

Small-Signal Equivalent Circuit Scaling Properties of AlGaAs/GaAs HBTs

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The equivalent circuit model parameters are directly extracted from measured S-parameters and then carefully correlated with the device physical layout to provide accurate scaling rules for the design and modeling of HBTs. For devices fabricated with a scaling factor of 4, the predicted MSG/MAG is less than 0.5 dB while normalized error in S-parameters is less than 10% of measurements for the frequency range of 0.045 to 26 GHz.

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