5.565e+000
+ CJC = 2.000e-011 MJC = 2.520e-001 VJC = 9.500e-002

============= Model template ================
q%p %tC %tB %tE %m
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