Abstracts

38/76 GHz PHEMT MMIC balanced frequency doublers in coplanar technology

Y. Campos-Roca, L. Verweyen, M. Fernandez-Barciela, W. Bischof, M.C. Curras-Francos, E. Sanchez, A. Hulsmann and M. Schlechtweg. "38/76 GHz PHEMT MMIC balanced frequency doublers in coplanar technology." 2000 Microwave and Guided Wave Letters 10.11 (Nov. 2000 [MGWL]): 484-486.

Two 38/76 GHz push-push frequency doublers have been realized in a 0.15 /spl mu/m GaAs PHEMT technology. The circuits are based on different 180/spl deg/ power divider structures: a Lange coupler followed by a 90/spl deg/ transmission line, and a balun. The circuits achieve maximum conversion gains of -4 and -6 dB for 12 and 14 dBm input signals, respectively. The fundamental suppression is approximately 30 dBc in both cases. To our knowledge, these results represent the best performance reported to date for W-band balanced doublers.

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