Abstracts

Two-Port to Three-Port Noise-Wave Transformation for CAD Applications

A two-port-to-three-port noise wave transformation is presented that complements the similar transformation for S-parameters. Others have shown that transistor two-port S-parameters can be converted to three-port S-parameters when the common terminal is used as the third port. This paper shows how to calculate the three-port noise waves and noise temperatures from the two-port noise waves and temperatures. The transformation considers the general case where the common terminal of the three-port is not perfectly grounded. The formulation is then extended to the general case of a (n - 1)-port-to-n-port transformation.

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